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Original Articles.

HOW TO STUDY ANATOMY.*

BY STEPHEN SMITH, M.D., LL D.,
NEW YORK.

AN accurate and practical knowledge of the mechanism of the human body lies at the foundation of true success in the pursuit of the profession of medicine. It is of the utmost importance, therefore, that you should at the outset adopt a plan of study which, while it fascinates, and thus absorbs all your attention, tends also powerfully to fix firmly in your memory the associated relations of function and structure. It is only when these relations are so thoroughly grasped and retained by the mind that structure at once suggests function, and function suggests structure, that anatomy is made available in all the emergencies of the daily practice of medicine and surgery.

It cannot be denied that the present method of studying anatomy does not, as a rule, accomplish this result. How rarely does a student become so interested in the study of anatomy that in his zeal in its pursuit he neglects his other studies, or sacrifices pleasures and amusements? And, what is more important, how seldom do we meet a practitioner who can readily recall the precise anatomy and functions of even the more important organs and structures of the body? If we examine critically the modern textbooks on anatomy, for the purpose of determining their adaptation to the two-fold purpose of inspiring the student with a genuine love of the science and of rendering his knowledge instantly available in practice, we shall be convinced that they accomplish neither result; nor is it difficult to explain the cause of failure. The course of study is entirely wanting in that system, or orderly and logical development of the structures of the body, which appeals to the inventive and constructive faculties. Instead of being treated as an entity, in which each organ and structure contributes in due proportion to the completed apparatus, the several parts are studied in a fragmentary and disconnected manner, which necessarily fails to interest even the most inventive genius. The fact is entirely lost sight of that anatomy is a natural science, and that, like all natural sciences, it has a perfectly logical development, which, when properly unfolded, leads the mind insensibly from the study of simple parts to their arrangement into complex forms, as is abundantly illustrated in the science of botany, or chemistry, or biology. But neither textbooks on anatomy nor teachers of this fundamental branch of a medical education adopt the natural system of teaching this science. On the contrary, the scheme of study is so arranged as to prevent associated relations, and hence continuity of thought, on the part of the student. Therefore, he is constantly required to memorize abstract facts having no necessary connection with each other. Take, for example, the experience of a medical student in attendance at one of our most advanced medical colleges during the last year: He states that his first lesson in anatomy was a description of the external parts of the clavicle; the second was a similar description of the scapula; the third was a similar study of the femur. Meantime he had learned nothing of the structure of bones, nor of their purposes in the skeleton. When questioned he was found to be impressed with the belief that his success as a student depended solely upon his ability to retain and promptly repeat the terms which he found in his textbook. The wonderful organism which he was studying had no more attractions for him than would a language to a student who, in learning it, was required first to commit its dictionary to memory. The prevalent method of pursuing anatomy might be compared to the study of a cotton mill, by beginning with a spindle and learning all of its parts, then examining a distant wheel and committing to memory every minute detail of its construction, next learning all the peculiar names of a section of its frame-work, and thus proceeding until the entire machine had been studied in detached fragments. It is evident that no student would become thoroughly interested in such a study, nor would his knowledge of the machinery make him an expert engineer. He might be able to answer every question involving mere book-terms and yet have very little useful or usable information if he were called upon to remedy defects in its machinery.

But an experience of many years in teaching anatomy convinced me that a course of study may be followed which will thoroughly interest the average student from the first, and enable him readily to acquire, and firmly to retain in his memory the minutest details of function and structure of tissues. How then should anatomy be studied? I answer, precisely as you would begin, continue, and finish the study of any other mechanism with the structure and functions of which you wished to become as familiar as was the inventor. It is evident that to obtain such accurate knowledge of any machine you must study it along the lines pursued by the inventor in the development of its several parts. This would require that you should place yourselves in such relations to him as to think his thoughts from his first conception of the needs of such an apparatus or organism to its completion in the perfected instrument. And herein lies the charm and fascination in the study of anatomy if you adopt that logical method which the inventor pursues in the creation of a machine. From the very beginning of your studies you would be led to think the thoughts of the Creator, and as the wonderful mechanism of the human body was gradually unfolded, you would become more and more inspired with the loftiest conceptions of the Divine wisdom and power. The Psalmist, in contemplating the evidence of design in creation, sang, "How pleasant unto me are Thy thoughts, O God; how great is the sum of them?"

It cannot be doubted that the best instructor of a person who is about to study a machine so thoroughly that he can become its engineer would be the inventor himself, for while describing his own work he would naturally become very enthusiastic and

*An address delivered to the students of the Medical Department of the Syracuse University, October 13, 1902.

give the most accurate and detailed account of the inception, development and completion of his invention. As the student followed the train of thought, he would catch the inspiration of the inventor, and as each new feature of the structure gradually developed in orderly and logical succession, his mind would be aglow with the enthusiasm of his teacher, and he would be insensibly transformed into an inventor, architect, creator, and, quite unconsciously, the thing studied would become his own. Such a scheme would lead the student to begin with the inventor's first conception of the machine about to be invented. That conception is always preceded by a recognition of a function to be performed, and the absence of any apparatus or organism to perform it. In other words, the universal law governing inventions requires that the function to be performed must first be recognized before the structure is devised. The history of every invention shows that it grew out of a recognized need of a machine to accomplish a given object, and that in its construction each part was so devised that while it performed a special function of its own it contributed a force or factor to the completed mechanism necessary to the successful performance of its grand purpose. We may, and should, apply the same method to the study of the structure of the human body. We should first recognize fully the function to be performed before we undertake to construct the apparatus adapted to its performance. Herein lies the secret of the successful invention of every useful mechanism. The student who enters upon and steadily pursues the study of anatomy in this spirit is from the first an inventor, and is constantly recognizing functions to be performed, and is as constantly bending all his energies to devise structural appliances to perform those functions. He not only enters into the thoughts of the Creator, but he becomes himself a creator. Thus a genuine inspiration stimulates every inventive faculty of his mind, and instead of being a mere passive agent, receiving and storing away in his memory dry and often worthless technical terms, he becomes an aggressive inquirer and explorer in this new field of science.

Now, a course of study of anatomy so arranged that the student is from the first brought into such immediate relations with the Creator of the human mechanism that he will think His thoughts, presupposes that the Creator entered upon, proceeded with, and concluded his work according to the methods which govern all inventions. That is, the Creator discovered a want in creation; a function unperformed, and forthwith proceeded to invent an instrument to meet that want and perform that function. In adopting this theory we must assume the direct creation of man as a new and original creature, specifically adapted in every structure for a given purpose, and our study must be along the lines already indicated, viz.: First of all learn the function to be performed by this new creation and then follow the development of structure to its completion in the perfected organism.

The criticism which will be made upon this scheme of study is evident. It will be alleged that we ignore the modern theory of evolution, and thus inculcate antiquated ideas in regard to creation which are liable to mislead the student. In defence of the method it may be said that the same result can be reached by adhering to the doctrine of evolution, but the scheme would necessarily be intricate and involved to such an extent as to be confusing to the average medical student. Besides, the terms of creation are used because they are more suggestive of the facts of anatomy than any other terms that may be devised. Perhaps the most important testimony in favor of this method of teaching anatomy is that given by Professor Huxley, the greatest advocate of the theory of evolution. In one of his later lectures, describing the process of development of an ovum as the several stages are seen to succeed each other in symmetrical order under a powerful microscope, he is reported as saying:

"Strange possibilities lie dormant in that semi-fluid globe. Let a moderate supply of warmth reach its watery cradle and the plastic matter undergoes changes so rapid, and yet so steady and purpose-like in their succession that we can only compare them to those operated by a skilled operator on a formless lump of clay. We see, as it were, a skilled modeller shaping the plastic mass with a trowel; as if a delicate finger traced out the line to be occupied by the spinal column and molded the contour of the body, pinching up the head at one end and the tail at the other, and fashioning flank and limb into the salamandrine proportions in so artistic a way that, after watching the process hour by hour, one is almost involuntarily possessed by the notion that some more subtile aid to vision than an achromatic would show the hidden artist with his plan before him, striving with skilful manipulation to perfect his work."

A very distinguished writer refers to this quotation as follows:

"The above are Huxley's own words. That is to say that the first biologist in Europe (according to Virchow), when he comes to describe the development of life, can only do so in *terms of creation*."

With these explanatory remarks, I propose to develop the outlines of a course of study of anatomy based on the "Terms of Creation." If we approach the subject as inventors, and that is the true spirit in which we entered upon this study, our first inquiry would be as to the origin of the conception that man should be created. That is, what were the conditions existing which required the creation of man? We might, perhaps, arrive at a correct conclusion if we analyzed his existing organism, but, as in the Bible narrative, there is a statement of the immediate cause of his creation, and as this is the only record of the kind in human history, and answers our purpose, we will adopt it.

Referring then to the account of creation as given in Genesis, we learn that the earth had been prepared for living things, and in an orderly manner there had appeared grass, the herb, the fruit tree, living creatures in the waters, winged fowls, cattle and creeping things and beasts of the earth, and the Creator pronounced everything good. But now there seems to have been a pause in creation, and, as we follow the narrative, we learn it was discovered that there "was not a man to till the ground" or "replenish the earth and subdue it" or "have dominion" over it. Here was a new incentive to creative energy, and apparently a more difficult task was never presented even to Omnipotence. The conclusion of the deliberations of the Council of Creation are given in the announcement: "Let us make man in our image, after our likeness." This is the first recorded mention of man in the history of the earth. The decision is in the language of a council of architects, inventors, or creators. As students, we are at once interested in determining how this man was made in the image and likeness of the Creator. On examining the record we learn only that the Creator "formed man of the dust of the ground, and breathed into his nostrils the breath of life." No details are given of the method of procedure in constructing the human body, and we are left to determine these facts by our knowledge of the laws governing the invention and construction of machinery, and an analytical and synthetical study of the completed organism as we have it before us. That is, we

must place ourselves as nearly as possible in line with the logical thoughts of the Inventor, and thus have the machine develop in our own studies as it did in His.

In regard to the laws of invention we have stated that the first conception in the inventors mind is function, the second structure. Having recognized the former, we are now to devise and create a structure adapted to perform that function. What rule shall be our guide? Evidently the rules governing construction in all inventions. These rules may be stated as follows: Every inventor creates, first, the frame-work; second, the apparatus which operates it; third, the motor power or force which gives the apparatus energy or activity; fourth, the mechanism by which the life and the integrity of the organism is to be maintained; fifth, the organs by which the machine, as a whole, is to be reproduced.

Following the order of invention, we must determine what is the framework of the body and begin construction with it. It is evident, on a general survey of the several tissues of the human organism, that the articulated bones make its frame-work or skeleton, for all the other tissues and organs are gathered about or are attached to it or concealed and protected within its recesses. We must, therefore, conclude that creative energy began the work of construction with the skeleton, and that this structure must be the first to receive our attention.

But how is he to construct the skeleton without a perfect knowledge of the materials of which it is composed? This inquiry leads the student at once to an exhaustive study of the intimate nature of bone, for a knowledge of these facts must precede actual constructive work. Turning to the articulated skeleton as an object lesson to learn the principal functions of bones, he notices that: First, they must sustain great weight, and, second, they must act as levers in all of the movements of the body. As an architect, he knows that the structural peculiarities necessary to the performance of these functions are: (1) Hardness, to sustain weight; (2) lightness, to facilitate movement; (3) elasticity, to resist violence. Here are three nearly opposite qualities to be combined in one tissue, and his curiosity is intensely excited to discover the thoughts of the Divine Architect as He proceeds to solve the difficult problem. But we will not follow the student in his study of osteology, or the science of bone. We assume that every phase in its development from the selection of its constituent materials to their final organization must interest one who is seeking as an inventor to determine its adaptation to the purpose for which it is created. He can but marvel at the wisdom that takes certain salts of the earth and combines them with a peculiar kind of animal matter in such manner that these heterogeneous substances by some unknown and unknowable affinity create a new substance having the qualities of hardness, lightness, and elasticity; qualities essential to bone in the performance of its varied functions in the skeleton. Scarcely less wonderful to him is the development of bone from the osteal cell and the conversion of the body of the cell into a lakelet, through the medium of which the new bone is nourished by hydrostatic pressure. And as he follows the formation of bone to its completion, he discovers in the construction of its tissue the demonstration of two new and very important principles in physics. The first is that a hollow cylinder is stronger than a solid shaft of the same size. This principle applied in mechanics economizes the materials employed and renders the structure comparatively light, thus adding to facility of movement. The result is beautifully illustrated in the long bones or levers of the skeleton. The second principle is the Gothic arch, which gives the greatest power of sustaining weight with the least amount of material; the greatest elasticity with the highest degree of lightness.

Having completed a minute study of bone and obtained an accurate knowledge of its constituents, its methods of development, and the structural arrangements adapting it to its various purposes, the student is prepared to advance to the actual construction of bones, and of placing each in its proper position in the skeleton.

Surveying the skeleton as a whole, the question again arises, Where shall constructive work begin? In other words, Which series of bones was first created? His answer must be determined by recalling the principle of construction of all machinery, viz., the central or axial part must be made first. Applying this principle as he critically examines the articulated bones, his attention is at once arrested by the series which constitute the spinal column as not only central in location, but obviously the other bones are attached to it in such manner as to prove that they depend upon it in the performance of their functions. He is warranted, therefore, in concluding that the spinal column must have been the part of the skeleton which first received the attention of the Creator.

But this conclusion does not solve the question as to the initial point where construction began, for the spinal column is constituted of many bones. He has decided as to the series of bones first constructed, but he has not fixed upon the individual bone in the series. In selecting that bone he must again determine which is the most central and important as regards function. It must be noted that in this view a vertebra proper includes the corresponding ribs and their sternal attachments as described by Professor Owen in his great work on "Vertebrates." In that system, "each complete segment, called 'vertebra,' consists of a series of osseous pieces arranged according to a type or general plan, in which they form a hoop or arch above and another beneath a central piece; the upper hoop, encircling a segment of the nervous axis, is called the neural arch; the lower hoop encircling a part of the vascular system, is called the hæmal arch; their common center is termed the centrum." A vertebra, thus defined, he calls a "type segment," and the skeleton of his ideal, or "archetype" vertebrate, consists of a series of these perfectly formed segments as we see them in the skeleton of the serpent.

As the student critically examines the different vertebræ to determine with which the Creator began construction, he is impressed with the important fact that while the segments of the spinal column have a general resemblance to each other, as if constructed after one model, there are differences which become more and more marked when those of either extremity of the column are contrasted with those in the central or dorsal region. This region must be the point of departure in construction. On examining critically each vertebra to determine which is the "type segment" his selection falls upon the seventh dorsal, for all its parts are more complete than any other and its ribs are longer and more perfectly adapted to their functions. With the *seventh dorsal*, therefore, he concludes that construction must begin.

Taking this vertebra in hand to begin practical work, the student at once discovers that it is constituted of many individual parts, each adapted to its special function. Again, he must determine which part is the center or axis of the vertebra before he can positively decide where the construction work

originally began and hence where he is to commence his operations. Examining very carefully the several parts of a vertebra and comparing it with the others in the series, he notices that the body is the most important portion, for not only are the other parts arranged around and connected with it as a base of action, but it is the only constituent of a vertebra which is continuous throughout the entire spinal column. The body, therefore, or centrum, must have been first created. By this process of scientific inquiry and logical reasoning he reaches at last the initial point where the Creator actually began the work of constructing the human mechanism, viz., *the centrum of the seventh dorsal vertebra.*

Here, then, the student begins the actual study of what is, in a real sense, "practical anatomy." The seventh dorsal vertebra is the point of departure from which he is to develop, in serial order, not only the skeleton but the entire human organism. The science of anatomy, like kindred natural sciences, thus has its beginnings in a few simple principles or conditions, and out of them grow the complex forms which are so difficult to understand when studied independently and without a previous thorough knowledge of these fundamental facts.

As the student, now fully equipped for his task, begins constructive study, we may well regard him as Huxley's "skilled operator on a formless lump of clay;" "a skilled modeler shaping the plastic mass;" "the hidden artist with his plan before him, striving with skilful manipulation to perfect his work." The plan before him is the articulated skeleton, and the materials are the individual bones; the former for synthetical study or the placing of each bone in its proper position and the latter for analytical study or the minute examination of its technical peculiarities. His method is still that of an inventor and creator, for he will learn the nature of the function before he begins structural work. Having found the initial point of construction of the mechanism which he is about to create, and being thoroughly familiar with the rules governing his art, our artist-student, our "skilled modeler," "with his plan before him," enters upon his task with enthusiasm and pursues his studies with ever-increasing delight. We see him model with nicest skill the interior of the body of the seventh dorsal vertebra, filling it with gothic arches that it may sustain great weight and still be very light. No sculptor's chisel ever wrought in marble more artistic curves than those which he gives to the exterior covering. With "delicate fingers" he shapes the neural arch, "pinching up" the terminal portions of the laminæ to form the graceful spinous process. With mathematical exactness he cuts the articulating facets so as to secure a minimum of motion with a maximum of strength. For the hæmal arch he forms the ribs and curves them so that they shall perform the two-fold function of protecting the organs of the chest and aiding in respiration through their nicely adjusted articulations with the body and lateral processes. He finishes the hæmal arch with the costal cartilages and the sternum and, adjusting the several parts to each other, the seventh vertebra, the "type-segment," stands forth perfect in all its details, a beautiful specimen of high art. With its completion the student has acquired the key to a thorough knowledge of all the bones of the skeleton, for the remaining bones are but variations of the seventh dorsal, the "type-segment." And all of these variations from the seventh are simply designed to adapt other vertebra to new functions. Hence he proceeds with comparative ease in his constructive study of the spinal column below and above the seventh dorsal. As he descends he modifies each vertebra according to its function until he reaches the coccyx, where he preserves only a remnant of the body. As he ascends from the seventh dorsal more remarkable changes take place, as in the atlas and axis, but most strikingly in the bones of the skull and face. But in these irregular and curiously formed bones the "student-artist" recognizes only variations of the "type-segment," adapting parts or the whole of the vertebra to new functions. Even in the bones of the upper and lower extremities he discovers two vertebræ which have undergone extreme variations owing to the peculiar functions they have to perform.

Thus in our scheme of study the seventh dorsal represents the "Vertebrate Archetype" of Owen, which Holden says is "the grammar of all osteology." He adds, "Of this a student may rest assured, that however minutely he may have scrutinized the bones he cannot *understand* them unless he knows something of the vertebrate archetype; without this knowledge he is like one who speaks a language fluently, but is ignorant of its grammar." And we may add that he has acquired a chain of associated facts which will remain indelibly impressed upon his memory, and that will enable him to recall promptly the function and the structural peculiarities of every bone in all the emergencies of practice.

Having completed the skeleton or frame-work, our artist-student recognizes that it must be endowed with at least two forces to enable the coming man to perform the task of tilling the earth and subduing it. First, he must have the power of locomotion, or of moving from place to place, and, second, he must have the power of prehension, or of seizing and holding objects. In construction the student must have noticed that the bones were designed to move upon one another, and that those of the extremities take the form of levers. The question now before him is as to the kind of apparatus to be constructed to operate these levers, and how it is to be applied. Holding up before my class the seventh and sixth dorsal vertebræ in proper position, I asked, "How would you make these bones move on each other?" A first-course student replied, "Attach a rubber strap to their spinous processes." He stated a principle and a fact; the principle was that the apparatus with which one bone is to be moved upon another must have the quality of contraction, and the fact was that such a strap as he suggested, though not made of rubber, was already attached to their spinous processes. The incident illustrates the readiness of the student, whose mind is trained to devise structures adapted to perform functions, to anticipate the very existence and nature of the tissues which he is about to study. It serves also to accentuate the proposition that I then made to the effect that as these central dorsal bones were first constructed, according to our scheme of creation, we may logically conclude that to these bones were applied the first structures made to move the levers of the body. Here, then, at the seventh dorsal, we find the *type muscle*, and here we begin our constructive study of the muscular system.

Preparatory for constructive work the student must now acquire, first, an accurate knowledge of the histological peculiarities of muscles and of their classification, and, second, he must practically learn the nature and classification of levers—two most interesting subjects to the inventor, and which, thoroughly understood, give to the surgeon great practical skill.

Assuming that he has acquired this knowledge, he begins the study of muscles *in situ*. He must reject altogether the method pursued in the textbooks, which follows the order of dissections; for nothing could be more unscientific than to construct the

muscles beginning with the most superficial layer and finishing with the deepest muscles. Now the order of creation must necessarily have been the very reverse of this. If we apply the muscles with our own fingers, as I propose, we must place the deepest layer first and the superficial layer last. This method has this obvious advantage that the deepest muscles are usually simple and have a single action, while the superficial muscles are compound and complex in form and action.

It will be alleged that this method of study necessitates delaying dissections until the student has completed the review of the entire muscular system as given in the textbooks. It is true that he would have to learn the muscles of a part, as the trunk or a limb, from his book before he attempted its dissection. And there is this advantage in such an order of studying, that his dissection will be much more carefully and intelligently made if he has already a correct knowledge of the parts he is now practically demonstrating.

Recurring now to the adaptation of muscles to the levers of the skeleton to give the latter functional activity, the question again arises in the mind of the artist-student as to the point where he is to begin. In other words, "Which muscle in the order of creation was first applied?" Logically, the first bone created—the seventh dorsal, according to our scheme, —would receive the first attention. Now the articulations of this bone show that it has a limited motion on the adjoining vertebræ, and to effect that motion the greatest leverage would be secured by attaching a muscle to the spinous processes of the two bones, as suggested by the student. He was thinking the thoughts of the Creator, for we find in the interspinales muscles the identical elastic cords that he recognized as necessary for the performance of the first and simplest function of these bones. These simple structures, so small in the dorsal region, but so well developed in the cervical, may be taken as the first muscles applied.

Commencing then with the *interspinalis muscle of the seventh dorsal vertebra*, as the point of departure in the study of the muscular system, the student follows the line of constructive thought in the most natural and scientific manner to the final application of the last muscle to the terminal bones of the extremities. Throughout this entire study his dominant thought as an inventor is in each case, "What class of muscles must I select and where shall I attach them to the bones to enable them to perform the functions for which they were severally created?" Thus, as the skeleton developed from a single central thought, so the muscular system now grows under his plastic hand in symmetrical form from the little, delicate slip that he placed between the spinous processes of the seventh dorsal and its neighbor to the enormous, intricate, and complex erector spinæ, multifidus and complexus, muscles of the back which students, following the old method of study, usually group very properly under the term "*musculus perplexus*." Having completed the muscles of the trunk, he proceeds to apply them to the great levers of the extremities. In this part of his study all his inventive faculties are inspired with the keenest insight by the revelation of the marvelous forms of adaptation of muscular force to effect the infinite variety of motions of these levers. And the one fact that perhaps will impress him most is this, that all these muscles, even to the terminal phalanges, have as the basis of their action the spinal column, and chiefly the central dorsal vertebra where he began the study of both the skeleton and the muscular system. This arrangement and action of the muscles will appear as he traces the peculiar relations of one muscle to another, beginning with the spinal column and terminating with the extreme bones of either limb. Though in the series there may be several muscles, each having its special function when acting alone, yet it is evident that they may all act together as a compound muscle, and perform a new and quite independent action. This is strikingly illustrated by Professor Owen in the figure of a man stooping under a heavy load, which rests upon his shoulders The weight is sustained chiefly by the following muscles, viz., the erector spinæ of the back, the glutei at the hips, the quadriceps extensors of the thigh, the gastrocnemii of the legs, and the short flexors of the feet. Here are ten separate and independent muscles, extending from the spine to the ends of the toes, now united in their action to perform one function.

In the construction of the human organism we have now completed the frame-work and the apparatus which is to operate it. But as yet we have only an inert and inanimate object, quite incapable of performing the duties for which it was created. Our next inquiry as inventors must be, "How shall these muscles be endowed with force and these dry bones be stimulated to activity?" The result of creative thought and energy was the development of that marvelous and exquisitely beautiful mechanism the nervous system. Studying along the lines of creation, the dullest student becomes fascinated with the wonderful adaptation of means to an end which he discovers in every part of this system, but especially in the nerve-centers where the power is generated which moves the muscles to action. As in the study of the skeleton and muscular system the student learned the intimate nature of bone and muscle before beginning construction, so now the histological peculiarities of the materials constituting the nerve tissue are thoroughly learned and the special uses of each kind or form is fully understood. Then constructive work begins and the point of departure is again the seventh dorsal, because here is found the *type nerve-center* of which all others are only variations to meet special functions. This one nerve-center, thoroughly analyzed and understood, is the key to a ready appreciation of the peculiarities of every other, as was a knowledge of the seventh dorsal vertebra a key to a quick understanding of the special features of every other bone of the skeleton. Even in the complicated and complex forms of nerve centers of the brain the student readily recognizes the special variations of the "type nerve-center" made to meet new functions, and so appreciates the necessity of the changes that he forever retains them in his memory. Not less interesting when studied in order is the origin of nerves from the centers, the method of distribution through the medium of a plexus, their final termination in muscles and other tissues and their relations, in their courses, to other tissues.

We have now reviewed the construction of three great systems of tissues—the osseous for a frame-work of the mechanism, the muscular to operate it, and the nervous to give it energy. But it is apparent to us as inventors that this machine, being subject to "wear and tear," and hence to decay and death, must not only be supplied with the means of repairing waste, but of perpetuating itself when its life ends. These facts open new fields for constructive study, and the artist-student begins with renewed zeal to trace in his plan the origin and development of the digestive system: then its auxiliary, the circulatory system, and, finally, the reproductive system.

We need not follow the student farther. He continues his study and construction along the lines of original thought, always first recognizing a function

to be performed before he studies the apparatus designed to perform it. As he proceeds, all the details of the mechanism unfold in the logical order peculiar to the natural sciences, "pointing," says Holden, "to the One great cause of all organization."

A student who has in this manner thoroughly mastered the several systems of tissues theoretically finds their demonstration by dissection a constant source of delight. Every stroke of the scalpel is made with precision, and reveals a hidden thought of the Creator in new and living light, which engraves upon the memory of the dissector the details of function and structure so distinctly that, at all times and in all emergencies, this knowledge is immediately available. And I may add, as a final statement, that to the philosophical, devout, and creative mind, seeking knowledge along these lines of inquiry, the ecstatic remark of Galen is eminently true: "*The study of anatomy is a perpetual hymn to the gods.*"

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HEADACHE IN ITS RELATION TO DISORDERS OF THE GENERAL HEALTH.*

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Headache is a frequent manifestation of the most varied disorders of the nervous system and of other organs. Being merely a symptom of so many different morbid states, it cannot be consistently characterized or described as a disease, although it is often of such a nature as to possess the significance of an independent affection. It may be so fleeting or transitory as to be more or less ignored by the patient, or it may attain such a degree of severity or persistency as to lead the sufferer to seek medical advice. Familiarity with its various forms is essential, for the practitioner is confronted by this symptom at almost every turn, and it is necessary always to bear in mind that headache is a frequent accompaniment of many constitutional diseases. Hence, a description and classification of headache, with suggestions as to the means of determining its causation, must prove of great practical value. According to many modern observers, we know almost nothing of the structures in which the pain of headache is felt, or the mechanism of its production. As the meninges, especially the dura and a large area of the cranium, receive their sensory supply from the terminal sensory branches of the trigeminus, and, as the meninges are also supplied by branches of the sympathetic nerve, it is reasonable to assume that headache is the result of direct or indirect irritation of these nerves. Psychical disturbances, in the form of depressing emotions, such as grief, worry, fright, etc., often produce headache. In such instances it must be due to processes originating in the higher cerebral centers through which superficial pain is perceived.

Headache must not be confounded with true neuralgia, in which the pain is paroxysmal in character and directly limited to the course of the nerve and its distribution. The idea that the location of the pain in any particular region of the head is always directly related to some special underlying, adjacent, or remote pathological process (excepting pericranial inflammation) has not been substantiated by clinical experience. No definite rules can be formulated in regard to this matter that will apply in every case. It may be said, however, after the perusal of the histories, and observation of a large number of cases, that such information, nevertheless, may prove valuable in suggesting certain lines of inquiry. The headache may be confined to the forehead, to the vertex, the parietal, temporal, or occipital region on one or both sides. It may be unilateral, as in migraine, or it may affect the entire head, and is then described as diffused or general, or it may occur in various combinations. It may be transitory, paroxysmal, periodical, or continuous, and may vary in location, degree, and character from time to time.

Headache, for all practical purposes, may be divided into two classes, functional and organic. The so-called functional forms of headache are, by far, the more frequent, and include those resulting from various constitutional or psychical disorders, and from causes not situated in the skull or cranial cavity, excepting the disturbance of special sense organs, such as the eye, ear, and nose. Some disorders of the cerebral circulation may also be placed in this category.

The organic form includes all types of intracranial disease, whether vascular, meningeal, or cerebral, and disease of the cranial bones.

My remarks are based upon a clinical study of nearly 5,000 cases observed during the last twenty years, and will be confined to a description of the functional forms of headache, and their relation to other morbid conditions, in which headache often obtrudes itself as a persistent or predominant symptom.

As the magnitude of the subject, as above outlined, will not permit of its adequate representation in the allotted time, migraine will be excluded from the discussion.

In a very large majority of instances in which headache is complained of it is due to toxæmia resulting from either constipation, or intestinal or gastric indigestion. The clinical fact has long been established that autointoxication of intestinal origin plays an important rôle in the production of headache, migraine, and vertigo, but such symptoms are evidently more or less dependent upon individual susceptibility. Constipation is not incompatible with apparent health, for some persons may be constipated for a week or more at a time without any complaint of digestive trouble or headache. For this reason the objection has often been made to the hypothesis of autointoxication of fecal origin. On the other hand, Bouchard, who has made a special study of this subject, believes that constipation should be regarded as a protection against intoxication. The lengthiest argument, however, will not controvert the familiar fact that thorough purgation causes the rapid disappearance of the headache and associated symptoms in most cases of this character. In these patients the headache is usually located in the frontal region, but is often diffused over the entire head. As a rule, it is not constant, and may or may not be associated with gaseous eructations. In some it is accompanied by morbid somnolence during the day and heavy sleep at night, while in others insomnia is complained of. Occasional attacks of vertigo may also occur. Intestinal indigestion, with or without constipation, is more frequently productive of headache through autotoxæmia than as a supposedly reflex cause. The urine is often of high specific gravity and may contain an excess of indoxyl.

It would seem that gastric indigestion, on the other hand (although in some instances occasioning toxic absorption), is more likely to produce headache by reflex irritation through the pneumogastric nerve from fermentation of food and gaseous distension of the stomach. Thus, headache, possibly due to both causes, is frequently an accompaniment of dilatation

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of the stomach. The location of the headache is usually supraorbital or frontal.

Headache due to renal disease is of very common occurrence. Two forms are found in nephritic subjects—uræmic and congestive.

Either one or both may be present in the same patient. The uræmic form is due to the retention in the system of the constituents of the urine, and may manifest itself in any type of kidney disease, whether acute or chronic, and is often a premonitory symptom of a convulsive attack. The pain is ordinarily situated in the occipital region, extending to the neck. It may or may not be associated with somnolence, nausea or vomiting, etc., according to the degree of damage to the kidneys and arterial system. In some cases the headache may be accompanied by vomiting, vertigo, and optic neuritis, thus simulating the general cerebral symptoms of brain tumor. The congestive form arises in consequence of disturbed cerebral circulation in the presence of cirrhotic kidneys, with arteriosclerosis, cardiac hypertrophy, and increased arterial tension. Unless the urine is carefully analyzed, and the functionating power of the kidneys ascertained beyond question, the uræmic forms of headache will often pass unrecognized, and may lead to unexpected and serious consequences.

As so many physicians carelessly limit the urinary analysis to the reaction and test for albumin, it is well to bear in mind that in chronic interstitial nephritis albumin is often absent.

Two kinds of headache occur in rheumatic subjects. One is due to suboxidation and autotoxæmia, the headache being diffused and similar to that arising in other forms of toxæmia. The other is a true muscular rheumatism or myositis located in the scalp and affecting particularly the occipito-frontalis muscle and its aponeurosis. The pain is increased by active or passive movement of this muscle, and it is common to obtain a history of other attacks of muscular rheumatism affecting different parts of the body. These patients may also have suffered from acute or subacute articular rheumatism. The attack may last from a few hours to several weeks. Like other forms of myositis it is induced by exposure to cold. One of the worst cases under my observation occurred in a rheumatic subject after bathing the head in cold water and then sitting at an open window for a half hour or more.

Headache is frequent in gouty subjects. It may be due to toxic products of defective oxidation, or the result of vascular disease affecting the cerebral circulation. It is not unusually accompanied by interstitial changes in the kidneys. The headache and the irregular symptom-complex, often described as lithæmia, is an atypical form of gout, in which there is more commonly a sense of pressure and fullness about the head than actual pain.

Headache occurring in diabetics is often accompanied by hebetude and depression of spirits. As a premonitory symptom of diabetic coma, it is soon followed by delirium and dyspnœa.

In the early period of all acute infectious diseases headache is frequently a prominent symptom, and is usually described by the patient as generalized or frontal. As an initial symptom of typhoid fever, it is sometimes so severe and persistent as to demand special attention. The pain is often located in the occiput and back of the neck, and may be accompanied by photophobia, retraction of the head, and muscular twitching, thus resembling meningitis. Not long ago I saw the wife of a physician who had been confined to bed for several days with severe occipital and vertical headache. The pupils were contracted, and there was considerable photophobia and occasional mild delirium. She was supposedly suffering from meningitis, but was found to have typhoid fever, which took the usual course. On account of the severe general headache, the early period of acute croupous pneumonia may also simulate meningitis until the lung trouble has clearly developed.

In general, it may be said that headache frequently occurs in all conditions accompanied by fever. It is hardly necessary to mention, that, as a routine practice, the temperature should be noted in every case of acute headache, the character and frequency of the pulse, and the presence of fever being always suggestive of the probably infectious or inflammatory origin of the trouble.

Headache is often due to acute or chronic alcoholic poisoning, the nervous system being at times so sensitive that a small quantity of alcohol may produce violent but transitory general headache of a congestive type. Chronic alcoholic poisoning is often the cause of daily or constant headache, but it is commonly due to a combination of causes, such as toxæmia, interference with the digestive processes, and cerebral arteriosclerosis. It is often associated with cirrhotic changes in the liver and kidneys, and many of the attendant phenomena of these conditions.

In some individuals the injudicious and excessive use of coffee is productive of headache and a sense of fulness in the head.

Headache due to the toxic action of lead is a comparatively rare symptom. In some cases of chronic lead poisoning, however, headache does occur, and its cause should be recognized. It is probably due to the direct action of the lead on the cerebral nerve centers, or indirectly through the production of pathological changes in the liver and kidneys.

Headache is often an important symptom in neurasthenia, but it is not present in all cases. As a rule it is not general, but is commonly located in the frontal or occipital region, and is often accompanied by occasional vertigo and muscæ volitantes. The headache, which is usually slight in degree, is either continuous or occurs at brief intervals. In the majority of neurasthenics actual pain is not complained of but the sensations in the head are described as the feeling of "a constricting band about the forehead," "fulness in the head," as if there was "something pressing from within against the skull," etc. Frequently it is a sensation of weight or numbness, and occasionally throbbing. The headache and other sensations increase after fatigue, and are often diminished by rest. Difficulty in concentrating the attention is often present. As a result of these varied forms of cephalic paræsthesiæ, such patients are inclined, more or less, to indulge in excessive introspection. They often become morbid and apprehensive, dreading the possibility of a brain tumor or other serious cerebral disease. All of these symptoms are modified in proportion to the attention given them by the patient. The presence of other signs of neurasthenia, their development or increase through mental effort or emotional excitement, and the absence of evidence of organic cerebral disease make the diagnosis clear. Headache that is confined to a small spot (which for many years has been described as "clavus hystericus") is comparatively rare in this country, and occurs most frequently among the premonitory symptoms of convulsive hysteria. The scalp is sometimes so sensitive that the slightest touch is not tolerated without wincing. In the majority of cases of hysteria, however, the headache corresponds with that of neurasthenia. It may be limited to one side and thus simulate

migraine. In some instances it may be characterized as a veritable psychalgia.

While headache cannot be considered as a symptom of epilepsy, its occurrence is at times of great importance in the diagnosis of obscure cases. An attack of "grand mal" is often followed by severe general headache, which may last for several hours. This fact is of value in interpreting the cause of the headache when it is mentioned as occurring in the early morning on awaking. It is at times indicative of a nocturnal epileptic attack, and the diagnosis is positive when such headache is associated with soreness of the muscles and joints of the extremities, a bitten tongue or mucous membrane of the cheek, and wetting of the bed.

Ocular defects, such as errors of refraction and insufficiency of the ocular muscles, are a common source of headache. The two conditions may be found in various combinations. It has been claimed that fully 60 per cent. of functional headaches due to errors of refraction are caused by astigmatism alone, or in conjunction with other forms of ametropia. The headache is produced by strain on the ciliary muscles, and frequently arises in connection with hypermetropic astigmatism. The pain may be situated in any part of the head, but it is more frequently located in the supraorbital region. It may be persistent in character, and is often aggravated by using the eyes. It is relieved temporarily by the instillation of atropine, which paralyzes the ciliary muscles, or permanently, by wearing suitable glasses. Headache caused by insufficiency of the ocular muscles may affect any portion of the cranium, but is often located in the occipital region. It may immediately follow the use of the eyes, but usually this is not the case, the pain occurring at irregular intervals. At times it may develop into a typical attack of migraine, and is often associated with symptoms of neurasthenia. The claims of certain writers, that the lack of balance in the action of the muscles of both eyes is a prolific cause of headache, and various forms of nervous disease, have certainly been much exaggerated. The headache arises as a result of repeated or continuous unconscious efforts to obtain and preserve binocular single vision. It is a fact well-known to all ophthalmologists that so-called ocular headache does not occur in patients in whom there is a congenital or acquired absence of binocular vision, as such patients are known to habitually suppress the image in one eye. Hence, the causative element of "efforts at binocular fixation" is negligible under such circumstances. This occurs with high degrees of strabismus, paralysis of ocular muscles, when vision is greatly diminished or lost in one eye, and when there is considerable difference in the refraction of the two eyes. When headache occurs in such people, it is invariably due to some other cause. I know of a patient with ocular headache from muscular trouble, in whom the pain entirely disappeared after the accidental destruction of one eye. The improved methods in the examination of the power and action of the eye muscles introduced within recent years has led to a more accurate and thorough study of three conditions. Curiously enough, the muscular troubles, which occasion the greatest amount of discomfort to the patient, at times produce no evident changes in the gross appearance of the eyes. Hence, it is only after a most careful and painstaking investigation that they can be discovered and rectified. This is accomplished either by the use of suitable lenses to neutralize any existing refractive anomaly, and thus indirectly influence muscular action, or by surgical operation, or both. There must be a peculiar individual predisposition to headache, for there are persons who have both muscular and refractive anomalies without any symptoms of headache.

Various pathological processes in the nasopharynx may occasion headache, especially lesions of the inferior turbinated bones, adenoid growths, and polypoid obstruction to nasal breathing. Hence, headache is not an uncommon symptom in mouth-breathers. The pain is ordinarily located in the temporal region or forehead, and has often been known to disappear after the adoption of suitable surgical measures.

Headache occurring in patients with uterine or ovarian disease should not be looked upon as a symptom of reflex origin. It is merely one of many phenomena associated with a neurasthenic condition which so frequently accompanies intrapelvic disease in women. The headache frequently affects the vertex, but is more often general, and is at times accompanied by tenderness of the scalp. Other causes are usually operative independent of any local lesion of the uterus or adnexa. The morbid self-consciousness developed in many women who have, or think they have uterine or ovarian disease, is often sufficient in itself to engender a depressive form of neurasthenia with its usual form of headache and paræsthesiæ. The same may be said *mutatis mutandis* of affections of the male genitourinary organs.

Headache is sometimes the result of hyperæmia or congestion of the intracranial circulation. It may also be occasioned by cerebral anæmia. Active hyperæmia is due to paralysis of the vasoconstrictors permitting of distension of the arteries. The severe cases are attended by throbbing general headache, vertigo, tinnitus, muscæ volitantes, photopsia, insomnia, mental confusion, and delirium, all of which are made worse by lowering the head. The face and scalp are red, and the conjunctivæ injected. There are fulness and throbbing of the temporal arteries, and contracted pupils. In some persons such attacks occur periodically. The severe forms of this condition are fortunately rare. The milder degrees are not uncommon. It is usually due to mental overwork, emotional disturbances, alcoholism, and sudden suppression of menstruation in plethoric women. I have witnessed a similar, but slightly modified array of symptoms, occur periodically in young women, after removal of both ovaries. A prototype of this group of symptoms can be produced by the administration of various drugs, such as nitrite of amyl, nitroglycerin, etc.

Venous hyperæmia of the cerebral vessels is an important cause of habitual headache. It is most frequently chronic. The pain is of a dull character, and is often accompanied by a sensation of fulness and heaviness in the head. The face and ears may be slightly cyanotic in the more pronounced cases. Passive cerebral congestion is generally caused by mechanical hindrance to the return of blood from the head. Thus, it results from growths in the neck making pressure on the jugular veins, cardiac diseases, pulmonary emphysema, and persistent cough, as in pertussis. It may also be produced by a tight collar, or continuous flexion of the head. The headache and other symptoms are aggravated by straining at stool, coughing, sneezing, stooping, or muscular effort.

Anæmia of the brain, as a rule, is a part of a general condition of anæmia and malnutrition. It may be the result of arteriosclerosis including disease of the coronary arteries. Whether the general anæmia be of a chlorotic nature or from loss of blood, it is almost always accompanied by headache. The condition of cerebal anæmia in which headache occurs

is generally of the chronic form. The pain may be frontal, vertical, or diffused, and is commonly of a dull character. It is often associated with attacks of syncope, tinnitus, dizziness, incapacity for mental work, depression, and irritability. The pupils are usually dilated. The headache often diminishes or subsides when the patient assumes the recumbent position with the head low.

The diagnosis of the cause of headache depends entirely upon the patient's history, and the presence or absence of certain associated symptoms. This will be readily appreciated after a review of the conditions in which headache occurs, as either a predominant or a concomitant symptom. The general health of the patient must always be carefully investigated, particularly with regard to the function of the digestive tract and the action of the kidneys. While the seat of the pain is often suggestive, too much stress must not be placed on this indication, for in all forms of headache the pain may vary in its location from time to time. In supraorbital and occipital neuralgia the pain is more or less paroxysmal and superficial in character, usually being confined to the anatomical distribution of the nerve, and is, therefore, not a true cephalalgia. Continuous headache, lasting many days, with nocturnal exacerbations, should always lead to the suspicion of cerebral syphilis. It is always necessary to decide whether the headache is due to a functional disturbance, or the result of organic intracranial disease. A safe rule to follow in all cases of persistent headache, is to ascertain if any signs of cerebral disease are present. A constant general headache, which is accompanied by optic neuritis and frequent attacks of vomiting, invariably points to intracranial disease. Examination of the pupils should never be omitted. In hyperæmic forms of headache the pupils are usually contracted, while in anæmia they are found dilated. When the pupils fail to react to light, or are absolutely rigid, the vision being unaffected, it is highly suggestive of cerebral syphilis or some other form of cerebral degeneration. The ophthalmoscope often proves extremely valuable in diagnosis. Although abnormalities of the cerebral circulation may exist without evidence of such disturbance in the retina, the discovery of "choked disk," or optic neuritis, or varying degrees of hypermetropia, myopia, or astigmatism will often be the means of determining the cause of the headache. The most important use of the ophthalmoscope in cases of headache, is to determine the presence or absence of optic neuritis. While its absence does not exclude organic disease, its presence is presumptive evidence of some form of intracranial disease, such as basal meningitis, increased brain pressure from cerebral tumor, or the vascular degeneration associated with renal disease.

As previously mentioned, careful investigation of the entire organism is essential in every case, the most important element in the treatment of patients with headache being the recognition of the cause, as the pain is oftener dependent upon some underlying constitutional condition than upon organic intracranial disease. The discovery and correct interpretation of such facts should be the principal guide in the adoption of therapeutic measures. In the toxæmic form of headache, as well as in other forms, it is absolutely necessary that the large intestine be kept free from fecal accumulation, and that the action of the digestive organs be regulated by suitable diet, etc. All supposedly reflex causes should be rectified, but too much stress must not be laid upon the paramount importance of such disorders, for many patients seem to possess an inherited or inherent predisposition to develop headache upon the slightest provocation. It is generally desirable and universally advocated that in habitual headache any existing error of refraction or eye-muscle defect be corrected, and I am fully aware of the value in certain cases of such intervention. But, even when such conditions are discovered and remedied, relief from the headache does not always follow, for several causes may be operative in the same individual. Therefore, before saddling a patient with spectacles for slight refractive errors, or cutting the eye-muscles, or operating upon the nose for deviated septum, or replacing by operation a slightly displaced uterus, or suturing a trifling laceration of the cervix, etc., all other probable causes of the headache should be systematically eliminated.

Headache due to cerebral congestion may be relieved by the avoidance of all forms of cerebral stimulants and psychical excitement, regulation of the diet, free purgation by calomel and salines, and the administration of bromide of potassium, and fluid extract of ergot, every three or four hours. Severe cases require cupping or blistering over the nucha, and local blood-letting or venesection. It would appear, from the recent experiments of Leonard Hill and others upon dogs, that the application of ice-bags to the head as a form of treatment has practically no effect upon the cerebral circulation. Hence, the time-honored custom of using the ice-coil or ice-bag in cases of cerebral congestion or meningitis is without any scientific evidence as to its action. Its clinical value, however, is still an open question. When the ice-cap is used, it should always be applied to the shaven scalp. In headache from cerebral anæmia, rest in bed with the head low, and special attention to the cause (which is usually general anæmia) is of prime importance. The administration of cardiac tonics and the use of iron and easily assimilable food, generally prove successful when organic visceral disease is absent. When headache accompanies the infectious or malarial fevers, the reduction of the temperature by hydriatic or other appropriate measures, or the use of quinine, are usually efficacious. In every form of headache we are often forced to resort to the temporary use of local applications of dry or moist cold or heat, or some form of anodyne or counterirritant.

Antipyrin, acetanilide, phenacetine, caffeine with bromide of potassium, etc., or diffusible stimulants, such as aromatic spirits of ammonia, tincture of valerianate of ammonia, etc., and the various opiates or analgesics often prove serviceable as symptomatic remedies, but their selection should be left entirely to the judgment of the physician. The faith of the laity in so-called "headache powders" and the like has been more or less initiated and fostered by the medical profession, inasmuch as the trend of the medical mind has too often been misdirected toward the relief of the symptom—headache—without adequate investigation as to its cause.

Many of the statements that I have made may appear trite and commonplace, but this paper is only intended to serve in a suggestive way, by calling your attention to a familiar symptom, which is often treated in a rather haphazard manner, although it is really deserving of closer scrutiny and more careful attention in every case.

56 East Fifty-eighth Street.

An Orthopedic Hospital in Toronto.—A new hospital was opened about two months ago, in Toronto, for the treatment of deformities, especially in children. The hospital has accommodations at present for nearly fifty patients, about half of which number can be cared for in the free wards, the rest as pay patients in private rooms. There is also an out-patient department for such as do not need hospital care.

WHY THE OPEN-AIR TREATMENT OF CONSUMPTION SUCCEEDS.

By M. A. VEEDER, M.D.,
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THE one resource in consumption that appears really efficient is life in the open air. This was recognized, to some extent at least, even before bacteriology had become a science. But now that we have so much better knowledge as to the causation of consumption, there should be corresponding improvement in our understanding of the mode of its cure. Even when employed without precise knowledge, the efficiency of the open-air treatment is so clearly apparent that we may hope for greatly improved results from instituting careful inquiry as to just why it succeeds.

It may be thought that air in large quantities, and in rapid motion, dries and blows away the bacilli, but although this may have considerable effect on the expectorations it cannot benefit the tissues inside the body. Nor is it the purity of the air that destroys the infection. The bacillus of tuberculosis will continue to grow in proper culture media even when continuously exposed to air that is absolutely sterile. Nor is it the plentiful supply of oxygen that benefits the consumptive, the bacillus being of the facultative anærobic variety, which grows equally well in the presence or absence of oxygen. If there is any gaseous ingredient of the atmosphere that is specially likely to destroy the bacillus it is not the oxygen, but the carbonic-acid gas, which is most abundant, not out of doors, but in badly-ventilated rooms. Practically, however, the effect of this gas is unimportant in this regard, it being present in too small a quantity. In like manner traces of ozone, or of balsamic vapors, or of the saltiness of sea air, have little real effect, except to appeal to the popular imagination, as exploited in the prospectuses of health resorts; nor is it the sunshine encountered in the open air that destroys the bacillus in the interior of the body. The direct rays of the sun do undoubtedly destroy the bacilli in the expectorations, thus abating somewhat the consequences of the spitting nuisance. Nevertheless the inhabitants of the polar regions, where there is no sunlight for months together, are absolutely free from the disease, while in the tropics, where there is the strongest possible sunlight every day in the year, it is very fatal, so that sunlight cannot be an indispensable factor in determining the efficiency of the open-air treatment.

It is true that the air of badly-ventilated rooms is laden with ptomains derived from the breath, and that much of the depressing effect of in-door living is due to this cause. Avoidance of these ptomain poisons by good ventilation and out-door living is no doubt beneficial, but it is not adequate to explain why the open-air treatment of consumption absolutely destroys the bacillus of the disease. On the contrary, the ptomain originated in the breath of a consumptive would be most apt to be detrimental to the activity of the bacillus, on the principle of the antitoxin treatment, bacilli very commonly being destroyed by the products of their own activity. If this be the fact in consumption, it would be life in an atmosphere laden with these organic poisons, and not in the open air, that would do the most good.

In short, canvass the subject as we may, there is only one attribute of air that need concern us in the present connection, and that is its temperature. Either heat or cold may be carried to such a degree as to destroy, not only all forms of activity, but life itself. At the very outset of the studies which originated the science of bacteriology, Pasteur hit upon the idea of employing cold to prevent fermentation. Very early in his investigations he also discovered a curiously abrupt limitation of temperature effect in the case of bacillus of anthrax. This organism does not propagate at a temperature above 100°, so that birds, whose temperature normally is 105°, are not susceptible to its attacks, unless made to stand in cold water long enough to lower their temperature to the proper degree, whereupon it becomes fatal in their case, as it is in animals whose temperature normally is 100° or less.

This sharpness of limitation of temperature effects is especially well-defined in the case of the bacillus of tuberculosis, its ability to thrive and form colonies beginning almost precisely at the temperature of the human body, and extending, with some increase, a few degrees above that point. Hence feverishness of any sort, even when attended by a rise of temperature of but a degree or two, may light up tuberculous infection previously dormant, and an ordinary cold or other slight ailment may seem to become the starting point of consumption. Hence, also cattle and birds, whose temperature normally is somewhat above that of man, are very susceptible to tuberculous disease, and horses, whose temperature is below that of man, are immune. That there should be such limitation of effect as this is not more remarkable than that the temperature of the body should be practically a constant quantity, the slightest departure from which marks the beginning of ill health.

That a variation of two or three degrees of temperature should make such an enormous difference in the ability of bacilli to grow and produce their toxins is a fact of the utmost importance in connection with the control of fever processes in general. The direct application of cold to the body, as it has been used successfully in typhoid fever, pneumonia, and rheumatism with high temperature, is attended by instant effects, that appear to indicate that the bacilli, if not killed outright, are at least made unable to originate their toxins as freely as before. There is also relief from abnormal strain secured to the heat-controlling nerve centers of the body. But it is the activity of bacteria engaged in the origination of toxins that keeps up the temperature disturbance, and this activity being checked by the application of cold, heat regulation in the body at once takes care of itself. Even in sunstroke, in which high temperature is supposed to kill by the direct effect of heat on the nerve centers, it is very likely that death really occurs from toxins, originated abundantly by bacteria that would be harmless at a lower temperature, but which at a high temperature are able to overwhelm the body by the products of their activity. In other words, the symptoms in sunstroke are those of exceedingly virulent bacterial poisoning, for which, very curiously, there is no remedy better than the application of cold. This explains why everyone exposed to extreme heat does not die. It is only those who are subjects of particular species of bacterial infection that succumb, and what ordinarily would result in a slight illness becomes fatal. So, too, there are cases in which heat hinders the activity of bacilli of particular kinds, as, for example, when we use a poultice to control certain species of inflammation.

In like manner, the natural resources of the body concerned in heat control are brought more actively into operation by the administration of certain drugs; perspiration produced in this way, for example, having the same effect as the outward application of cold. Thus it becomes pre-eminently desirable that the whole subject of the use of drugs and other measures for reducing fever should be re-studied from this

*Read at the New York State Conference of Charities and Correction at Albany.

point of view. The determination of the critical temperature points in the growth of the bacilli in various diseases, and comparison of such critical temperatures with those that appear in the body in the course of the diseases in question, may give much better insight into the mode of operation of methods of treatment, with corresponding improvement in their use. In this as in all other cases, true science consists in determining accurately the nature of the forces in operation and studying their limitations.

In any event it is evident that large temperature variation controls growth and every other activity of all forms of life absolutely, the only additional point here insisted on being that in the case of the disease-producing bacilli there are critical temperature points at which small variations have very decided effect on particular forms of bacterial activity.

In the case of tuberculosis habitual out-door living, including sleeping in a cool room at night, has the effect of large temperature variation so far as the lungs are concerned, and of small temperature variation so far as the rest of the body is concerned. So we have two classes of cases, in one of which the bacillus may be subjected to very great lowering of temperature in the lungs, and in the other to relatively very much smaller temperature changes elsewhere in the body. It is corroberative of the position taken in this discussion that the greatest benefit from the open-air treatment occurs when the disease is located in the lungs, and the least when it is confined to the bones or other deep-seated tissues, it being more directly accessible to the effect of cold in the former case.

That it is possible to lower the temperature of the lungs to a considerable degree by the inhalation of air such as is met with in ordinary out-door living, may be shown positively by comparing the temperature of the air exhaled with that inhaled. The air that has passed through the lungs at the ordinary temperature of a living room reaches very nearly the temperature of the body, but out doors the air exhaled may fall short of this as much as twenty or thirty degrees, constituting a decidedly large temperature variation from the point at which the bacillus of tuberculosis thrives, and is able to produce its toxins. If the bacillus is anywhere in contact with air so cold as this its growth and other forms of activity must be greatly retarded, and there is very good evidence that this is the fact in the lungs. It is probable that the bacillus is located very superficially in the mucous lining of the air passages for weeks or months after infection, acting like inert foreign matter, such as dust particles, in this location, until growth begins, and the tissues are invaded superficially at the outset, but more deeply later. If at this stage the individual infected houses himself up in a warm room constantly, the infection gains a firmer foothold and the chances of recovery diminish. But, on the other hand, if there is out-door living, even of the most primitive character, there is not only improvement, but entire recovery in a considerable proportion of cases. The colored people of the South in their cabins and shanties before the war were free from the disease, as they are not at present when living under much better surroundings in the cities. It is Arctic cold, and not cod liver oil, that gives the Esquimau his immunity. Life on a farm, or in a lumber camp, or at a health resort in the woods, or on a sea voyage, or riding about the country, all requiring much time to be spent out doors, have been found curative. Even in the tropics the nights may be sufficiently cool, and there may be days and parts of days cool enough to prove effectual on the principle that has been stated, but it is evident that very much more care and skill will be required than in colder climates.

Furthermore, habitual inhalation of fresh, cool air has a tonic and bracing effect, rallying the very forces of the body most concerned in ridding it of tuberculous infection, improving nutrition, bringing restful sleep, and through the pleasurable exercise incident to out-door living, quickening and deepening the respirations, and thus promoting the local effects of cold where it is most needed in the lungs. Such tonic effect is increased by the sunshine and diversion of mind incident to such mode of living. It is not a question of cold storage or of life in a cave at a constant temperature with a view to the absolute freezing out of the germs of such disease. In a culture tube the bacillus is simply made dormant by a degree of cold that proves fatal to it in the lungs. It is the resisting power of the body that destroys the germ, benumbed and weakened by a lowered temperture. Hence it is of great interest and importance that the very cold which hinders the growth of the bacillus helps the body to react against it. In short, out-door living and inhalation of cold air must be so managed and carried to such an extent as to stimulate the patient as well as discourage the bacillus.

There should be no discomfort through inadequate clothing, it being the local application of cold to the lungs, and not to the external surface of the body, that is effective. Indeed, warm clothing is of service by enabling colder air to be taken into the lungs without depressing effect. It is better also to become habituated to this sort of living somewhat gradually, the body, when enfeebled by disease, requiring time to react, and exposure to cold without reaction being injurious instead of beneficial. The patient must appear rested and not exhausted by the measures employed.

If reaction does occur, the ability to digest food improves also, and it becomes possible to aid recovery by forced feeding, which likewise enables greater cold to be borne without depression. It is not fat accumulation through forced feeding and rest in bed that is required, however beneficial such a regimen may be in nervous prostration. It may be well to begin in this way with a patient who is greatly exhausted, but as soon as possible the rule should be forced feeding and life in the open air.

The effect of improved nutrition of this sort is enormous. It has been found possible by forced feeding to determine the sex in bees and tadpoles, showing what a profound influence nutrition has upon vital processes. If it is possible to modify the development of sex by such means it surely is possible to modify in like manner the resisting power of the body against disease. Thus it becomes evident why the bacillus of tuberculosis is destroyed by a degree of cold applied to the lungs that would have no such effect outside the body. The germ made inactive by the lowering of the temperature is consumed by processes akin to digestion.

The question is often raised as to the possibility of destroying the microbes of disease without injury to the patient, but we have here a case in which the very thing that tends to overcome the microbe benefits the patient through stimulation of the vital forces in the manner that has been indicated. It is a two-edged method, cutting both ways.

The writer has entertained these views in regard to the curability of consumption for nearly twenty years, and has witnessed a considerable number of instances of recovery in conformity with them, mostly through change of occupation. One patient left a store and went on a farm, another went to sea for several years, another became a house-to-house canvasser, another rode about the country buying

produce, another, who had been to Florida without improvement, engaged in engineering work on a railroad in the winter in Canada, another made no change of occupation, but was simply much in the open air and slept in a very cool room at night. All these were unmistakable cases of tuberculosis that recovered, and have remained well for years. The failures observed during the same period, aside from those due to lack of conformity to the proper regimen, were due, for the most part, to alcoholism, depression due to financial and other anxieties, violent coughing and irritation of the throat from laryngeal extension of the disease, and especially to pus infection in addition to the tuberculous, a thing to be avoided, if possible, at all hazards, as it lessens the patient's chances greatly. There are cases also which, with our present knowledge, are best suited to surgical intervention, the disease being located in the bones, or the peritoneal cavity, or elsewhere, inaccessible to the local effects of temperature change.

But there are many cases in which such change of occupation as would be advantageous is not possible, or in which the patient does not use proper judgment, and needs instruction and care. For these cases, and generally, there is a rational basis for the organization of sanatorium treatment, not for purpose of quarantine, which is impracticable, because of the great number of cases, but for that of starting those who are in the initiatory and curable stages of the disease on the road to recovery, teaching them the regimen needful for their own salvation, and likewise the measures necessary for the protection of others, so that, after a period of sanatorium discipline and instruction along the lines indicated, they may go to their homes without detriment to themselves or others. The adoption of such a policy would tend also to lessen materially the prevalence of the disease through the diffusion of correct ideas among the general public. Sanatoria conducted on these lines would not become mere homes for consumptives, over whose doors might justly be placed the inscription, "Who enters here leaves hope behind."

With the enlarged resources of State aid every detail of the subject might be worked out successfully, and we should know just what to do with pus cases, and pulmonary cases, and those of a laryngeal nature, or those in which the bones and other parts of the body are affected. The records of such institutions also might be made to contribute valuable information as to the vulnerability of special organs and tissues of the body, due to defective development, heredity, and the like.

From the general course of the discussion it may be inferred that mountain climate quickening and deepening respiration, and increasing the local and tonic effects of cold, is advantageous, but not indispensable, except perhaps in warm countries. In temperate regions sanatoria may be located successfully almost anywhere, and in many cases the proper principles of treatment may be carried out successfully even in ordinary medical practice. In perfecting the regimen necessary, and in studying the selection of cases, and other phases of the entire subject, the enlarged resources of State aid would yield results not to be had in any other way, and repaying any expenditure involved a thousandfold.

Women Medical Students at Berne.—In the University of Berne, Switzerland, there are 252 women enrolled in the medical department and but 199 men. Almost all the women students are Russians.

COLD AND DISEASE.

By H. RANDOLPH TUTHILL, M.D.,
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In the etiology of disease, cold has long been recognized as an important factor. It is not merely the existence of cold, *per se*, that we credit most often with causing or inciting the production of disease, but rather the sudden appearance of cold, as implied in an abrupt lowering of the temperature of the air about us, to which the body has not had sufficient time to accustom itself. Sudden changes in atmospheric conditions, and exposure to dampness and currents of air, as a result of which the surfaces of our bodies become cold, wet, or moist, may exert a peculiar influence upon our physical mechanism which tends to disturb its normal action, and, therefore, produce disease.

There are many diseases which we attribute largely to the influence of cold, such as coryza, bronchitis, and the various neuralgias, as well as acute congestions of the kidneys and other organs. But there are diseases which we know to be caused by specific microorganisms, with whose production or inception cold likewise appears to be intimately associated. In the early history of pneumonia, exposure to cold occupies a well-established place, as a causative agent, in the popular as well as in the scientific mind.

Again, there are other diseases of a contagious and infectious character, such as diphtheria, and also the exanthemata, which often begin in an insidious manner, and cases of such diseases are occasionally seen which present no history of direct exposure to contagion, but rather a history of exposure to dampness or cold. We often notice that the exanthematous diseases are accompanied by congestion and catarrh of the bronchial, pharyngeal, nasal, or laryngeal mucous membrane, and, indeed, such signs may manifest themselves at the very onset, before any other symptoms have made themselves apparent. We must admit that the influence of cold can have but a contributing effect in the production of diseases which we are positively, or comparatively, certain are the results of infection by bacteria. But the question might be asked, How can cold contribute to the production of such diseases?

The bacteriologists tell us that pathogenic bacteria are often found in the buccal cavities of healthy persons, and that they may be present for a considerable length of time upon the surface of mucous membranes without manifesting themselves by producing disturbance. The pneumococcus has been found for months at a time in normal saliva, and the Löffler bacillus has been found in normal throats. And that these microorganisms are able to remain within the buccal cavity without causing any harmful effects, we know to be due to that peculiar power and state of the tissues which enables them to resist and counteract infectious and noxious influences, and which we call vital resistance. The vital resistance of individuals depends upon their general well-being, environment, manner, and condition of life. The vital resistance of individuals is subject to constant change, and when we consider the fact that we carry pathogenic bacteria about in our mouths, and on the surfaces of our bodies, and that the air which surrounds us during our existence may contain multitudes of them, we can readily understand how narrow a margin often actually exists between health and disease. It may take but a very slight cause to derange the equipoise of the system, and lower

vital resistance—at which times nature might be said to be momentarily off her guard—and hence furnish an advantage to our minute, invisible foes. The influence of cold appears in some manner capable of lowering the vital resistance of individuals.

We are all familiar with the phenomena which are designated by the words "taking cold." We notice that these phenomena consist, at first, in the congestion of mucous membranes — noticeably throughout the respiratory tract—which is accompanied by a cessation of secretion from the mucous glands. The equilibrium of the circulation is disturbed, resulting in stasis of the blood current, the engorgement of capillaries, and, therefore, local congestions. As a consequence of this engorgement of capillaries, and arrest of secretion from the glands, the mucous membranes become red, and feel dry and harsh. Leucocytes, red blood-corpuscles, and serum escape from the vessels into the tissues, and the parts become œdematous. Desquamation of epithelium takes place on the surface of the mucous membranes, increased proliferation of the deeper epithelial cells occurs, and finally a reaction sets in, and the mucous glands pour out their secretion in great quantities.

"Taking cold" implies exposure to dampness or cold, which appears to produce a shock to the nerve centers, reflexly, by acting primarily upon the peripheral nerve endings. As a consequence of this shock a sensation of chilliness is felt, and the functions of certain tissues and organs are temporarily arrested or embarrassed.

The air we breathe is sifted, so to speak, by the Schneiderian membrane, and the mucous lining of the mouth, pharynx, larynx, and the bronchi, bacteria being arrested by the ciliated epithelium upon those surfaces, and kept adherent to them by the moist, tenacious mucous secretion.

Experiments have shown that normal saliva has the power of destroying the vitality of a certain number of pathogenic bacteria. According to Sanarelli, as mentioned by Sternberg, the diphtheria bacillus was not destroyed in filtered saliva, but ceased to develop and multiply in it, showing that the saliva had at least an inhibitory action. In these experiments 10 c.c. of saliva that had been sterilized by filtration through porcelain were found to be capable of preventing the growth and development of small numbers of pneumococci, although when larger numbers were added to this given quantity of saliva, some survived and developed. Human saliva consists of the secretion of the salivary glands, together with the secretion from the mucous glands of the mouth. It is very probable that the mucous secretion poured out by mucous glands upon mucous membranes also exercises a destructive, or, at least, an inhibitory action upon pathogenic germs. In nearly all diseases or inflammatory conditions of mucous membranes, we notice that after a time a great outpouring of mucus takes place, which would incline one to the belief that it is a protective measure on the part of nature; for the more we observe nature's ways, the more we are forced to the conclusion that her methods are always for the best, and that there is a well-founded reason for each of her acts.

If we interpret her moves aright, we will find that she will make, and is continually making, strenuous efforts in our behalf, and, therefore, that whatever she does is done with the intent to accomplish a beneficial result. As to whether bronchitis, coryza, and kindred affections are caused by the action of bacteria we are not certain at the present moment. But we do know that they are generally occasioned by exposure to cold, and that in their course, as well as in the course of an inflammatory condition of the intestinal mucous membrane, namely, diarrhœa, also largely ascribed to the influence of cold, we find this great activity on the part of the mucous glands, which has just been referred to, as a defensive act of nature.

Let us assume that the secretion of the mucous glands exercises a destructive, or, at least, an inhibitory action upon pathogenic bacteria; that these bacteria, carried about in the air, upon being arrested by the ciliated epithelium on the surface of the mucous membrane lining the entrances of the body, are kept adherent to this membrane by the moist, tenacious, mucous secretion, which, while it holds them, also acts upon them, devitalizes them, or thwarts, or hinders their development, and prevents them from being carried farther, and so gaining access to the interior cavities of the body. In other words, let us believe that nature mounts guard at the portals of our system, and posts her sentries to challenge the right of way to all intruders. We are told that expired air is free from bacteria, which inclines one to the belief that many that gain entrance to the respiratory tract are destroyed.

What is to hinder the supposition that during the arrest of secretion from the mucous glands, following exposure to cold, the pathogenic bacteria present at the time upon the mucous membrane of the mouth, nose, or pharynx being for the moment no longer restrained in their activities, may begin to develop, and either attack the epithelium in their immediate vicinity and find a nidus beneath its surface, as happens in diphtheria, or, being set free, and no longer adherent to the epithelium, owing to the absence of secretion and the dry state of the membrane, may be carried farther by currents of air, and reach the alveoli of the lungs, in the case of pneumonia. The local congestion and increased temperature of the parts would tend to stimulate such bacteria to great development and activity. Thus the microorganisms, having found a favorable breeding place, could multiply rapidly, throwing off the toxins which, upon being absorbed, produce poisoning—and all this during the temporary lull in nature's watchfulness. Then, when reaction sets in, and the glands pour out their secretion with renewed energy, the intruders might have gained such headway as to be able to repel and defeat the attempts to destroy them. The dry, congested condition of mucous membranes, accompanied by an arrest of secretion from the mucous glands, which follows exposure to cold, may last for hours or days before reaction takes place.

Many contagious and infectious diseases, especially the exanthemata, usually present pathological changes in the pharynx, at the very onset, often before any pathognomonic symptoms have manifested themselves, and there is some reason to believe that the toxic substances producing these diseases may find their way into the pharynx, attack the mucous lining of the pharyngeal wall,and become absorbed by the lymphatics.

When the tissues of the body are in a normal condition, individuals may be able to react promptly after exposure to cold, and prevent the inception of disease; while those whose systems are debilitated may not be capable of rallying the forces of nature to the attack with sufficient promptness or energy to repel the onslaught of bacteria.

However, any exposure to cold, to draughts, and to dampness, is dangerous, and should be avoided as much as possible, in order to prevent chilling of the

surface of the body and its attendant ills. But when such chilling does occur, in addition to a prompt and suitable stimulant to ensure quick reaction, and a brisk cathartic to aid in the elimination of toxic material, it would seem advisable to spray or gargle the mouth and throat well with some antiseptic solution.

83 Monroe Street.

THE CLOSE ANALOGY OF TRACHOMA TO ADENOIDS.*

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I have the honor to address you this evening on the relationship of trachoma to adenoids. In order to arrive at the necessary conclusion of my recent investigation, I must needs consider matter familiar to you all, and I ask your patience meanwhile.

The subject was forcefully brought to my notice as a result of examinations made on the children of this city during the present year, and at the request of our Commissioner of Health, Dr. Lederle. These children were examined with regard especially to catarrhal and contagious diseases of their eyes. The results, as since published, you are all familiar with. Were I to change the figures, of the trachoma cases in particular, it would be to increase rather than to decrease them. Especially would I feel prone so to do as a result of daily examinations of hundreds of children at the public baths of the lower East Side. Here I found the percentage of trachoma as high as 16 to 20.

In these examinations of many thousand children, I so frequently found adenoid vegetations of the superior and posterior nasopharyngeal space in those affected with severe forms of trachoma that I was forced to take it into serious consideration; especially was this the case in the co-called "operative" forms. Here, on an average, two out of every three cases had pronounced adenoid vegetations, with all the typically marked symptoms of this affection.

The same condition of affairs I found present, not only in the lower East Side schools, as anticipated; but, to my surprise, also in the uptown West Side schools, notwithstanding their better facilities and healthier children. Here the average was even more, and one out of every two trachoma cases had adenoid vegetations of the pharynx. More recently, I have carefully watched the trachoma cases assigned to me for treatment at the several hospitals with which I am connected, and here, too, I have noted practically the same adenoid involvement as previously stated. To emphasize this state of affairs, and to give what seems to me a reasonable and practical explanation for it, and especially to lay stress on the seriousness of the existing conditions, is the object of this paper.

To prove, first, that the abnormally large adenoid vegetation in the pharynx is in existence antecedent to the trachoma complication of the lid, we need but recall to mind that this same adenoid vegetation is present in the throat before birth. Also, that recognized authorities tell us that adenoid or lymphoid structure in the lid is not sufficiently developed for the inception of the insidious trachoma till the child is several years of age. And to have a true trachoma, it is recognized that there must needs be this came adeno-lymphoid structure in the lid.

Secondly, both diseases have many of the same etiological factors—poor environment, bad hygiene, overcrowding, climatological changes, heredity, and the dyscrasia; in fact, any condition producing a local irritation or a general disturbance is prone to set up a rapid over-development of the adenoid obstructive nasopharyngeal growth. Or, as Kyle tersely puts it, "Given any dyscrasia producing a tendency to general glandular involvement, and let the same be increased by lessened physiological resistance and diminished vascular tone, and we will then expect lax structures, especially mucous membranes, so easily engorged and liable to watery infiltration, because of their frequent lymph channels, to be the first seriously to suffer." The cause of adenoids is, therefore, clearly recognized. This, unfortunately, cannot be said of trachoma. So many different factors here present themselves for consideration—quite a paper on this subject alone might be written.

Even the generally-accepted theory of its virulent contagiousness is combated by such recognized authorities as Gunning, Vennemann, and Norris and Oliver. We are not now in the midst of a trachoma epidemic—it is rather that the many thousand cases are being ferreted out and brought into public notice. Until a specific trachoma germ is finally settled upon, the etiology of trachoma will remain a mooted one.

Meanwhile, we must fall back on, as relative factors, the races most susceptible, viz., those of Eastern Europe and Western Asia, and the American Indian, excluding the negro, as a rule. Percentages in the nations affected range from 10 to 60 per cent.

Upon one fact all the authorities seem agreed, and this very fact follows out my line of thought. It is, that the liability of attack depends most strongly on the state of the general health at the time of exposure. That there must needs be the required lowered vitality of the general health, due to errors of life, as diet, hygiene, environment, etc. I claim that none of the above conditions can possibly bring about this condition more forcefully than the appalling evil results subsequent to adenoid vegetations in the pharynx. If, as we know, over 80 per cent. of our acute and chronic ear cases result from this condition alone, why, then, may not equally serious lid complications ensue? It is not, therefore, always necessary to hunt for certain race or hygienic causes, or even contagion; these may be but addenda to a more exciting and persistent factor.

Other arguments will bear me out, for, we may have a child with marked trachoma in one eye, and the other eye not affected. I have frequently seen a single trachoma case amongst a number of children in adjacent seats, in a class room, and these with perfectly healthy lids. But let a child with adenoids be seated near the trachoma case, and it is a matter of only a short period of time before the one exposed is likewise affected. The contagious factor may have been present, but it needed only the lowered vitality, resulting from the adenoids, to make the exposure effective. I can find no authorities emphasizing or even mentioning this line of thought, nor do they give trachoma as one of the sequelæ of adenoids.

Thirdly, consideration of the pathology of adenoids and trachoma is very important. That of adenoids may be briefly stated as follows: (1) The so-called soft variety—composed entirely of friable, over-developed lymphoid structure. (2) Œdematous or cyanotic form, with no increase of glandular structure, the enlargement due solely to venous stasis. (3) Hard or hyperplastic variety—here an increase of lymphoid tissue with a decided overgrowth of the connective tissue elements is present. (4) Still more dense form—in which the inflamed

*Read before the Section on Ophthalmology, New York Academy of Medicine, November 17, 1902.

lesions of the lymphoid structure unite with inflammatory organization of the connective tissue elements and there follows more or less contraction and, later, atrophy. In the adenoid vegetations, when removed, we can easily discern these different varieties, and they are generally differences of degree, after all, for one stage passes into the following, if their removal is sufficiently long delayed. In other words, then, the abnormally-developed adenoid vegetations are simply an increase of the normal adenolymphoid material, with more or less connective tissue stroma infiltration, the one or the other being in excess, according to the nature and severity of the cause.

The pathology of trachoma, on the other hand, is much more complex, and authorities have agreed to disagree. Some hold it to be an entirely new growth of a special pathological nature; others, that it is simply an enlargement of the lymph follicles, and that the subsequent changes are related and traced to the same. Wright holds that there appears no true granulation material; for the mucous membrane in trachoma is never ulcerated. Juler claims that the so-called granulations are elevations composed of aggregations of lymphoid cells beneath mucous membranes and with a partial fatty degeneration of these cells nearest the surface. Leber has found in the trachoma follicles large white cells, which he called corpuscle cells, yet these same cells were identical with and to the corpuscles of the lymph follicle of a normal conjunctiva. Again, there is nothing histologically distinctive in a trachoma granule; it is simply a mass of gelatinous material composed of small round cells, delicate connective tissue fibers, and of newly-formed blood vessels, and enclosed in a highly vascular capsule. (Norris and Oliver.) All authorities agree that the adeno-lymphoid tissue is always seriously involved in trachoma, and that in the repeated attacks none escapes. Stephenson concludes that follicular conjunctivitis never becomes a trachoma, for, as he says, the former is a true manifestation of an adenoid activity, and to that extent, physiological, and it, therefore, never produces a destruction of tissue.

If trachoma is a new growth, is it a cause or a result of inflammation? Perhaps the general inflammation is not the first step in the process; but, on the contrary, sets in later and forms, as it were, a "vicious circle." Excellent authorities tell us that the inoculation of trachomatous material does not produce a new trachoma; yet its secretion, if injected, may; but if a new inflammation be produced it does not become a true trachoma unless the constitutional vitality is of a sufficiently low grade to warrant it. Even in 1876 Norris and Oliver stated that trachoma was a local manifestation of a dyscrasia. Like tuberculosis, it is a deposit or development of foreign material in tissue, thus leading to its destruction and, later, to a formation of contracting cicatrices. Also that, for its proper development, a certain predisposition or constitutional susceptibility to the peculiar exciting cause was necessary. To this opinion many are now leaning, and rightly so, too, I think. Burnett believed there was a form of dyscrasia having a predisposition to this disease, trachoma. Such authorities as Nettleship, Reich, Stilling, and Kucharsky hold that trachoma is a true sequelæ to follicular conjunctivitis; whereas, Sæmisch, Swanzy, Meyer, and de Schweinitz claim it to be a separate and distinctive disease.

It may not be amiss to quote an oculist who is a recognized authority on its pathology. "These little trachoma bodies or lymphoid follicles, deeply seated and crowding in, compress the true conjunctival tissue, and its circulation lasts only a varied time. Soon existing vascularity is increased, the follicles grow larger, softer, and their contents are forced out by pressure, and later unite with the hypertrophied conjunctival papillæ. During this period there is the great reaction and secretion of purulent material, and here the risk of contagion and corneal involvement is greatest. Fresh follicular eruptions now take place, during the above-described fatty degeneration and softening, and the same process repeats itself. The "granulations" are with difficulty distinguished from the papillæ and, later, are united with them. Finally the cicatrization of the old granulations unite with new so-called ulcerations, and we have scar tissue, or a true cicatricial trachoma."

It is needless for me to mention the very many forms of this disease, each name designates the kind of tissue in excess. I merely mention the so-called non-follicular trachoma, in which, as Knapp says, there is inflammatory material truly analagous to nasopharyngeal adenoid vegetations. Here, then, we have, in a word, hypertrophy of the normal lymphadenoid tissue, a sympathetic enlargement of the papillæ, and a serous infiltration, and later a fatty degeneration succeeded by, finally, a cicatricial formation. These processes, are, again, but one of degree, and are in close similitude to those earlier described as present in the pathology of adenoid vegetations.

Thus, then, to sum up, we have two distinct diseases in different parts of the body and adjacent to different organs, and with their etiological and pathological factors very closely analogous. We have proven the adenoid vegetation to be the primary factor, and we should, I think, give the benefit of the doubt to the trachoma as being its true sequel.

If such, then, be the case, and you, one and all, find adequate reason to agree with this supposition, it goes without saying, that active measures should be undertaken to stamp out, or, at least, to lessen the prevalence of trachoma by preventing its inception.

Trachoma exists, as I found in my examinations, amongst all classes. Refractive errors do not seem to increase its frequency or its intensity; in fact, children with trachoma, I have found, by frequent examinations, to have surprisingly good sight, often even $^{20}/_{30}$. Eye strain or poorly lighted classrooms are not important factors. Poor environment, hygiene, etc., are important only so far as they tend to lower the vitality. Here is the keynote: Given lack of general tone and a lymphoid dyscrasia, and, like a fire suddenly flaring up from a dying ember, a seemingly healthy lid becomes a horrible mass of cicatricial ridges, with all the serious consequences to the adjacent organ imminent.

I cannot, therefore, too strongly urge serious consideration of this threatening evil. If there may be sufficient uniformity of opinion on this subject, it is certainly our duty to urge our brother practitioners to insist, as far as is possible, in instructing both teachers and parents how to recognize the typical adenoid symptoms. The adenoids thus diagnosed are to be at once removed, and by this means not only will cases of trachoma be far more apt not to recur, after once operated on; but, more important still, the prevention of new cases will be successfully combated. In this way can the frequent number of cases of on-coming deafness and blindness be gradually and effectively checked by this simple preventive procedure.

137 West Sixty-ninth Street.

Women Physicians in Paris.—Out of a total of 3,641 practising physicians in Paris only fifty-seven are women.

Brain Tumors.—Max Mailhouse reports three cases: 1. *Endothelioma of base:* A Hungarian woman, aged forty years, admitted March 13, with a history of headache for at least a year, died April 27. She showed disorientation, incoherence, muttering, nocturnal restlessness, and screaming; exaggerated knee and plantar reflexes, double clonus; dilated pupils, double optic neuritis; perverted smell (odors disagreeable); headache; slight weakness of the left internal rectus and lower facial muscles; twitching of the eyebrow and wrist muscles; repeated vomiting; slight polyuria, a trace of albumin, and the last two days an irregular, frequent pulse, a temperature of 103°, and stupor. The autopsy showed a tumor within the circle of Willis, immediately in front of the pons, nearly 4 cm. anteroposteriorly, over 2 cm. transversely, and 2 to 3 cm. vertically. It was soft, white, somewhat papillomatous, and, microscopically, apparently an endothelioma. By tearing the rather firm connective-tissue adhesions, the capsule (apparently thickened pia) was separable, except at the corpora albicantia and posterior perforated spaces, and anteriorly where it adhered to the optic nerves, which, with the optic tracts, were much compressed, and the chiasm practically destroyed. The corpora albicantia were not recognizable. The third nerves were pressed outward, the left being bent at a right angle at a point where the facial might well have also been pressed upon.

2. *Sarcoma of the Occipital Lobe:* A clerk, male, aged forty-one years, of tuberculous family, seen April 20, 1902, had had five-weeks' vertigo, followed by frontal (first on right side), and, at times, occipital headache, and of three-weeks' failure of vision. Examination showed double choked disk, a suspicion of weakness on the left side of the face, a little stiffness of the neck; exaggerated knee-jerks, and double ankle clonus. Death resulted June 13. The autopsy showed a soft, reddish-gray mass, 100 mm. anteroposteriorly, 60 mm. transversely, and 55 mm. high, filling the posterior horn of the right lateral ventricle, and infiltrating the white matter on all sides for 15-30 mm. situated chiefly in the occipital lobe and entirely in the white matter, except that it involved the gray matter near the narrow part of the cuneate lobule; the entire thickness of the posterior part of the corpus callosum was involved. The tumor extended to within 25 mm. of the posterior end of the brain, 75 mm. of the anterior, and outward nearly to the gray matter of the parietal lobe, and extended 15 mm. on the side of the descending horn of the ventricle.

3. *Gumma of the Mid-post-central Convolution:* July 31, 1902, a woman, aged thirty-six years, gave a history of marriage at twenty-six; at twenty-seven, a miscarriage at five months; at thirty-one, unconsciousness, fall, and rapid recovery, with recurrences at intervals progressively shortening to about a month; for some time severe nocturnal headaches, partial deafness, forgetfulness, and somnolence. The "spells" began with fifteen to twenty-minutes' headache, sometimes a warning, cyanosis and rigidity; then followed clonus of the left forearm, ending in elevation of the arm over the face, spreading to the left leg, the left side of the face, and sometimes to the right side. The attacks involved vertigo, incontinence of urine and sometimes of fæces, and were followed by sleep and stupidity. Examination showed slight weakness of the left hand (with some astereognosis) and side of the face; a more active left knee-jerk and the Babinski reflex on the left side; and double optic neuritis and a very sluggish pupillary reaction to light. Under increasing doses of potassium iodide, with mercurial inunctions, by August 12 her countenance had brightened very considerably and the headache and stupor had diminished.—*Yale Medical Journal.*

The Ocular Manifestations in Chronic Bright's Disease.—G. E. De Schweinitz states that in general terms it may be said that ocular lesions may occur with any form of nephritis, but there is no question that the various types of retinitis are most frequently associated with chronic interstitial nephritis; that is, with renal sclerosis, whether this is an independent primary affection, or whether it is a sequel of arteriosclerosis. Various types of retinitis and retinal lesions may be symptoms of chronic parenchymatous nephritis. Naturally, the so-called secondary contracted kidney, which is a sequence of the large white kidney, may be associated with retinitis. According to William F. Norris, fully 25 per cent. of the cases of chronic Bright's Disease as they occur in general hospitals are affected by various forms of retinitis. The prognosis *quoad visum* depends entirely upon the character and situation of the exudates, *i. e.* upon the amount of destruction of the percipient elements of the retina. The prognosis *quoad vitam* is bad. The author discusses diseases of the uveal tract in chronic nephritis, nephritic cataract, ocular muscle palsies due to nephritis, and recurring subconjunctival hemorrhages.—*Medicine.*

Report of a Grave Case of Tetanus Treated with Veratrum Viride, with Recovery.—H. B. Sweetser describes his case, and says that in presenting this subject he wishes to emphasize the following points: (1) To put on record a recovery from a severe and grave case of tetanus, under the administration of drugs, the ascertained physiological action of which is directly antagonistic to the action of the tetanus toxins, both poison and antidote affecting in opposite ways the same structures, viz., the anterior horns of the spinal cord. Further than to this extent the treatment was not empirical. (2) To call attention to the fact that chloral is a dangerous drug, which is even more liable to exert its poisonous effects when given during the course of so dangerous a disease than when given in health; and to protest against its reckless and continuous use in cases of tetanus, even after it is plainly evident that it is doing no good. (3) To record the opinion, based on evidence, that some of the deaths ascribed to the tetanus poison have really been due to the effects of the remedies used.—*Northwestern Lancet.*

Cardiac Dilatation at Puberty.—Alfred Friedlander says that the first requisite of treatment of this condition is the removal of the exciting cause, muscular overwork, and this is to be accomplished by putting the child absolutely at rest. To allow the child a "moderate amount" of exercise is hazardous, as his idea of "moderate" is apt to be the simple limit of inclination. If the symptoms be urgent, it is best to insist upon rest in bed, with the child flat on its back for several weeks. The diet should be light and nutritious, but should contain the minimum quantity of fluid, so that the volume of blood to be pumped can be reduced as much as possible. Digitalis is often of value in the beginning, and strychnia at all stages, but it is more important to lessen the work of the heart than to stimulate it. Even after the child is up and about again, all severer forms of exercise must be strictly forbidden. This restriction should last for months.—*Interstate Medical Journal.*

The Action of Strychnine on the Heart, and the Evil of Overdosage.—Roland G. Curtin compares strychnine in its action to electricity. It is a stimulant, and too much stimulation is followed by weakness from exhaustion. The author has never seen a case of marked depression of the heart from chronic disease in an elderly person in which large doses of strychnine were given, and the patient survived. Experience has led him to place the most dependence upon digitalis and alcohol—digitalis, because of its remote as well as its immediate effects; alcohol, because in addition to its being a diffusible stimulant to the circulation, it is, in his opinion, a valuable tissue food. Strychnine fulfills neither of these important offices. It cannot be classed as a food; it will not cause the slow, full, satisfactory ventricular contraction observed after the dose of digitalis.—*The Therapeutic Gazette.*

MEDICAL RECORD:

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TENT LIFE FOR THE TUBERCULOUS INSANE.

How to best deal with this class of consumptive is one of the most difficult questions that confronts those in charge of institutions for the insane. The phthisical insane individual differs in many important respects from the ordinary person suffering from tuberculosis, or rather it is his mental alienation that makes him different. The personal habits of those whose minds are unbalanced are almost invariably dirty to a degree, and despite the most careful watching on the part of attendants it is almost impossible to prevent the spread of infection in rooms and wards occupied by the insane. All the most prominent alienists are unanimous in declaring that insane consumptives should be segregated, but the mode of segregation is the crux of the matter.

Dr. A. E. Macdonald, Superintendent of the Manhattan State Hospital, East Ward's Island, New York City, has inaugurated at that large institution a system of tent care of the insane, which, according to Dr. C. Floyd Haviland, one of the assistant physicians, has been attended with the most gratifying results during the year it has been in operation.

On June 5, 1901, forty phthisical patients began a residence in tents. In this number were included all cases of both miliary tuberculosis and phthisis at that time in the hospital. Two large tents were employed, each being fourteen feet high and having a capacity of twenty beds, allowing forty square feet of floor space per bed. These tents were erected upon elevated, dry ground, where they were surrounded by abundant shade, and were constantly swept by breezes from the river. The ground was cleared of all vegetation beneath each tent, and a board floor constructed about eighteen inches above the ground, which being made in sections could be taken up and exposed to direct sunlight as occasion demanded.

In pleasant weather one side of the tent was kept open, so that the interior was literally flooded with pure air, and at all times sufficient ventilation was afforded by large ventilators at either end placed near the top of the tent. Nearby were erected several small auxiliary tents, which included two dining tents, a clothing tent, and those for the residence of the attendants. Facilities for bathing were provided, and a separate water supply was established, while the sanitar arrangements generally and personal cleanliness of the patients were closely looked after.

The results of this method of treatment were most satisfactory. During the year eighty-one patients were given the benefit of tent-life, and in that period of time nineteen deaths occurred among them, a percentage of 23.45 out of the total number of cases treated. On the other hand, when all the deaths occurring in the hospital during the past year are taken into account, these figures make the percentage of those succumbing to tuberculosis as low as 8.8.

The real benefit of the tent system is shown by a comparison of this percentage with that recorded in former years in the Manhattan State Hospital. Ten years ago they formed $17\frac{4}{5}$ per cent. of the total number of deaths, but with increasing care the proportion steadily decreased during the succeeding years, so that the yearly average has been $14\frac{1}{10}$ per cent. during that time. One year ago $9\frac{4}{5}$ per cent. of the deaths resulted from tuberculosis, but under the tent care the percentage of $8\frac{4}{5}$ is established, which is the lowest in the history of the institution

As, however, Dr. Haviland truly says, it is not only the beneficial effect of this treatment to the phthisical patients themselves which should commend its adoption, but beyond that the complete isolation resulting from the method is of particular interest to those concerned in hospitals for the insane, where hundreds of mentally incompetents are so wholly dependent upon their surroundings, and where, in the past, so many have fallen victims to tuberculosis.

Isolation is acknowledged to be the most effective safeguard against spreading the disease in any public institution. In asylums for the insane there is greater need to prevent infection than in ordinary institutions on account of the dirty personal habits of the demented. Therefore, it follows that it is especially necessary to isolate the tuberculous insane.

The tent-care system inaugurated by Dr. Macdonald of the Manhattan State Hospital, although perhaps its trial has not yet been sufficiently lengthy, or on a wide enough scale to admit of the drawing of any definite conclusions, has been thus far so encouraging as to lead to the hope that its extension may be followed by even more satisfactory results.

PLAGUE DISSEMINATION.

MR. FRANK TIDSWELL, M.B. ,etc., Principal Assistant Medical Officer of the Government of New South Wales, read a paper before the British Sanitary Institute on December 12, 1900, dealing with some practical aspects of the plague. Mr. Tidswell in his official capacity had exceptional opportunities of observing the manner in which the disease attacked and spread amongst a white population during the epidemic which prevailed in Sydney.

With regard to the mode of dissemination of plague, the writer is in agreement with the views held by almost all authorities, that rats are the most prominent factors in spreading infection, and he further states that the one clear fact in the Sydney epidemic was that human beings do not become infected directly from one another. No

cases of the disease were observed in which infection could be ascribed to handling or receipt of contaminated articles. The result of the observations at Sydney led to a well-grounded belief that the disease is not spread either directly or indirectly from man to man,

With regard to the natural means by which plague is spread and continued among rats, the evidence offered was not definite. Inoculation did not appear to be a common mode of infection, since true buboes were never found in captured plague rats. This, however, might have been due to the fact that plague is apt to assume a septicæmic form in rats, and hence there would not be a bubo. But swelling of the nearest lymphatic glands, accompanied by hemorrhagic exudation, was usually produced by experimental inoculation, and consequently Mr. Tidswell thought that one would expect it to have been seen if the natural infection had been acquired in a similar way. It was found that rats could be infected by feeding.

The experiments made with respect to fleas as conveyers of plague were for the most part negative, although on one occasion infection was set up by means of an emulsion of flees, taken from a very sick rat captured at an hotel from which had just been taken a girl suffering from plague. The epidemic at Sydney did not furnish any clear evidence on the question of the transference of plague from man to rat.

As to transference from rat to man, the evidence was of a sufficiently convincing nature to induce the Australian observers to believe that rats were the sources of infection for human beings. Regarding the exact manner in which the microbes obtained entrance into the bodies of the victims, the evidence was to the same effect as that obtained elsewhere, namely, that they were infected by inoculation. The preponderance of femoral buboes indicated that the actual site of inoculation was usually somewhere on the lower limbs, but the suggestion of oriental epidemiologists that infection occurs with dust entering small, unnoticed wounds on the bare feet did not apply to the cases at Sydney, as all persons there wear shoes. Nor could any of the patients be supposed to have received the infection through wounds, cuts, or abrasions. Therefore the theory that fleas were responsible for the actual transference of the casual bacteria was the one upon which Mr. Tidswell and colleagues had to fall back. After having exhaustively investigated this matter they became possessed of some facts which seemed to show that Simond's contention that fleas were the conveyers of the plague germ from rat to man was not altogether hypothetical.

The conclusions reached were, that in view of all the evidence—positive as regards rats and fleas, and negative as regards other agencies—they were compelled to believe that the Sydney people were infected by means of plague rats, probably through the intermediation of plague fleas or similar vermin.

One point especially interesting in Mr. Tidswell's paper was that in which he referred to the question as to whether fleas from rats will bite mankind. Galli Valerio has asserted that they will not. Mr. Tidswell is of the opinion that although fleas have a predilection for particular species of animals, they will go upon others, and often sample them by a bite or two before returning to the host best fulfilling their epicurean inclinations. Again, it is said that fleas will remain upon rats until the death of these animals, when the vermin are compelled to seek elsewhere for their sustenance. This statement was borne out at Sydney, as when the rats were dying in immense numbers on the wharves at that place, fleas were so numerous as to be a veritable pest.

The paper quoted from and commented upon was a valuable contribution to the literature dealing with plague, and has thrown some light upon the dissemination of the obscure and loathsome Eastern malady. As, however, has been said on several occasions in the Medical Record, there would seem to be little or no fear of plague gaining a foothold in a country where the sanitary arrangements are good, and where the habits of the people are cleanly. It is pre-eminently a disease of dirt, and cannot flourish except it finds a suitable soil.

THE NEW MATERNITY HOSPITAL.

The Society of the Lying-in Hospital, Second Avenue and Seventeenth Street, has just issued its annual report, which in some respects provides food for serious reflection. It states that the hospital was opened for the admission of patients some eight months ago, since which time 1,278 women have applied for in-door treatment. Owing, however, to scarcity of funds, only one ward of sixty-two beds has been available for this purpose. New York is not by any means too well supplied with institutions of the kind, as, in addition to the society's building, the total capacity of these is something less than 600 beds. If, therefore, the society were able to throw open its entire building, containing 186 beds, the pressure on the other maternity institutions of the city would be greatly relieved, and the poor would be correspondingly benefited.

It is an indisputable fact that the new maternity building is a magnificent structure, fitted with all the latest improvements, and admirably adapted in every way to the object for which it was erected. Nevertheless, it is, under existing circumstances, a white elephant to a great extent, and, unless some public-spirited rich philanthropists should come forward with a sufficiently large endowment fund, must continue to be so. Apparently the wiser plan in the first instance would have been to have expended a smaller sum upon the building itself, but to have assured the maintenance of a certain number of beds. A great part of the splendid building is at the present time useless, because money has not been provided for running expenses. It is always ungracious "to look the gift-horse in the mouth," but in such a case it may be well to give expression to reflections so obvious. The society during the past year, in order to maintain one ward, has expended out of its investment fund the sum of $38,120, while, of course, its opportunities for doing good have been seriously hampered by lack of funds.

The report contains some interesting statistics. For the year ending September 30, 1902, the number of births in the borough of Manhattan, according to the official returns of the Health De-

partment, amounted to 51,668, showing that on an average one child was born every ten minutes. The service of the society during the past year showed a large increase in the number of cases over those attended in the course of the preceding year, the applicants being 4,815, an increase of 1,058. Of this number 878 were admitted into the hospital. The report also states that the average wages received by the husbands in employment was only about $7.26 a week, and the average rent $8.78 per month, leaving a balance of but 68 cents a day to provide each family with food, clothing, and fuel. Great progress has been made with the educational work. Two hundred and nine students and thirty-nine graduates have received instruction, and ninety nurses have taken the usual three-months' course. The total amount of money expended by the society during the year was $78,659.12. Attention is called to the fact that the number of cases treated in the out-door departments of the society was less than a year ago, while the number of applicants was very much larger. This is owing to a lack of means; with the present facilities all the work is being done that can be done. The report lays special stress upon the need of a sufficient endowment to enable its new hospital to perform a vast work of good among the destitute poor of the city.

The publication of the society's report will have the effect, it may be hoped, of inducing some of the many American millionaires to lend a favorable ear to the appeal for help. There could be few better ways of spending money than to enable the society to open the whole of the new maternity building for the benefit of poor and destitute women. At the same time the dilemma in which the society finds itself may serve as a useful object lesson, and tend to drive home the truth that the provision of an ample endowment fund is of as much importance as the erection of an imposing and splendidly-furnished building, whose usefulness is, however, greatly nullified by lack of funds for its maintenance.

The Influence of Preservatives upon the Food Value of Milk.

In bulletin No. 86 of the Maryland Agricultural Experiment Station is the result of investigations undertaken by C. F. Doane and T. M. Price with regard to the above subject.

After referring at some length to the experiments of others as to the influence of preservatives upon the food value of milk, the writers describe experiments which they made with calves at the Maryland Station, and the conclusions reached agreed in the main with those of other investigators. The authors say that it is very hard to draw any definite conclusions looking to the use of preservatives either from the work done at this station or that of other workers. The investigation into the effect of preservatives has given practically the same results in all the trials with mature animals. We find that in the work of Chittenden with dogs and also that of Liebreich with dogs borax and boric acid interfered slightly with the digestion of the food eaten. It is doubtful if this was sufficient by itself to condemn the use of these preservatives except under particular conditions, such as that of illness or infancy. In the trials authorized by the British Commission, neither boric acid nor formaldehyde seemed to have any marked effect on the digestion of the food eaten. In the trials to determine the effect of preservatives on the bodily health, mature animals gained in weight, with a unanimity of results which for the conditions would seem to be conclusive. Both Chittenden and Liebreich found that dogs fed with articles containing borax or boric acid gained steadily in weight and, as far as could be observed, suffered no injury whatever from the preservative. Rabbits and guinea-pigs given borax by Liebreich gained in weight and remained in perfect health. The pigs and children fed boric acid and formaldehyde at the instance of the British Commission suffered no evil result from the preservative, and the pigs made substantial gains. The calves fed for an extended period with milk preserved with boric acid and formaldehyde made very satisfactory gains in weight.

The experiments of Annette with young kittens showed exactly opposite results, as the preservatives were fatal when fed to kittens, which would seem to indicate that the use of preserved milk for children is a risky proceeding.

Thus, nothing has been definitely proven as to the harmful effect of preservatives, but at the same time the wisest course to pursue would seem to be to discourage the use of preservatives in milk in every way possible.

Disease in the Philippine Islands Clinically Resembling Glanders.

Assistant Surgeon R. P. Strong, U.S.A., Director of the Biological Laboratory, Manila, has recently described a disease existing in the Philippines Islands which clinically resembles glanders.

The disease starts as a small nodule situated in the cutis, and frequently in the neighborhood of some slight abrasion. The primary node usually appears upon one of the extremities or in the cervical or abdominal region, but may be situated on the shoulders or chest. From the first nodule the infection spreads apparently along the course of the lymphatics, and eventually many buds form. Frequently the adjacent lymphatics become swollen and arranged in a row, presenting somewhat the appearance of beads on a rosary. The nodules vary in size from about 5 mm. to 3 cm. in diameter. The hair is preserved over the younger tumors, which at first are hard, but usually soften later and form large abscesses. The disease extends gradually, and in neglected cases may spread over almost any part of the body, and even invade the nasal mucosa. A mucous discharge from the nose then appears, and the picture now more closely resembles glanders. The primary nodule, however, has not yet been seen situated in the nares.

The disease runs a chronic course, and may last for months, but the prognosis is usually favorable, and a very large majority of the animals eventually recover. Cattle are sometimes affected with this malady, but it is not so common in these animals as in horses.

Dr. J. G. Slee, veterinarian of the Board of Health, Manila, first called the attention of Dr. Strong to the disease, requesting the examination of several horses afflicted with the glanders. A microscopic study of material removed from the pseudo-farcinous buds revealed the fact that the disease under discussion is of an entirely different origin from glanders, it, not as is the case with glanders, being due to bacterial infection at all, but to a parasite of an entirely different group, namely, one of the budding or yeast fungi.

The disease is not to be confused with that termed

"Bursattee," in India, as described by F. Smith as being due to a "mould fungus," or with that known as "farcin du boeuf." It is, however, probably, very closely related to the variety of lymphangitis epizootica, studied particularly by Fermi and Aruch, and to a similar infection described by Tokishige in Japan. As the organism examined at the Manila laboratory has shown as yet no tendency to ferment sugars, it may be regarded for the present, at least, as a blastomyces.

On the appearance of the first node the hair should be shaved for a considerable distance around it, the nodule opened early, curetted, cauterized, and thoroughly cleansed with some antiseptic solution. As mentioned before, a large majority of the cases eventually recover, although the disease may persist for months.

The Etiology of Cancer.

No disease has been made the subject of so many articles by medical men during the past few years as has cancer. Its etiology has up to the present time baffled the skill and perseverance of the most intellectual and highly-trained scientists of the age, and the mystery of its origin is still but little nearer a final solution. The theories with regard to the cause of cancer are many, but are so well known that it would be supererogatory to mention them.

Dr. Alexander Theodore Brand read a paper before the East Yorkshire branch of British Medical Association entitled "A Contribution to the Etiology of Cancer," in which he gives his reasons for believing that the infection theory of the cause of cancer has much to be advanced in its favor.

That cancer is infectious has long been a belief. In the middle of the seventeenth century Zacutus Lusitanus stated his belief that cancer is contagious, and cited cases. In 1672 Nicolaus Tulpius, the famous anatomist, was so sure of it that he stated that "an ulcerated cancer is just as contagious as an inflammation of the eyes."

The evidence of the exogenesis which strikes Dr. Brand as being of the greatest weight is the fact that cancer once generated spreads locally by affecting its immediate environment, and that it is disseminated metastatically by the blood current and lymph streams, the latter infecting glands en route.

Another very suggestive fact, he thinks, is that while cancer is at the outset a purely local disease, it becomes eventually constitutional, one of the indications of such being the gradual establishment of a so-called "cachexia," and he is further of the opinion that this term "cachexia" simply means that the victim of cancer has become saturated with the toxin of the bacterium causing his disease.

Dr. Brand sums up as follows: "From the evidence at my disposal I deduce that cancer is a specific disease, that it is contagious, and therefore infectious. That there is an infective agent is a logical sequitur.

"Probability and analogy point to this agent being a microphyte and not a microzoön. That this mycrophyte is a facultative aerobic bacterium is suggested by the fact that, though it grows fairly well under free access of air, it grows very much better without it. This is well exemplified by the striking difference in behavior of epithelioma of the lip and of the tongue. Although these parts are very near neighbors, the growth in the one instance is extremely slow, while in the other it is exceedingly rapid. The epithelioma of the lip is exposed to light, to the air, to low temperature, and there is an absence of moisture. The epithelioma of the tongue, on the other hand, is situated in an ideal culture chamber, in the dark, where there are moisture, a fairly constant favorable temperature, and exclusion of air."

The writer concluded his address by declaring that lack of money was one great obstacle to investigation, and said that England should follow the example set by the United States and Germany, in both of which countries large sums of money for the investigation of the cause and nature of this disease had been provided.

Undoubtedly the United States has small reason to fear the rivalry of other countries so far as the investigation of the cause of cancer is concerned, indeed, in some respects she has made more progress in this line of research than some of the majority of the European countries.

The National Health and the British Army.

There has been for a considerable time—and particularly since the outbreak of the South-African War—much discussion among medical men in Great Britain, with regard to the alleged physical deterioration of the inhabitants of the United Kingdom. The rejections of candidates for admission to the army has given rise to a certain amount of alarm. It has been found that more than 50 per cent. of those who have offered themselves for military service, do not fill the exacting requirements demanded of them.

Major-General Sir Frederick Maurice recently delivered a lecture on the subject, in the course of which he said that according to the result of his experience and the inquiries which he had instituted, he had arrived at the conclusion that out of every five men who wished to enlist and primarily offered themselves for enlistment, there were only two remaining in the army as effective soldiers at the end of two years. After alluding to the more frequent assigned causes of physical disability by which it came to pass that under the British voluntary system of enlistment it was only possible to make two soldiers out of every five who offered themselves for military service, General Maurice went on to ask whether this meant that the high proportion of men physically unfit could be attributed to the class from which the bulk of the army was drawn, and, if so, why and how far it was due to remediable causes? So long as there were more young men willing to enlist than were required if they were only fit material for soldiers, it seemed needless or superfluous to talk of conscription or compulsory service. It had to be ascertained, first of all, what was the exact and whole truth in regard to this disability, the conditions and causes which led up to it, and how far these were preventable in their nature. As the question was one of national health, General Maurice recommended that the Royal Colleges of Physicians and Surgeons should thoroughly investigate the matter, and that funds for this purpose should be provided by the Government.

The *Lancet* of November 1, referring to the matter, says that the plan suggested by General Maurice is worthy of adoption. The largest number of rejections, according to the medical report for 1900, were caused by defective development under height, weight, and chest measurement. Among other causes, defective vision was the most frequent; loss or decay of many teeth came next, followed by diseases of the heart and blood vessels, and defects of the lower extremities. Speaking broadly, these are defects of an urban as opposed to a rural and agricultural population, and for the rest they are largely attributable to preventable causes, such as defective hygiene or

improper feeding, overcrowding, and defective ventilation. The statement that the British race has deteriorated, applies only to those who live in cities, but as the urban population is at the present time much greater than the rural, and is increasing at a rapid rate, the matter is a serious one.

Transportation in New York.

The means of transportation in New York are entirely inadequate to the needs of its population. This fact has been clearly recognized for a considerable period, and from time to time an individual has given voice to public sentiment on the subject. But the mass of the people have exhibited an extraordinary indifference in the matter, and there has been no concerted movement with a view to better the situation, or to probe into the causes of the lamentable lack of accommodation provided by the corporations which control the street and elevated railway roads of the city. The majority of New York citizens appear to regard any attempt to remedy the present state of affairs as hopeless, and as beyond the reach of practical politics.

Recently, however, some prominent women of the community, aroused by the excessive overcrowding of cars—which naturally affects members of their sex far more unpleasantly than men—have entered a vigorous protest against the continuance of existing conditions of transportation in New York. The question has also been taken up by the Merchants' Association of New York, and a manifesto has been issued by its Committee on Franchises and Transportation.

In this appeal to the public the matter is viewed more especially from the standpoint of outraged decency and menaced public morality. From this point of view there is, undoubtedly, much to be said, and a sensitive woman who is compelled to use street or elevated cars, when the traffic is at its height, must receive some severe shocks to her modesty, as well as suffering great inconvenience. The overcrowding is the chief charge that must be brought against the public railway system of New York, for with the removal or even the alleviation of this condition, not only would the cause of decency be benefited, but the principal menace to health would be banished. In the Medical Record, December 9, 1899, appeared an editorial, in which many of the objections to the present methods of conducting the transportation service of New York were dealt with, and it was then urged that the matter should be looked into, and that efforts should be put forth, to endeavor to ameliorate as far as was possible the obnoxious features of the system. In the course of the article referred to, it was pointed out that so long as the excessive overcrowding was permitted, no effectual measures could be contrived to bring about really satisfactory reforms in street transportation, but that, at the same time, if more attention were paid to some important and obvious details, the lot of the passenger would be, to some extent, rendered more bearable. It was shown, for instance, that there was room for considerable improvement in the system of ventilation of street cars, and that there should be no need to open windows for this purpose, but that these should be kept tightly closed, and ventilation effected from the top. It was argued that doors should not be open, except when required to admit or let out a passenger, and, in particular, that the doors at the end near the motorman should be kept shut always. Since the writing of the article in question, there has been no improvement whatever in the management of the street-car service; overcrowding is as bad as ever, and as a mode of travel the car lines and elevated railway provide as unhealthy, and in every way as unpleasant a one as can well be imagined.

The appeal of the Merchants' Association should strike home to all the inhabitants of New York, for reasons of health and for reasons of morality. Those in control of the transportation system of the city have been too long permitted to ignore the rights of the public by their failure to provide the necessary facilities for traveling in comfort and decency, and with due regard to the health of their patrons. A thorough ventilation of the subject in the lay and medical press, and the pressure of public opinion induced thereby, should go far toward bringing about the much-needed reforms.

Lemon-juice as a Bactericide.

The daily press is just now much interested in exploiting a statement from Dr. Asa Ferguson of London that lemon-juice kills the typhoid bacillus in drinking water. Although it has long been known that citric acid is a powerful germicide, Dr. Ferguson is apparently the first one to popularize lemonade on such a basis. The wholesale and effective manner in which a teaspoonful of lemon-juice will destroy the pathogenic microorganisms in a glass of water is certainly astonishing if not spectacular. It is from both of these points of view that the experiment appeals to the public. The Chicago Board of Health hastens in its disinterested and public-spirited way to confirm the conclusion, and the boon is launched accordingly. Something more than this confirmation will be needed by the profession before the adaptability of this wonderful discovery can be demonstrated. If in the end, however, it can be proven that lemon-juice or citric acid can do all that has been promised, Dr. Ferguson will deserve all due credit for practically applying a new principle of typhoid prevention. In the meantime it may be somewhat comforting for the people to believe that they are protected from infection by the use of this new drink, but it is hardly fair to encourage them to feel any safety against the infected oyster merely because a few drops of lemon-juice are sprinkled over its surface.

An International Congress of Thalassotherapy.—In 1894 the first International Congress of Thallassotherapy was held at Boulogne-sur-Mer, France, and the second congress was held the following year at Ostende. Since that date no general assembly of medical men especially interested in this branch of therapeutics has been held. It has been determined, however, to revive the organization, and the announcement is made that the third congress will be held at Biarritz on April 19-21, 1903. The following are the subjects for set discussions at this Congress: (1) "What Is the Effect upon the Processes of Metabolism of a Sojourn at the Seashore?" (2) "What Are the Effects of Marine Therapy as Regards the Generalization of Tuberculosis?" (3) "What is the Influence upon the Cardiovascular Apparatus of a Stay at the Seashore and of Thalassotherapy in General?" Membership in the Congress is open to all interested in the subject of marine therapy who register and pay a subscription of ten francs. The latter may be sent to the treasurer, M. Raynaud of Biarritz. Further information may be obtained by addressing the foreign secretary Dr. J. Seguel, 68 Boulevard Malesherbes, Paris.

News of the Week.

A Lister Jubilee.—The issue of the *British Medical Journal* of December 13, 1902, is dedicated to Lord Lister in celebration of the fiftieth anniversary of his admission to the medical profession. It contains the following articles: "Remarks on Plugging with Iodoform Gauze in Operations Performed in Cavities of the Body," by Professor Ernst Bergmann; "An Essay on Scientific Surgery, the Antiseptic Method of Lister in the Present and in the Future," by Dr. Lucas Championniere; "Observations on Certain Cerebral Localizations," by Prof. Francesco Durante; "A Clinical Lecture on the Antiseptic Treatment of Wounds—The Antiseptic Treatment in Denmark," by Prof. Oscar Bloch; "Contribution to the Treatment of Fractured Patella," by Professor Mikulicz-Radecki; "The Bradshaw Lecture on Infective Arthritis," by Howard Marsh; "Remarks on the Influence of Lister upon Military Surgery," by Alexander Ogston; "An Address on Pasteur and Lister," by D. Berry Hart; "Lord Lister and Antiseptic Surgery—The History of a Revolution—Early Days in Edinburgh," by Thomas Annandale; "Lord Lister and the Evolution of Modern Surgery," by Sir Hector C. Cameron; "Edinburgh Royal Infirmary," by John Chiene; "Listerism and the Development of Operative Surgery," by W. Watson Cheyne. In the closing article, entitled "Recent Years, a Bibliography," Professor Chiene gives an interesting and appreciative sketch of the greatest life-saver of the nineteenth century. No living man, the writer said, has done so much to advance scientific medicine as Lord Lister. He studied in his early work the essential nature and causes of inflammation and suppuration in wounds. He was most enthusiastic in his investigations. He began to experiment with carbolic acid in the treatment of compound fractures, which had always before presented such terrors to the surgeon, abscesses, and the ligature of arteries. He used carbolized gauze, oil-silk protective, carbolic spray, etc., but he continually sought for improvements. He aimed at the simplest methods, and the avoidance of irritation of the wounds by the antiseptics used. He experimented largely with corrosive sublimate. He finally made the dressing-gauze impregnated with the double cyanide of mercury and zinc. After a while he reserved the use of carbolic acid for disinfecting skin and instruments. He abandoned the carbolic spray when it was proved ineffectual. He was constantly seeking for improved methods.

Prof. George E. Post of Beyrout, Syria, President and Professor of Surgery of the American College of that place, while on a short visit to his relatives in this country, has been the recipient of many well-deserved courtesies from his numerous professional friends in Washington, Philadelphia, Boston, and this city. Abundant opportunities have been afforded him by the leading surgeons to witness operations in the larger hospitals and compare experiences in the leading lines of modern surgical work. On Saturday evening last a private complimentary dinner was given him in this city, at which were present several of the leading lights in the profession. The RECORD also tenders Professor Post—one of its life-long subscribers—its best compliments and heartiest good wishes.

Gift to a London Hospital.—Mr. William Waldorf Astor has given £50,000 to the Hospital for Sick Children in Great Ormond street to build a new out-patient department. The building will be dedicated to the memory of Mr. Astor's young daughter Gwendoline, who died recently.

Discouraging the Immigration of Consumptives.—A committee appointed by the California State Senate to investigate the conditions connected with the migration of consumptives to California from eastern States, and the proposed plan to establish a state institution for the care of such patients, has decided to recommend to the legislature that legislation looking to the restriction of this travel been acted. It was decided not to support the plan of establishing a home for patients of that class, the committee being of the opinion that such a move would result only in encouraging persons suffering with tuberculosis to go to California.

Parents May Let Their Children Die.—The Supreme Court of Georgia has handed down a decision which the advocates of Christian Science regard as a victory for them. The decision holds that parents are not compelled to give medicine to their minor children when they become ill and that failure or refusal to give medicine to these children is not a violation of the laws of the State. A Christian Scientist, named Justice, refused to give medicine to one of his children when it became ill and refused to allow a physician to attend the child. After an illness of several days the child died. The neighbors of Justice swore out a warrant for him charging him with failure to provide the necessary sustenance to the child, a crime under the laws of the State of Georgia. This was the only charge upon which they could prosecute. The case was tried in the City Court of Dublin, where the man lived, and he was fined $300. He appealed the case from one court to another until it reached the Supreme Court, which reversed the decision of the lower courts.

A Sanatorium for Consumptives near New Haven.—Several gifts have recently been made to the New Haven County (Conn.) Anti-Tuberculosis Association, which will render possible the erection of a sanatorium. It is planned to build on Woodbridge Heights, several miles north of New Haven, and on some of the highest ground in Connecticut, a complete modern tuberculosis hospital, which will be run on the fresh air system. Three cottages of eight rooms each, will be built at once, and it is hoped to have the institution open for the reception of patients inside of a twelvemonth. It is hoped to demonstrate by the results of treatment in this sanatorium that tuberculosis can be as successfully managed in the drier altitudes of Connecticut as in the Adirondack region in New York State or in Colorado.

Courses in Hygiene at the Teachers' College.—When the new building, to contain a gymnasium and laboratories, is ready, instruction will be given at the Teachers' College of Columbia University in psychology, child study, physiology, bacteriology, gymnastics, hygiene, education, the theory and practice of teaching, physical education in escondary schools, the history of physical education and anthropometry. The full course will occupy two years. The new department will be in charge of Dr. T. D. Wood.

A Convalescent Hospital on Blackwell's Island.—Plans have been filed for alterations to the old Amusement Hall on Blackwell's Island, opposite the Metropolitan Hospital. After the alterations are completed the building will be used as a convalescent hospital.

Foot-and-Mouth Disease.—Connecticut is believed to be now entirely free from foot-and mouth disease, and it is thought that the quarantine against cattle from that State will soon be raised. Governor Odell of New York has protested against the raising of the quarantine, but Secretary of Agriculture Wilson holds there will be no danger to this State in so doing, since federal quarantine will remain on Vermont, Massa-

chusetts, and Rhode Island, and the State of Connecticut has also rigid quarantine against Massachusetts and Rhode Island. Over a thousand cattle in New England have been slaughtered and cremated on account of the disease, and of this number nearly 800 were in Massachusetts.

The Virginia Conference of Charities and Correction.—The next meeting of this association will be held in Richmond, February 10, 11 and 12, 1903, under the presidency of Robert Gilliam of Petersburg. The subjects for addresses, papers, reports, and discussions at the approaching meeting are: "Charitable and Penal Institutions of the Counties," "Shall Virginia Have a State Board of Charities?" "State Care of the Feebleminded," "Juvenile Courts and Reformatories," "County Poor Houses." Prominent persons connected with charity organizations in other States will be present to make addresses and to participate in the discussions. Those wishing to become members should send their names to the secretary, George B. Davis of Richmond. The conference was organized in 1900, and chartered the following year.

Announcement of the Edward N. Gibbs Memorial Prize.—The New York Academy of Medicine announces that the sum of one thousand dollars will be awarded to the author of the best essay, in competition for the above-mentioned prize, on "The Etiology, Pathology, and Treatment of the Diseases of the Kidney." Essays must be presented on or before October 1, 1904. Each essay must be in English, typewritten, designated by a motto or device, and accompanied by a sealed envelope, bearing the same motto or device, which shall contain the name and address of the author. No envelope will be opened except that which accompanied the successful essay. The academy reserves the right, according to the direction of the donors, not to award the prize if no essay shall be deemed worthy of it. The academy will return the unsuccessful essays, if claimed by their respective authors, or by authorized agents, within six months. An essay must show originality in order to obtain the prize. The competition is open to the members of the regular medical profession of the United States. The original of the successful essay shall be the property of the academy, and, according to the deed of gift, will be published in its transactions. The essays must be sent to the Committee of the Trustees of the New York Academy of Medicine on the Edward N. Gibbs Memorial Prize.

Obituary Notes.—Dr. Alexander Denby died on December 18 in St. John's Hospital, Brooklyn, twenty-four hours after arriving there for an operation for appendicitis. He was stricken with typhoid fever five weeks ago, and the second disease manifested itself recently. He was born in St. Petersburg twenty-four years ago, and he was graduated from the Long Island College Hospital in 1899.

Dr. Frederick L. Brady, who was a member of Troop B of Roosevelt's Rough Riders during the Spanish-American war, died in St. Luke's Hospital from typhoid fever on Christmas Eve. Dr. Brady was thirty years old, and was a graduate of the College of Physicians and Surgeons of this city in 1899. During the Spanish-American war, as a member of the Rough Riders, he was in the engagement at Las Guasimas, the battle of San Juan Hill, and the siege of Santiago.

Professor R. v. Krafft-Ebing, the well-known neurologist and alienist of Vienna, died the week before Christmas at Graz, in Styria. He was born August 14, 1840, and was professor of psychology and nervous diseases at the University of Vienna.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LADY DUDLEY'S CASE—SIR W. WHITLOO'S GIFT—LORD LISTER'S JUBILEE—X-RAYS IN CANCER AND RODENT ULCER—DYSMENORRHŒA—OBITUARY NOTES—DR. OLDHAM'S WILL.

London, December 12, 1902.

The sudden illness of the Countess of Dudley has caused deep regret and some surprise in Dublin, and much sympathy is expressed for the Lord Lieutenant throughout the country. Her Excellency returned on Thursday from Belfast after the Viceregal visit, opened a sale of works for the Royal Hospital for Incurables on Friday afternoon and seemed in her usual health. On Sunday afternoon she was seized with appendicitis, and the condition was so acute that early on Monday morning an operation was performed by Mr. C. B. Ball.

A bulletin was issued at 8.30, signed by Walter E. Smith, E. H. Bennet, C. B. Ball, W. J. Smyly, and announced that Sir F. Treves was expected in the afternoon.

The progress of the case has been normal, and at the hour of my despatch the condition of the patient is pronounced satisfactory.

It was only at the close of November that Her Excellency, accompanied the Lord Lieutenant to Belfast to open a splendid medical institute presented by Sir Wm. Whitloo.

The Bradshaw Lecture at the Royal College of Surgeons was delivered on Wednesday by Mr. Howard Marsh on Infective Arthritis. Before entering on his subject he drew attention to the fact that the day before was the jubilee of Lord Lister's reception as a fellow of the college, and what his name has since become is everywhere the occasion of admiration and gratitude. "The poet alluded in trenchant phrase to those who shut the gates of mercy on mankind, Lord Lister has done more than any living man to throw them open." He then said that though Lister had never sought honors, they had flowed upon him from all directions, and his cup must have been full when he saw his principles succeed in one of the most dramatic events in history, the rescue of the King from imminent peril.

The effects of *x*-rays on cancer and on rodent ulcer were brought before the Pathological Society in two communications. The first was by Mr. Shattock, who had had the opportunity of studying a specimen which was excised by Mr. Brook. The tumor had been treated by *x*-rays for about three months, and clinically seemed to have decreased in size, and become more movable on the subjacent parts. Nevertheless, after removal, no change was found which could be referred to the treatment. At no part of the margin was the growth ceasing to extend. No degeneration, no cytolysis had been induced. The diminution in size and loosening of deep connections were difficult to explain, but it was suggested that they might be due to the disappearance of a subinflammatory œdema.

The second communication was by Mr. Stephen Mayou, who thought the effects of *x*-rays closely resembled those of other stimuli. Though painless when applied to healthy tissues, they produced a superficial inflammation, which was aggravated by other stimuli—a fact which is perhaps not so generally recognized as it should be. The dilatation of vessels seemed in some cases to be permanent after prolonged exposures. He reported a case of rodent ulcer completely cured by the rays. He thought the rodent cells themselves acted as irritants and exhibited sections to show that the leucocytosis was around these cells more than the neighboring tissues. The nodular masses disappeared by sloughing, but the outlying masses of rodent cells degenerated from without inward. Mr. Mayou also mentioned two cases of mammary cancer treated by *x*-rays. One he considered cured, the other not benefited.

A practical discussion on dysmenorrhœa took place at the Obstetrical Society. It originated in a number of cases cured by dilatation of the cervix reported by Drs. Herman and Andrews and compared with others not benefited. They did not consider the curable cases were associated with imperfect development, but in about two-thirds of the cases it begins with the establishment of menstruation, and comes on later in about one-third. Almost always it begins before the age of twenty-five years. They did not find treatment affected by the age, or by the duration of the affection or of married life. In cases cured by dilatation the pain usually began with the flow; in those not thus curable, two days before. Pain lasts about two days in the curable and twice as long in those not curable by dilatation. The pain is paroxysmal in four-fifths of those amenable to the treatment; it is constant in three-fourths of those not. Only a few patients

passed membranes. There was no evidence of such narrowing of the canal as would obstruct the flow.

The President, Dr. Horrocks, thought it was generally agreed that dilatation would relieve intermittent pain, and that pointed to a uterine origin. The worst forms were ovarian, and then the pain was mostly constant, though there were exceptions. He mentioned a case with no vagina and scarcely a rudiment of a uterus which was only cured by removal of the ovaries. Had there been a uterus he should have ascribed the pain to it. He held that dilatation and slitting of the cervix ought always to be tried before more severe measures. Another case of imperfect development was mentioned by Dr. Boxall. With a very undeveloped uterus and vagina there were no ovaries, but on opening the abdomen rudimentary testes were found, so the wound was closed. The pain did not recur.

Dr. Heywood Smith said splitting the external os was useless—in fact, produced the condition which trachelorrhaphy was devised to remedy. The internal os must be divided.

Dr. Arthur Giles said that when the pain preceded the flow it was congestive, and therefore dilatation was not likely to be useful. The cause of painful contractions was obscure; to understand it we need to know why the contractions in labor are painful.

Dr. Galabin said the so-called spasms often lasted a long time. Dr. Lewers said dilatation did not begin until resistance was overcome. Dr. Griffith had often demonstrated a normal canal behind a "pin-hole" os. Dr. Briggs confirmed the value of incision. Dr. Herman replied on the points raised.

Mr. Manley Sims, F.R.C.S., died on Tuesday in his sixty-second year. He for many years enjoyed an extensive practice among the upper classes.

The death is also announced of another nonagenarian —Mr. E. H. Berry, M.R.C.S., in his ninety-second year. Also of Dr. J. Stewart Kilgour, aged eighty-seven years.

The will of Dr. Henry Oldham, formerly obstetric physician to Guy's Hospital, and whose death I recently mentioned, has been proved for £203,000, and it states that he had previously amply provided for his eldest son. This amount is therefore divided for the most part among his other children and his grandchildren.

OUR PARIS LETTER

(From Our Special Correspondent.)

BACCELLI'S TREATMENT OF TETANUS USED IN FRANCE—BABINSKI ON HEREDITARY LOCOMOTOR ATAXIA—COMBY'S TREATMENT OF TUBERCULOUS PERITONITIS—DR. VALLAS' REPORT AT THE CONGRESS OF SURGERY ON THE TREATMENT OF TETANUS.

PARIS, December 12, 1902.

At a recent meeting of the Medical Society of the Paris Hospital, Dr. Henry Claude gave the history of a case of tetanus in which he used injections of carbolic acid as recommended by Baccelli. The patient was a man, forty-six years old, with a superficial wound of the left little finger. Five days after, the symptoms of lockjaw were apparent, and were characterized by intense general contracture with paroxysms, dysphagia, fever, and delirium. An injection of 20 c.c. of antitetanic serum was made the first day, and afterward injections of 20 cgs. of carbolic acid were made daily with venesection and subcutaneous injections of saline solution. Chloral was also given in large doses, and the finger was amputated. Toward the eighteenth day the patient improved, the fever fell, and the perspiration and quantity of urine excreted increased noticeably. It is impossible to feel sure that the cure was due to the carbolic acid, still it would seem to have been useful, if one considers the uncertain results produced by the other agents employed. Hereditary locomotor ataxia of syphilitic origin is, according to the well-known neurologist, Dr. Babinski, more frequent than is imagined. He has seen several case, of this, and presented to the society two patients who showed symptoms of hereditary locomotor ataxia. The first is a young woman, twenty-two years old, with Hutchinson's teeth, who had anal ulcerations at the time of her birth. For about two years she has had lancinating pains, the reflex of the pupils is abolished, and the left patellar reflex is weaker than the right. The father of this young woman contracted syphilis while his wife was pregnant and infected her. He is himself afflicted with tabes dorsalis. Another patient shown by Dr. Babinski is fifteen years old. Her pupils do not react to light, the patellar reflex is abolished, there are urinary disturbances, lymphocytosis of the cephalorachidian liquid, left choroiditis of a specific nature, and mental disturbances showing a tendency to dementia or diffuse meningoencephalitis. Her father shows symptoms of tabes, such as absence of the patellar reflex, Argyll-Robertson's sign, and gastric disturbances. This patient was not aware he was suffering from tabes, and his physicians had not found locomotor ataxia. Dr. Louques was also able to describe the condition of a family where the father died of progressive general paralysis in an asylum, and the mother and two daughters show symptoms of tabes. In an article published recently by Dr. Comley in the *Archives of Pediatrics*, the author claims that a great number of cases of tuberculous peritonitis may be cured by medical treatment. Absolute rest in bed he considers a most important part of the treatment. Plenty of air and sunlight should also be insisted on. The child should be sent to the seaside whenever it is possible to do so, or at least into the country. The diet should consist of milk, eggs, mashed vegetables, meat, raw meat, or the juice extracted from the latter. Cod-liver oil, with or without creosote, glycerophosphate of calcium, lecithine, inunctions of iodine on the abdomen, collodion, and compression of the abdomen are good therapeutical measures, but quite accessory.

At the meeting of the Congress of Surgery, held on October 24, Dr. Vallas of Lyons read a long report on the treatment of tetanus, in which he reviewed the whole question and indicated the results obtained. There are three methods of treatment: the old routine treatment, the serum treatment, and the treatment of Baccelli by injections of carbolic acid. The first included complete isolation and silence about the patient, and the use of chloral in large doses, as much as 10 to 12 gms. being given daily. As for removing the focus of infection by amputation, the latter would be only justifiable when the condition of the limb might favor such a decision. The serum treatment was discovered by Behring and Kitasato in 1890. The serum is not antitetanic but antitoxic, as it does not detroy the microbes of tetanus, a fact which shows the importance of treating the wound most energetically. Nocard's experiments in 1895 carried out on animals exposed to tetanus showed how useful the serum was as a preventive. Whereas not one of 375 animals injected was affected by tetanus, fifty-five cases were seen in other animals. In 1897 Nocard repeated this experiment; 2,727 horses were injected, and not one was affected with lockjaw, whereas 259 cases of this disease were seen at the same time.

Dr. Bazy was able to stop at Bicetre an epidemic of lockjaw by having preventive injections carried out. According to Dr. Vallas, whenever a wound is of a suspicious nature, an injection of 10 c.c. should be made the first day, the same amount the third and the tenth day. In case the wound is not yet healed, the injection should be repeated every fifteen days. As a treatment of lockjaw, subcutaneous injections would not seem to be always efficacious. Dr. Vallas has collected 373 cases with the following results:

Incubation of 10 days: 141 cases, 80 deaths, 57 per cent.; incubation of more than 10 days, 118 cases, 24 deaths, 20 per cent.; incubation not determined, 114 cases, 41 deaths, 35 per cent., which makes a total of 373 cases with 145 deaths, or 39 per cent. Lockjaw in infants (15 cases with 11 deaths), and during the puerperium (15 cases with 12 deaths) is always most pernicious. The mortality in former times being 70 per cent., it may be said that there has been some improvement under this new treatment. The amount to be injected at first is about 30 to 40 gms., to be repeated at least every day until there is a change for the better, when the amount may be diminished. Some patients take as much as 300 or 400 gms. of serum. In one case a negro had 1,800 gms. injected.

Intravenous injections have also been used, and seem quite rational and without danger. The serum should be diluted in about 500 gms. of saline solution. Out of 31 cases treated in this manner, there were 13 deaths, or 42 per cent. of mortality. Intracerebral injections have not given good results and should be rejected, as they are apt to cause most serious accidents. Baccelli's method consists in the injection of a 2 to 3-per-cent. solution of carbolic acid. Sometimes a 10-per-cent. oil solution is employed. About 30 to 40 cgs. of carbolic acid should be injected daily. Out of 80 cases treated in this manner, there were only 8 deaths. It should be remembered, however, that experiments have shown that it is not a specific, and, moreover, tetanus would seem to be less deadly in Italy. The treatment by opotherapy, as formulated by Wassermann and Takaki, does not seem to be justified by the experiments which have been carried out. Subcutaneous injections of hydrogen peroxide have been tried with success in three cases on the horse, and intravenous injections of an iodide solution have succeeded in two cases. Persulphate of sodium has been successful in the hands of Gelibert and Tenillade in three cases.

Dr. Vallas concludes as follows: Whenever there seems to be some doubt about the cleanliness of a wound, preventive injections should be made. All cases of

tetanus should be treated by subcutaneous injections of serum, the latter treatment being reinforced by the use of chloral and carbolic acid.

Dr. Lucas Championnière of Paris said he considered the intracerebral hemorrhages quite without danger, and would willingly employ them in serious cases. As for amputation, he had found it quite useless. The preventive treatment had been most efficacious when an epidemic of tetanus broke out in his service some years ago. Dr. Girard of Berne said he thought intracerebral injections should not be condemned. There is some danger in using them when the injection does not penetrate into the ventricle, but, on the other hand, this treatment seems to act when the ordinary injections have failed. Dr. Mannoury of Chartres is also of the same opinion, as well as Dr. Barette of Caen, who has used this method four times with two cures. Dr. Reboul of Nimes said that he used to see 4 to 5 cases of tetanus yearly until 1897. Since then he had made preventive injections of serum and had only lost two patients who had not been injected. Dr. Schwartz of Paris insisted on the importance of making preventive injections. From 1890 to 1898 Dr. Schwartz had seen 315 suspicious wounds in his service, and lockjaw had come on in 8 cases with 6 deaths. Since 1898 Dr. Schwartz had seen 300 cases of wounds received in the street, and there had been only two cases of tetanus—one in a patient who came in with symptoms of lockjaw, and another in one who had not received any injections.

THE ALLEGED PARASITE OF YELLOW FEVER.

To the Editor of the Medical Record:

Sir: I read two days ago, in your issue of December 13, an editorial entitled "The Alleged Parasite of Yellow Fever," in which you refer to the small hyaline bodies found in the blood of yellow fever patients and subsequently in that of healthy individuals. Permit me to offer the suggestion that these bodies were described by the late Major Walter Reed, Surgeon, U. S. Army, in the *Journal of Experimental Medicine*, Vol. II, No. 5, issued in September, 1897. They were described by him as small granular amœboid bodies, one-third to one-half the diameter of a red blood cell. As I had the good fortune to participate in this work of Major Reed's in the examination of the blood of healthy and vaccinated children, calves and monkeys, I am in a position to state that the amœboid movement consisted in the projection and withdrawal of blunt pseudopodia; there was seldom, if ever, any change in their relative position. The amount of pale transparent ectoplasm was so small that when the bodies became quiescent it was no longer visible. We often encountered them in our examinations of fresh blood from yellow fever patients at Havana, but as they were already familiar to us we gave them no further consideration. The blood of all our cases was carefully studied in both fresh and dried preparations.

I have seen these bodies so frequently that I regard them as constituents of normal human blood, but they may be increased in number in various pathological conditions. Within the past year an eminent American authority, who is thoroughly familiar with them, has expressed the opinion to me that they are amœboid blood plaques.

To those interested the plates from photomicrographs published with the paper mentioned above will serve better than any detailed description.

James Carroll,
1st Lieut. and Asst. Surgeon, U. S. Army.

THE IMMIGRATION BILL AND FALSE MEDICAL CERTIFICATION.

To the Editor of the Medical Record:

Sir: At page 983 of your number of December 20 it is stated that amongst the amendments to the proposed new immigration bill suggested by me was one which "was to punish for perjury physicians who certify to the good health of immigrants who are found afflicted with disease." From the words thus quoted it is not clear to what physicians I have reference, and in order that no one may think that I intend to refer to the surgeons of the United States Marine-Hospital Service or to any other surgeons representing the Government I desire to state that I had solely in mind the physicians on several of the incoming steamers who do not hesitate to swear on the manifest that the health and physical condition of the various immigrants are "good," "perfect," etc., in cases in which the United States examining surgeons find without the slightest difficulty that such immigrants are afflicted with loathsome or contagious diseases, more particularly, favus and trachoma. Outrageous instances of the sort have occurred during the short period that has elapsed since I took office. Only last week a man's mental condition was sworn to as being "good," when our surgeons determined that he was an idiot; and any layman could see at a glance that his mental condition was unsound. I write this letter at the instance of the United States medical staff at this station.

Wm. Williams, Commissioner of Immigration.

New York, December 27, 1902.

Book Reviews.

A Reference Handbook of the Medical Sciences. Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume V. New York: Wm. Wood and Company, 1902.

The first article in this volume is on inflammation, and is illustrated by some exceedingly clear and handsome plates; the last article is on mosquitos, and is freely illustrated by wood engravings. These are an epitome of the volume, which contains articles on every conceivable subject falling alphabetically between these two titles, illustrated by 576 half-tone and wood engravings and eleven full-page plates. Among the more important of these articles are influenza, insanity (125 pages), insects, intestines, intubation, iritis, jaws, joints (40 pages), kidneys (55 pages), labor, larynx (50 pages), leprosy, leukæmia, liver (40 pages), lungs (45 pages), lymphatic system (45 pages), malarial diseases, Manila and the Philippines, mastoid operations, mercury, metabolism, military hygiene (25 pages), milk (25 pages), and mineral springs and waters. The number of contributors is 149.

It is impossible to do justice to a work such as this without entering upon a particular review of the individual articles, which would lead us far beyond the limits of a book notice. We can only repeat what we have said in substance before, that this enclycopedia is without an equal in the world of medical literature, not only in the range of topics presented, but also in their treatment and in the wealth of illustrations employed in their elucidation. There are few subjects connected in any way even remotely with medicine which are not here explained in all necessary completeness.

Diseases of the Bronchi, Lungs, and Pleura. By Prof. Dr. Frederick A. Hoffmann, Professor of Medicine in the University of Leipzig, Prof. Dr. O. Rosenbach of the University of Breslau, and Dr. E. Aufrecht, Chief of Clinical Medicine in the Magdeburg-Altstadt City Hospital. Edited with Additions by John H. Musser, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Authorized Translation from the German, under the Editorial Supervision of Alfred Stengel, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Fourth Volume in the Series of Nothnagel's Practice, American Edition. Philadelphia and London: W. B. Saunders & Co., 1902.

The American edition of this excellent practice of medicine follows closely the original German, but it has some added features for which Dr. Musser is responsible. Among these are the latest facts concerning the anatomy and physiology of the bronchi, foreign bodies in the tubes, the pathology, bacteriology, and treatment of bronchitis, fibrinous bronchitis, and eosinophilia in asthma. The present volume does not include the articles on tuberculosis, which are reserved for a future book. All the articles are complete, being, in fact, a series of monographs by those qualified to speak upon the subjects assigned them. The chapters on treatment are quite like those of the usual German textbook, and many commonly-accepted methods in therapy are abandoned for newer and presumably more efficient procedures. Hydrotherapy, pneumatic cabinets, pulmonary gymnastics, and similar methods are given a prominence which should have its effect in at least subjecting these methods to a searching trial. Alcohol and digitalis are not praised in the treatment of croupous pneumonia, while quinine regains some of its lost prestige.

Malarial Fever—Its Cause, Prevention, and Treatment. By Ronald Ross, F.R.C.S., D.P.H., F.R.S. Walter Myers, Lecturer, Liverpool School of Tropical Medicine. Ninth Edition. New York, London, and Bombay: Longmans, Green & Co., 1902.

The author of this modest book, whose name is so well known in connection with the mosquito as a factor in malaria, published his observations only a few years ago under the auspices of the Liverpool School of Tropical Medicine. Since that time a complete revolution in the theory of malarial propagation has taken place, mainly due

to his studies. The fifth edition is a complete exposition of his views on the subject, and includes, besides, an account of his very interesting studies of the insect in question, and some very useful notes regarding the treatment and prevention of the disease for medical and popular reading.

Textbook of Medical Jurisprudence and Toxicology. By John J. Reese, M.D., late Professor of Medical Jurisprudence and Toxicology, University of Pennsylvania. Sixth Edition. Revised by Henry Leffmann, A.M., M.D., Professor of Chemistry and Toxicology, Woman's College. 12mo., pp. 660. Philadelphia: P. Blakiston's Sons & Co., 1902.

This well-known and excellent work has received a thorough revision by the editor, and is now fully up to the requirements of the present-day science of jurisprudence. The numerous new poisons receive their share of attention, and many of their more modern antidotes are fully discussed. To such students of legal medicine as require a condensed and thoroughly practical view of the subject, this book is well able to carry its own recommendation.

Textbook of Anatomy. Edited by D. J. Cunningham, F.R.S., M.D. (Edinburgh and Dublin), Professor of Anatomy and Chirurgery, Trinity College, Dublin. 8vo., pp. 1,309. New York: The Macmillan Co.; Edinburgh and London: Young J. Pentland, 1902.

The methods of teaching anatomy have so much improved during the past few years that works similar to the one in hand have been necessary to meet the wide demand for the more accurate and practical applications of this fundamental branch of medical and surgical study. In keeping also with the requirements of the times, numerous collaborators have been enlisted in a common cause, each vying with his colleague in bringing his particular work up to the greatest degree of accurate detail. In such respects the book is a great success, and contains as much originality of arrangement and as much novelty in treatment as could be expected in dealing with purely descriptive facts of structure. The general arrangement of subjects is a natural one, and enables the student to build his foundation as he goes. After an introductory chapter on embryology, in which the animal cell is traced in all its intricate series of evolutionary changes to the fully-developed fœtus, there follows the chapters on osteology, and articulations of joints, and then, in turn, those on the muscular, nervous, vascular, respiratory, digestive, and urogenital systems, with separate chapters, also, on the organs of sense and the integument, on the ductless glands, and on surface and surgical anatomy. It is, however, in the detail treatment of these different subjects that the work of the various contributors merits the highest commendation. Most admirable, also, are the illustrations, which are all new, and made especially for the volume. The aim of the various authors has been to give a perfectly clear picture of a given part in all its artistic proportions and relations, and in this they have succeeded far beyond the usual efforts in such directions. The schematic explanations, which are plentifully supplied, are instructive in their simplicity, and give most substantial aid to the solution of many of the hitherto complex phenomena of allied and associated functions. Altogether the treatise is a model of its kind, and is destined to grow in favor by virtue of its numerous intrinsic merits.

The Earth in Relation to the Preservation and Destruction of Contagia. Being the Milroy Lectures delivered at the Royal College of Physicians in 1899, together with other papers on Sanitation by George Vivian Poore, M.D. (Lond.), F.R.C.P., Professor Principles and Practice of Medicine, University College, London. London and New York: Longmans, Green & Co., 1902.

To such as may have become acquainted with the author through his scholarly addresses and essays on the general subjects of rural sanitation in connection with disease prevention, it will be no surprise to learn that the present work is full of useful and interesting information, and contains a multitude of facts of the greatest value to the student of epidemiology. The earth, or humus, is proved to be a prime factor in the destruction of very many of the pathogenic microorganisms, and the study of disease prevention is, in the main, founded upon the consideration of such a probability. The relation of soil pollution, defective drainage, and contaminated water supply, infected milk and the like to epidemics of anthrax, tetanus, enteric and malarial fevers, dysentery, tuberculosis, and allied diseases is quite conclusively shown, giving the earnest reader much food for serious thought, and many useful and practical explanations for otherwise inexplicable phenomena. The book is full of interesting facts bearing on these points, and must necessarily appeal to every one interested in the study of the natural and commonsense views of disease propagation. His arguments appeal alike to the general practitioner of town or country, and his conclusions cannot fail to be of the highest practical value to all.

The Development of the Human Body. A Manual of Human Embryology. By J. Playfair McMurrich, A.M., Ph.D., Professor of Anatomy in the University of Michigan. With two hundred and seventy illustrations. Philadelphia: P. Blakiston's Son & Co, 1902.

The present volume occupies an intermediate position between the elementary works on embryology and the more elaborate books of Minot and the German writers. It presents, in a concise but intelligent form, the facts which are most useful to the student.

Part I, on general development, contains five chapters, which deal respectively with spermatogenesis, segmentation, the development of the external form of the embryo, the medullary germ, and the fetal membranes. The first two chapters are especially interesting, and present as clear an exposition of an intricate process as we remember reading.

Part II, organogeny, includes eleven chapters, each of which treats of the development of a different system or set of organs. Many of the details are necessarily dry and technical, but the author avoids foreign terminology as far as possible, and always succeeds in making himself intelligible. His style is pleasing, and his English good. A special feature of the book is the bibliography appended to each chapter, there being no foot-notes. The cuts, though not original, are numerous, and carefully selected, and are beautifully executed. A short concluding chapter in post-natal development will be studied with interest. The index shows careful work. A careful review of the book justifies the inference that the author has been exceptionally successful in preparing a manual on embryology which is readable, as well as of scientific value, adapted to advanced study, as well as to the class-room.

The Principles and Practice of Gynecology, for Students and Practitioners. By E. C. Dudley, A.M., M.D., Professor of Gynecology, Northwestern University Medical School; Gynecologist to St. Luke's and Wesley Hospitals, Chicago, etc. Third edition, revised and enlarged. With four hundred and seventy-four illustrations, of which sixty are in colors, and twenty-two full-page plates in colors and Monochrome. Philadelphia and New York: Lea Brothers & Co., 1902.

The success attained by this well-known work is shown by the early appearance of a new edition. The revision has been unusually thorough, and nearly one hundred pages of new matter have been added. The additions seem to be mainly in the paragraphs on surgical treatment, though we note that several sections have been rewritten. The diagnosis and differential diagnosis of various diseases have been arranged in parallel columns, as in the older works on gynecology. The subject of inflammation of the uterus and adnexa have been retouched, though we regret to see that the author still adheres to most of his former ideas on "chronic inflammation." His former tendency to devote a disproportionate amount of space to his own modifications in technic are still further accentuated in the present edition. The reader will not be able to withhold his admiration over the new plates (especially XVII to XIX, inclusive), which are certainly hard to beat. In its present form Dudley's Gynecology is fully abreast of the times, and the American profession may well feel a thrill of pride at this fresh evidence of "home talent." While we have never believed that the book was exactly suited for medical students, as a work of reference and a mirror of gynecological practice in this country it is not easy to find its equal. We need hardly add that as an example of book-making each new edition is, if possible, more attractive than its predecessors. Type, illustrations, index, and binding leave nothing upon which one could improve.

Diseases of the Skin. A Manual for Students and Practitioners. The Medical Epitome Series. By Alfred Schalek, M.D., Instructor of Dermatology, Genitourinary and Venereal Diseases, Rush Medical College (in affiliation with the University of Chicago), Chicago, Ill. Series edited by V. C. Pederson, A.M., M.D., recently Assistant Demonstrator of Anatomy, College of Physicians and Surgeons, Columbia University in the City of New York; House Surgeon at the New York Hospital; Assistant Surgeon to the Out-Patient Department of the Roosevelt Hospital, and to the Vanderbilt Clinic; Physician-in-Charge, St. Chrysostom's Chapel Dispensary, New York City, etc. Illustrated with Thirty-four Engravings. Philadelphia and New York: Lea Brothers & Co., 1902.

The arrangement of the text of this little volume is

particularly convenient, especially for the student or the busy practitioner. The opening section treats of the anatomy of the skin, general symptomatology, general diagnosis, general internal therapeutics, and general rules in dermatology. Then follows a classification of diseases of the skin. The bulk of the text consists of an alphabetically-arranged description of diseases of the skin. There are thirty-four engravings. The general order of treatment of the subjects begins with the derivation of the name of the disease described, followed by the synonyms, definition, symptoms, course, etiology, pathology, and treatment. After the description of each disease is a group of questions, so that the book is very convenient for quizzing. There are numerous formulas throughout the book. As the author states, epitomes are not a substitute for the larger textbooks, though they are undoubtedly serviceable in laying a well-arranged foundation for later and more detailed work. The cardinal facts of dermatology, as accepted by the best authorities of to-day, are set forth in this volume, and it is an accurate, clear, and modern work.

Felix Hoppe-Seyler's Handbuch der Physiologisch- und Pathologisch-chemischen Analyse. Von H. Thierfelder. Seventh Edition Berlin: August Hirschwald, 1903.

The first edition of Hoppe-Seyler's Handbuch der Physiologisch- und Pathologisch-chemischen Analyse appeared in the year 1856 in the form of a small handbook of 300 pages. The present is the seventh edition. For two generations this book has remained the authoritative book of reference in physiological and pathological chemistry. The present volume has been com piled by Dr. H. Thierfelder, Professor of chemistry at the Physiological Institute in Berlin. The text has been brought abreast of the advance in research of the past ten years. Although his book must find its chief usefulness in the laboratory and to the physiological chemist, the physician will find it an authoritative reference to the chemistry of the body fluids occurring under normal and abnormal conditions. The book was not written for the physician, the subjects are treated of solely from the standpoint of the chemist, no place having been given to clinical or microscopic con siderations. The scope of the article upon the chemistry of the blood is still limited to the field occupied by that subject fifteen years ago, the newer physiological lines of research have not been treated. Neither has the article on the urine been brought abreast of the advances in clinical medicine. The recent work of Salkowski upon Penutosuria is referred to, but is not given in sufficient detail to meet the physician's practical demand.

The Elements of Bacteriological Technique. A Laboratory Guide for the Medical, Dental, and Technical Student. By J. W. H. Eyre, M.D., M.S., F.R.S. Edin. Bacteriologist to Guy's Hospital, London, and Lecturer on Bacteriology in the Medical and Dental Schools; formerly Lecturer on Bacteriology and Joint Lecturer on Practical Hygiene in the Charing Cross Hospital Medical School, and Bacteriologist to the Charing Cross Hospital, etc. With 170 Illustrations. Philadelphia and London: W. B. Saunders & Company, 1902.

As time advances and the great value of bacteriological research becomes more and more apparent, he who is familiar with this branch of medical science is more closely drawn to the conviction that, after all, bacteriology is essentially a science of technique, and that, for the advances which are yet to come, a greater perfection of technical methods is of the utmost importance. For this reason such volumes as the one here under discussion will be welcomed by all workers in this field. The foundations of the volume consist of notes which were distributed by the author to his laboratory classes, but the book as it exists is far more than a laboratory note-book, and comprises a minute description of the better laboratory methods which are in use to-day. From cover to cover the arrangement and treatment of the subject is most admirable, in that nothing is left to supposition, but every step is accurately considered in detail, so that he who consults it is left in no doubt as to "what to do next." The sections on the preparation and standardization of artificial culture media, and the methods of identification of bacteria deserve especial mention. In the former the author has met a great want in placing before the student such explicit instructions as are usually absent from bacteriological textbooks In the latter the subject is so-considered that, by following it, slip-shod and inaccurate work become an impossibility. It may safely be said that no work upon this subject has as yet appeared which can be compared with it in actual practical value to the bacteriological worker.

Treatise on Diseases of the Eye, Nose, Throat, and Ear. For students and Practitioners. By various authors. Edited by William Campbell Posey, M.D., Professor of Ophthalmology in the Philadelphia Polyclinic, and Jonathan Wright, M.D., Attending Laryngologist to Kings County (N. Y.) Hospital. Illustrated with 650 Engravings and thirty-five Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Company, 1903.

The era of "syndicate" books is now well established, and they are appearing in quick succession. Rarely, if ever, has a medical book appeared in a more attractive dress than the one before us. Bound in an attractive shade of green, with white lettering, printed in clear type and on good paper, it leaves nothing to be desired from the material point of view, and shows how high art may make at least the externals of medicine attractive.

An examination of the work shows it to be well worthy of its setting. Pages 1 to 685 are occupied by diseases of the eye, fifteen writers contributing as many chapters. Pages 689 to 1071 are devoted to diseases of the nose and throat, seven authors contributing. Pages 1075 to 1199 are given up to diseases of the ear, four authors contributing. An elaborate index, occupying thirty-eight pages, completes the book. Some surprise may be felt that in a work of such size the space devoted to the ear is relatively so small, but the chapters are eminently practical, and contain the essentials of otology.

In the space at our command it is impossible to specify the excellencies of the different chapters. Two characteristics running all through the volume may be mentioned: first, the entire absence of "padding," and second, a realizing sense on the part of the various contributors that they are physicians and surgeons first and special workers afterward. As a result, their contributions are well balanced. A strict censorship has evidently been exercized by the editors, whose standing in their respective specialties is too well known to call for comment here. We believe they have placed before the profession a model book, and one thoroughly up to date. New books of this kind are called for every few years, for these particular branches are rapidly developing along the lines of a clearer and more definite pathology, and the textbook of five years ago is, in many respects, hopelessly in arrears.

A Text Book of the Diseases of the Ear. By Prof. Adam Politzer of Vienna. Fourth Edition, revised and enlarged with 316 Original Illustrations. Translated at the personal request of the Author and Edited by Milton J. Ballin, M.D., and Clarence L. Heller, M.D. Philadelphia and New York: Lea Brothers & Co., 1903.

In the case of a treatise of this nature, and one written by an indisputed leader of his special field, the work of the reviewer must necessarily be confined to the mention of the changes over previous editions. This edition has been twice translated before, but the present translation has the advantage of having been submitted directly to the master himself, and bears, as its predecessors cannot have done, the personal impress of the distinguished Viennese clinician. As the preface truly says, "The free and masterly manner in which the author, in all his previous publications, discussed the various diseases of the ear, the thoroughness with which he treated aural surgery, the position which he holds among otologists and his numerous original investigations which form the basis of otology, are all sufficient guarantee for the excellence of any work bearing his name." The present work closes with an andex of the literature consulted in its preparation, and this is of itself almost a complete bibliography of otology, certainly of its vital parts. The use of different sizes of type enables one to save time in getting at the essential parts of the text as distinguished from those that are merely historical, statistical or descriptive. A careful reading of this treatise will bring to observation all that is vital in the otology of the opening of the twentieth century. Every topic has been brought up to date.

Luftreinheit, Aseptische und Atoxische Behandlung der Lungen zur Bekämpfung der Tuberkulose. Von Dr. med W. Zeuner, prakt. Arzt in Berlin. Berlin: August Hirschwald, 1903.

Here is another contribution to this ever interesting and most important subject. The writer first discusses anthracosis. He enumerates as the three causes of tuberculosis: Dust, also mechanical injuries, gaseous impurities of the air, and bacteria. He then speaks of the various occupations and the opportunities they offer for the development of the disease. Air-sepsis is then considered, the benefits of pure air, and the hygiene of the sleeping room.

Progress of Medical Science.

Journal of the American Medical Association, Dec. 27, 1902.

Three Cases of Involuntary Movements in Locomotor Ataxia.—The histories of the cases given in full by J. H. W. Rhein illustrate respectively choreiform movements, irregular slow contractions of groups of muscles, and a fine rhythmical tremor. Rhein believes that the text-books of the present day do not give proper attention to this class of symptoms. He does not believe that the cases described here were cases of disseminated sclerosis, as might be at first supposed, for the gradual progressive incoordinations, characteristic pains, bone changes, and ocular symptoms precluded in his own mind any doubt as to the correctness of the diagnosis. The patients might be described as being in the paralytic stage of disseminated sclerosis They did not present the mental changes, characteristic tremor, or nystagmus of disseminated sclerosis. In one case the lateral columns appeared to be involved, as indicated by the presence of the Babinski reflex; but such an involvement is not uncommon, as we not infrequently find post mortem that the ataxic affection has involved the lateral tracts.

A Peculiar Case of Recurrent Bullous Eruption.—The patient of W. S. Gottheil was a girl aged five and one-half years, of German parentage. Since her second year there had appeared each autumn a skin eruption of a peculiar nature. Each attack began with the appearance of a few watery blisters, which increased up to a certain size, and then either ruptured or dried up. From time to time new ones appeared, thus prolonging the course of the disease to several weeks or months. Then, quite spontaneously, the blisters ceased to form and the child was well. Subjective sensations were entirely absent, so that the child had had no treatment at all; and the sole reason that she was now brought to the clinic was the fact that the accident of location of some lesions in this attack does give her trouble. The first attack occurred in her second year; there were only two or three small bullæ on the backs of the hands, and the eruption lasted but a short time. The second attack in her third year was a little worse; there were more blisters, their size was larger, and the eruption lasted longer. In the attack of the fourth year the forearm and legs were affected, as well as the hands, and the severity of the symptoms was increased. The present (fourth) attack is the worst that she has ever had. It has been present since September (over three months); the blisters are larger than they have ever been; some have appeared on the mons veneris and abdomen, and there have been a number of lesions on the buttocks, thighs, legs, and arms. Each one takes two or three weeks to run its course, instead of a week, as did the early ones; and new efflorescences are continually coming out, so that since this attack began there have always been some score or two of lesions present in various stages at least. Within the last few days some large blisters had appeared on the ankles and soles; and the child had been unable to walk on account of the pain that they occasioned. There had been neither itching nor pain before or after the appearance of any of the lesions. Most of them were accidentally discovered when the child was being dressed or bathed. Gottheil believes that the diagnosis "benign pemphigus" best fits the condition, notwithstanding its periodicity, and the absence of an inflammatory areola around the bullæ.

Medical News, December 27, 1902.

Imitation, Suggestion, and Social Excitements.—John Bessner Huber declares that there are certain factors which may produce in the individual the same results as hypnotism does. These are mainly imitation, suggestion, and the force of inordinate social excitement. Under these influences he loses the power of calm observation, of logical thought; he becomes non-deliberative and impulsive. He has, for the time being at least, undergone reversion. He assimilates readily the ideas of others, however unreasonable they may be, and he proceeds in accord with those with whom he has associated himself. The varied manifestations of the disease called hysteria generally result from imitation and suggestion. It is well known that medical students are apt to consider themselves suffering from any disease which for the time takes up their attention. The writer describes certain revivals, and states that in them the same forces were at work—imitation, suggestion, and social excitement. The peculiar muscular movements of the participants were due either to congestion—that is, excessive determination of blood to the centers which control the muscular movements of the body, or to nervous explosions at the motor centers. Their form was determined by imitation and suggestion from the action of others. The individual had become a mere machine that could be worked upon. These aberrations of the motor centers were attended by, and themselves occasioned, an inhibition of the higher centers, so that reason, will, common sense, and decent self-control were paralyzed. For the time being, excessive, uncontrolled emotion had full sway. A crowd is an entity not at all analogous in its psychism to that of the individuals who compose it. It cannot be counted upon to arrive at conclusions by the same processes that are used by the self-poised individual. The crowd of the present day is much like that of the past. Great individuals exert marked influence upon their fellows. The universal tendency is, after all, toward improvement in all directions.

New York Medical Journal, December 27, 1902.

Rectrocæcal Abscess Developing Three Years after Removal of the Appendix.—The patient of T. S. Cullen was a frail lad of fourteen years. Three years previously he had had a severe fall followed by pain in the right iliac region, lasting several weeks. Shortly after this, and following exposure, acute appendicitis developed. On the tenth day the appendix was removed and the abscess drained. A week later there was a rise of temperature. Removal of some stitches evacuated a pint of pus. Recovery thereafter was without incident. One year before being seen by the author, the boy had a return of pain in the right iliac fossa following a blow. Ten days before being seen he had had a fall, and more pain at the site above mentioned, with evidences of deep induration just outside the scar of the former induration, and a moderate febrile reaction. The former scar was dissected out, and the convex lower end of the cæcum presented. The appendiceal stump was in perfect condition and free from adhesions, but the cæcum about 2 cm. above this was attached to the abdominal wall by a few adhesions, and a small portion of the omentum was also adherent at this point. On gently pulling back the omental adhesions between the cæcum and the lateral abdominal wall, a drop of pus made its appearance. The region was carefully walled off from the surrounding intestine and a pocket containing fully 100 c.c. of thick, creamy, grayish-yellow, most offensive pus evacuated. This cavity lay between the lower surface of the cæcum and the parietal peritoneum. The cavity was loosely packed with iodoform gauze and the intestines were walled off by surroundings strips. The temperature soon dropped to normal and the boy made an uneventful recovery, the wound closing completely in a little over four weeks. Cullen believes that at the time of the first operation there was a large abscess, and it is quite probable that a minute pocket of pus was left behind the cæcum. The tissues had been able to take care of the small purulent focus until the recent injury, as the abscess was between the peritoneum of the cæcum and that lining the abdominal wall.

American Medicine, December 27, 1902.

Ergot in Hemorrhage of Other than Uterine Origin.—Wm. B. Fenn concludes: (1) In profuse hemorrhage from the lungs, appearing in mouthfuls, the likelihood exists that an artery of considerable size is ruptured or eroded, and our object should be to quiet the circulation and lower the blood pressure. We should use rest and such drugs as aconite. Under such circumstances ergot should never be given. (2) In slow oozing the source of the bleeding is usually the congested capillaries in the mucous membrane. Ergot may stop the bleeding by constricting these capillaries; but as such hemorrhage is usually decidedly beneficial and stops when the congestion is relieved, and as ergot is not well borne by the stomach, and is decidedly disagreeable to take, the use is also here rather contra-indicated than otherwise. Digitalis, which also contracts the capillaries, would be quite as useful. It is said that Trudeau, at Saranac Lake, uses the drug for this purpose. (3) Uterine hemorrhage seems to furnish the pre-eminent, and perhaps the only, indication of ergot as an internal styptic.

A Case of Corrosive Sublimate Poisoning from a Vaginal Douche.—Horatio C. Wood, Jr., reports a case seen recently by him, which he thinks shows clearly that the vaginal mucous membrane, even without any gross lacerations, is capable of absorbing sufficient corrosive sublimate to cause toxic symptoms, and that the use of such douches, especially when carried out at home, is not free from danger. The case reported is that of a domestic of thirty years. Twelve days before coming to the writer she had applied at one of the city dispensaries for treatment for leucorrhœa. She was ordered a douche of corrosive sublimate, of 1 to 2,000, to be used daily. This caused much pain, which she was told was due to an improper syringe. With a new one she had the same result. She was advised to use half the former strength. Her urine had become the color of blood, after the first injection. After the third douche she had to take to her bed. The next day she was seen by the writer. She had a severe, heavy pain in the loins, frequent painful mic-

turition, loss of appetite, disgust for food, but no nausea or vomiting. The urine was smoky red, of acid reaction, and contained 0.35 per cent. albumin. Numerous red corpuscles were found, squamous and columnar epithelial cells, crystals of calcium oxalate, and tube-casts, chiefly of the hyaline variety, with an occasional blood-cast. The temperature was 99.4°, pulse, 108°. The face was puffy, with the peculiar waxy pallor of renal inflammation. Moderate doses of uva ursi were given, and diluents were freely used, so that by the next day the albumin had fallen to 0.15 per cent., and the patient felt much better. about two weeks from the time that the patient first presented herself to the writer, she felt quite recovered. Wood adds a warning against the indiscriminate use of corrosive sublimate as an internal antiseptic—a purpose for which it is in no wise fitted. Besides, it is very dangerous in the hands of the uneducated laity.

Philadelphia Medical Journal, December 27, 1902.

Influenza and the Nervous System.—Smith Ely Jelliffe asks if it may not be true that the action of the Canon-Pfeiffer bacillus is being seen more and more in its true colors and that, like the bacillus of diphtheria, it has a specific action on the nervous system, and that this is being recognized more clearly than ever before? As early as the fourteenth century its influence in causing psychoses was recognized. According to Kellogg, epidemic influenza or grippe, is productive of certain grave forms of insanity which are persistent and of uncertain outcome, especially in the aged. In making a diagnosis in influenza microscopical examination is imperative. This disease often leaves an impress on its victims for years after, in different forms of nervous and mental troubles, such as hypochondriasis, mania, and even general paralysis. It fatally complicates many other maladies. As to the statistics of suicide, the total increase between the rate during the years 1871-1875 and 1896-1900 was 66.6 per cent. in New York and 82.5 per cent. in Chicago. The increase between the first and the fourth interims (twenty years) was only 16.3 per cent. in New York and 29.3 per cent. in Chicago, but was nearly 50 (49.4) per cent. in New York and more than 41 (41.4) per cent. in Chicago in the ten influenza years, 1891-1900. The disease is highly contagious and one of the most virulent of the acute specific diseases. Every one is exposed more or less to the disease and should take every precaution to avoid it.

Sore Throat.—B. F. Randolph Clark states that not every patient who complains of sore throat is actually suffering from angina. This phrase is loosely used to describe any pain or discomfort about the mouth, fauces, or larynx. There are very many causes which give rise to discomfort in the throat. Sometimes rheumatism of the muscles of deglutition causes much pain, while on examination only a slight redness of the posterior wall of the pharynx can be seen. There may be paralysis of the throat muscles which will cause discomfort in the throat. Inquiry in such cases should be made as to recent diphtheria. Sore throat with a generally diffused redness of the pharynx is characteristic of simple catarrhal pharyngitis. It yields readily to glycerole of tannic acid, which should be applied after the surface has been cleansed with an alkaline spray. An initial dose of calomel and a gargle of chlorate of potash or rhus glabia are effective adjuvants. Hypertrophied tonsils may become inflamed and sore. Acute follicular tonsillitis is one of the most frequent causes of sore throat. The seat of the disease is in the crypts or follicles and each one must be cleansed out with hydrogen dioxide on cotton wound on a steel probe, and then wiped out with a strong solution of silver nitrate. The bowels should be opened and salicylates given internally. This treatment will always shorten, modify and often abort an attack. Phlegmonious tonsilitis or quinsy is most distressing. If seen before pus is fully formed scarification gives much relief. Hot liquids held in the mouth seem to give some relief and hasten the process. The bowels should be thoroughly opened. The writer mentions many other forms of sore throat, concluding with a few remarks on diphtheria. He declares that the early use of antitoxin, in some cases without waiting for the results of the bacteriological examination, is imperative.

Deutsche medicinische Wochenschrift, December 4, 1902.

Crossed Adductor Reflex in Syringomyelia and Neuritis.—L. Huismans reports two cases, one syringomyelia and the other neuritis, in which this rare sign was present. By striking the right patellar tendon there was produced, reflexly, an adduction of the left thigh while the right patellar reflex was absent. Westphal, who has observed this sign in neuritis, does not regard it as a true reflex, but as due to a nervous irritation, and it is possible that in cases of neuritis this view may be correct. The presence of the sign in syringomyelia, however, cannot be thus explained, on account of the chronic course of the disease, and in our present knowledge we must regard it as of genuine reflex origin.

Peculiar Origin of Syphilitic Gummata.—G. Kulisch thinks that mercury given by the hypodermic method is often not absorbed but remains for a long time in the tissues at the site of the injection. In this manner the tissues in such a location are damaged and reduced in resistency, so that they become especially predisposed to the formation of syphilitic gumma. A case is reported in which such a gumma developed in the left glutcal region. The history showed that five years previous hydrargyrum salicylicum had been injected hypodermically in that location. The gumma was opened and some of the broken-down muscular tissue chemically examined and found to contain mercury. It is probable that in such cases the mercury acts as a foreign body, causing a chronic inflammation, which predisposes the tissues to the action of the syphilitic poison.

Berliner klinische Wochenschrift, December 8, 1902.

Hæmolysins in Human Serum.—Mieczyslaw Halpern has studied the hæmolytic action of both normal and pathological human serum upon the erythrocytes of the rabbit. Taking 1 c.c. of a 5-per-cent. saline solution of such red blood cells as a standard quantity, he finds that if more than .07 c.c. of normal human serum is added a distinct hæmolysis always occurs. Occasionally smaller quantities of such a serum will produce hæmolysis, but such is not always the case. Further investigations show that with like quantities of blood the degree of the hæmolysis varies directly with the amount of serum added, and that with like quantities of serum the degree of hæmolysis varies directly with the number of erythrocytes used. In testing the hæmolytic power of pathological human serum against the erythrocytes of the rabbit it is found that in chronic non-infective conditions no appreciable variation from the normal occurs. The same holds true for the so-called blood diseases (anæmia, etc.) and all of the infective diseases except typhoid fever and septicæmia. In the former the hæmolytic power is greatly increased, while in the latter it is much diminished. Further observations may show that this sign may be of utility in the diagnosis of these diseases.

Antistreptococcus Serum in Scarlet Fever.—Adolf Baginsky reports comparative observations with the original serum of Aronson. Sixty-two cases were inoculated, of which seven died, a mortality of 11.3 per cent. Sixty-three cases, occurring in the same epidemic, were treated in the ordinary manner. Of these, nine died, a mortality of 14.3 per cent. A detailed study of the inoculated cases shows that in none was the course of the disease shortened or the symptoms favorably influenced; indeed, in most the course was lengthened and marked by the development of serious complications, such as nephritis, suppurative adenitis, and joint symptoms. In most of the cases 20 c.c. of the serum was given in one inoculation and not repeated. In a few, however, this dose was markedly increased, and in four six injections of 20 c.c. were given. Such an increase in the dosage did not in any way improve the results or lessen the complications. Recently Aronson produced a new serum which Baginsky has tried with somewhat better results, in that fewer complications have followed its use. It cannot be said, however, that it had any marked influence on the course of the disease, as ordinarily observed. These results are in striking contradiction to those recently reported by Moser and Paltauf. This may be due to the difference in the serum used by the latter observers, which was obtained from streptococci which had not been submitted to animal passage, as is the procedure followed by Aronson.

French and Italian Journals.

Aneurysm Treated by Injections of Gelatin.—Bordc describes a patient of forty-seven years who is not an alcoholic. He declares that he has never cared for wine. He takes an aperient once or oftener a week. He does not drink wine or alcohol in the morning, but milk or coffee. He is not syphilitic, and he denies ever having had the disease. His children show no signs of it. He is not rheumatic. His father died at the age of sixty-two years and his mother was fifty-seven years when she died. The patient states that his disease began with a continuous desire for sleep. He even slept sitting up. This phenomenon disappeared when he was bled. After this came crises of glairy vomiting. These occurred in the morning when the patient put his feet on the floor. They did not occur every morning. They were caused by coughing, and the milk and coffee were never expelled—only the glairy matter. These vomiting spells had lasted for several months

when the patient began to notice the symptoms for which he consulted Borde. For three months every morning, just as he stepped out of bed, never before, and never in the course of the day, he was seized with suprasternal pain, radiating toward his left breast, toward his ears, especially the right, and finally to the left arm and hand. After an hour or so of this pain it was terminated by an attack of glairy vomiting. The writer diagnosed the trouble as aneurysm of the left subclavicular artery, large as a small hen's egg, enlarged transversely, easily perceptible. The carotid and radial arteries throbbed violently. Auscultation discovered a double aortic soufflé. The thrill was perceptible on palpation. The patient was put on iodide of potassium and a milk diet. The injections of gelatin were given at night after the patient was in bed, and consisted of the following ingredients: White gelatin, 2 grams; Sydenham's laudanum, 5 drops; plain boiling water, 100 grams. The temperature was lukewarm, and a fountain syringe was used for the rectal injection. The injection was easily retained and absorbed. The patient has greatly improved under the treatment. Another patient with the same trouble was cured by the writer by this same method.—*Gazette Hebdomadaire des Sciences Médicales de Bordeaux*, November 30, 1902.

Intermittent Calculous Hydronephrosis.—M. J. Reboul reports a case of intermittent hydronephrosis from one calculus, which is interesting on account of the clearness of the symptoms presented by the patient before operation; on account of the variations of the volume of the kidney which increased in size at each crisis, and diminished during the interval; and the absence of pyelo-nephritis and the good results following nephrotomy and extraction of the calculus.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, November 30, 1902.

The Invulnerability of Epileptics.—Vitige Tirelli has found by experimentation that the blood serum of epileptics exercises a bactericidal power far superior to that of ordinary serum, and that especially it diminishes the development and the virulence of the staphylococcus pyogenes aureus. It is probable that this antipyogenous property is of influence in the production of that special condition of epileptics known as invulnerability. It is likely that epileptic serum possesses immunizing or curative properties in regard to the staphylococcus infection.—*La Riforma Medica*, November 29, 1902.

Heredito-Familial and Congenital Cardiopathy.—Gioacchino Arnone concludes from the case observed: (1) That the mitral apparatus may be deformed at birth; whence cases of pure stenosis. (2) If the mitral apparatus becomes affected following some slight cause, this is due in the majority of cases to the fact that owing to prenatal malformation it is a *locus minoris resistentiæ*. (3) Congenital malformations are more frequent on the left than on the right side of the heart. (4) It is the physician's duty, as far as possible, to correct the hereditary taint, and from the point of view of prophylaxis to prevent the marriage of persons with marked hereditary cardiac affection.—*La Riforma Medica*, November 20, 1902.

Essential Anasarca.—Paolo Bacialli reports the case of a woman who became affected with anasarca after falling into cold water. There was hypophonesis of the respiratory apparatus without indication of any inflammatory process, and a slight increase in the size of the liver and of the spleen. The author holds that there was no possibility of bacterial toxæmia in the case, but that the sudden chilling and fright acted as a stimulus to the central and peripheral nervous system, inducing a double action—one on the small blood vessels, causing hyperæmia and serous infiltration, and the other on the renal circulation, diminishing and almost suppressing the secretion of water and salts.—*La Riforma Medica*, November 28, 1902.

Peribiliary Peritonitis, with Frequent Crises of Hepatic Colic; Laparotomy; Rupture of Adhesions. Recovery.—M. J. Braquehaye of Lunis has had a patient who at one time had crises of hepatic colic with passage of gallstones in the stools. A dozen years later she was attacked by sudden and frequent hepatic paroxysms, with jaundice by retention, swelling and pain in the cystic region. Laparotomy was performed, followed by careful exploration of the bile passages. It was discovered that there were no calculi, but pericystic inflammatory adhesions with all the neighboring organs. These adhesions were ruptured without opening the bile passages. The patient recovered after an attack of malaria, excited by the operation.—*Revue de Chirurgie*, November 10, 1902.

A Contribution to the Study of Cyclic Vomiting in Children.—F. Valagussa concludes, from the cases observed, that recurrent vomiting occurs in children who have inherited the uric diathesis. The disease forms a part of the pathology of metabolism, and should be considered as absolutely distinct from diseases of the gastrointestinal tract. The vomiting occurs at irregular intervals, and is decidedly influenced in both duration and severity by treatment. The disease is not a morbid entity, but a complex syndrome of which the vomiting is the chief symptom. The pathogenesis of the recurrent attacks is in relation with an acid intoxication of the organism caused by poisons as yet unknown, upon uric-acid patients. The syndrome of recurrent vomiting is to be considered as an equivalent of gouty attacks in children with hereditary arthritis.—*Il Policlinico*, November, 1902.

The Effect of Cocaine on Intestinal Absorption.—Alfredo Baldacci and Guido Guidi, from the result of their experimentation, conclude that the application of a solution of cocaine to the intestinal mucosa retards the process of absorption, but does not entirely suppress it. It remains to be seen whether larger doses will entirely prevent absorption. It is worthy of notice that fatty substances are affected in about the same degree as soluble ones. This might possibly be due to a partial saponification of the fats in the intestines from the action of small amounts of bile contained therein, or from their emulsification by the enteric juices. In any case the point has been proved that both fats and soluble substances are usually absorbed by the intestines, not by a purely physical process, but by one which includes the activity of the intestinal epithelium.—*La Riforma Medica*, December 2, 1902.

The Action of Alternate Freezing and Thawing on the Vitality and Virulence of Some Pathogenic Bacteria.—Francesco Testi, by subjecting various forms of microorganisms to the repeated and alternate effects of freezing and thawing, found a marked diminution of mobility in the typhoid bacillus, and the cholera vibrio; in stained preparations a transformation of the latter into rounded coccus-like forms. There was a rather marked plasmolytic condition of the bacilli of typhoid, glanders, and diphtheria. There was no morphological modification in the bacteria of chicken cholera. After alternating cold and thawing twelve times, all the germs (excepting those of chicken cholera on two occasions) were developed in cultures. The injections of these germs cultivated after the experimentation was in every case fatal to the animal inoculated, with the exception again of the germs of chicken cholera, which in three cases failed to occasion any pathological disturbance.—*La Riforma Medica*, November 19, 1902.

Abdominal Hysterectomy for Fibromata.—Lafourcade has performed seventy-two abdominal hysterectomies for fibromata in the last four years: ten total, with six recoveries, and sixty-six supravaginal with sixty-two recoveries and four deaths, two of which were due directly to the operation. These mishaps occurred in the first thirty operations, and he has performed forty-two successive abdominal hysterectomies without a single failure. The operative prognosis is the same in complicated cases as in simple cases, on the condition that certain fundamental rules are observed. He has encountered a number of cases in which there were both a fibroma and acystic tumor of the ovary, or of the broad ligament, with lesions of the adnexa, or an epitheliomatous uterus. The post-operative, vicarious troubles are very much relieved by the application of leeches, or by the administration of ovarine in tablets or powder.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, November 23, 1902.

Drainage of the Pericardium and of the Pleura.—Terrier and Reymond, among other sections on the surgery of the heart and pericardium, discuss this subject. Drainage is indicated when there is danger of abundant effusion or of infection. But when this fear is past, then drainage should be discontinued. In cases of pneumothorax it has been thought prudent to drain the pleura. But it is now known that traumatic pneumothorax, or, in other words, aseptic, can be closed without any inconvenience. On the other hand, pneumothorax that is drained persists for that very reason, and the pleura only awaits an occasion for infection. It contaminates in its turn the pericardium when that should have been closed. Among conditions tending to facilitate contamination are the persistence of the pleural cul-de-sac in front of the pericardium and suture of the pericardium, each stitch of which involves the mediastinal layer of the pleura.—*Revue Française de Médecine et de Chirurgie*, November 24, 1902.

An Unheeded Peril in Preserved Meats.—Giovanni Grixoni has found that the fluidification of the gelatin contained in cans of meat, and in bottles of concentrated broth is a very certain sign of damage, even when other signs are lacking. This fluidification is due to the action of living bacteria and trypsinic ferments secreted by them. Peptonized preserved meats have toxic powers, for, whether inoculated into, or eaten by rats and mice, they cause their death. The toxins produced in fluidified preserved meats have a powerful antibacterial action, prevent the development of putrefaction, and are soluble

in water. They are destroyed by a temperature of 100° C. Serum diagnosis in infections of alimentary origin is an excellent method for the recognition of the etiological agent. The prolonged presence of microbes in the can profoundly modifies their biological properties, prevents their development, and finally causes their death. Cans containing living germs, even if these are saprophytic, should be excluded from the dietary.—*La Riforma Medica*, December 3, 1902.

Total Extirpation of the Bladder and of All the Genital Organs for a Papillomatous Tumor of the Bladder.—M. A. Hogge treated this patient, a man of forty-five years. His trouble dated back to 1895 or 1896. In the latter year, Hogge made a hypogastric incision followed by as complete ablation as possible of a voluminous papilloma, largely implicating the region of the trigonum. Recurrence took place and in 1898 another operation was performed: Perineal incision, detachment of the bulb, prostate, seminal vesicles on one hand, of the rectum, of the anal sphincter on the other; symphysrotomy, separation of the pubis, detachment of the perivesical peritoneum, and the seminal vesicles; ligature of the lower ends of the uretus, the removal in a mass of the bladder, prostate, vesicles, and external genitals; suture of the pubis with silver, and cutaneous suture of the abdominal wall. The results were satisfactory. Three years later the patient is in a very fair condition. The kidneys are only moderately diseased, and the urine instead of flowing into the rectum, flows out of a perineal fistula, the transplantation of the uretus in the rectum not being maintained.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, November 30, 1902.

The Transmission of Typhoid Fever by Oysters at Constantinople.—According to Remlinger, the transmission of typhoid fever by oysters is far from rare at Constantinople. The city is surrounded on all sides by water. This water which receives the sewage of a population of nearly two millions of inhabitants is extremely rich in organic matter. It consists of a mixture of sea water, fresh water, and sewer water. This is considered ideal for the rapid growth of the oyster. The bacteriological analysis of the oysters which are developed under these conditions shows a large number of microorganisms and discloses numerous harmful species. It is often noted that patients are seized with diarrhœa a few hours after eating the contaminated oysters. This diarrhœa lasts from eight to twelve days, after which the symptoms of typhoid fever develop. It would be interesting to know if Eberth's bacillus is ingested at the same time with the putrid bacilli, which cause the diarrhœa; or if these latter act by increasing the virulence of the typhoid bacillus. At other times, two persons eat of oysters from the same lot, and one develops diarrhœa and the other typhoid fever. In the first case it seems that the diarrhœa in expelling the typhoid bacilli soon after their ingestion plays a happy rôle.—*Le Bulletin Médical*, December 3, 1902.

Spontaneous Luxations in the Course of the Principal Infections.—A. J. L. Étienne calls attention to certain dislocations which take place in illness or convalescence. Various names have been used to indicate them. These secondary dislocations are consecutive to certain maladies, such as typhoid fever, acute articular rheumatism, scarlatina, variola, gonorrhœa, and streptococcic infection. They possess anatomical and clinical signs which are perfectly distinct and which make of them a morbid entity. There have been various theories advanced as to their cause: One is the accumulation of liquid in the joint; another, vicious attitude of the extremities acting on articulations already diseased; still another is based on the atrophy, the paresis and paralysis of certain muscles joined with the contraction of opposed muscles. It is in the hip that the sudden dislocations are the most frequent. Sex does not seem to be a factor of great importance. It is in the great majority of cases an affection of infancy or adolescence. Nevertheless, it has occurred at the age of thirty or forty years. All of the pathological dislocations have the common characteristic of being consecutive to an articular affection. They are generally incomplete and dependent upon the position of the extremities, which is itself dependent upon muscular action. These dislocations are very easy to reduce in the beginning. Later they become very difficult and often impossible to reduce.—*Revue Française de Médecine et de Chirurgie*, December 1, 1902.

Actinomycosic Appendicitis.—Léon Thévenot reports the case of a young man of eighteen years, who was first a farmer and later a groom. He had an attack of appendicitis. The existence of an intra-peritoneal mass of wooden hardness suggested that the lesion might be due to actinomycosis. Examination confirmed the suspicion. It was discovered that he had for a long time been accustomed to carry in his mouth and to nibble blades of grass, and grains of oats or of wheat not yet ripe. The teeth were fairly good. But in the last three years he had lost three or four molars. There was also a little tartar. The attack began suddenly without apparent cause, without previous gastric troubles, without any prodrome. He experienced violent and continuous pain in the right iliac fossa, and he had to take to his bed. He was made to rest, and observe a careful diet. Laudanum compresses were put on the abdominal region. He improved, and an operation was advised. On admission to the hospital he did not complain of pain, but of great lassitude, persistent anorexia, and slight constipation. His general condition was good. On opening the abdomen, the appendix was resected. It was apparently inflamed and slightly swollen. A drain of iodoform gauze was inserted. Seven days latar the patient complained of diffuse pain in the right iliec fossa and along the antero-internal surface of the thigh. But these symptoms soon disappeared. The wound cicatrized *very* slowly, and in contact with the appendicular stump there was a very hard mass which appeared to increase. Examination of scrapings revealed the ray-fungus which examination of the intra-appendicular liquid had failed to discover. The patient was submitted to the iodine treatment. The wound soon changed and cicatrized. There was only a hard nodule left, which became completely resolved in a few weeks. Several months later the patient wrote that he was completely cured.—*Gazette des Hôpitaux Civils et Militaires*, November 18, 1902.

The Edinburgh Medical Journal, December, 1902.

Cataphoresis in the Treatment of Gout, Rheumatism, and Rheumatoid Arthritis.—Charles Begg gives the method of using this procedure to obtain the best results. He says that in gout it is clearly asking too much to expect it to dissolve and remove extensive and old chalky deposits; but any deposit, however slight, forms a nucleus for the precipitation of fresh insoluble material, and, although this may be continually going on to a slight extent, it must be copiously and rapidly precipitated with each fresh attack of inflammation; and this is the time when we can do good, both by soothing the pain and by the action of the positive electricity checking the inflammatory process, while all the time it is driving a stream of potassium bicarbonate into the tissues of the joint. In rheumatoid arthritis the method does great good in the earlier stages, both in reducing the swelling and soothing the pain. In rheumatic arthritis, in addition to the soothing and massage effects, there is a probability of the alkali also being useful, and the method can help us at any stage of the disease.

The Large Intestine Regarded as a Syphon.—R. W. Leftwich has, from his reasoning in regard to the anatomy of the colon and from the results of his experimentation, reached the conclusion that the large intestine does not act on its contents by peristalsis but by syphonage. This explains the customary single evacuation per diem. With a continuous flow and no sphincter above the rectum, one would expect frequent evacuation, and this is the case in such quadrupeds as maintain the horizontal position of the trunk at all times, and have, in consequence, no syphonage. The author suggests that the force used to move the column of feces and start the flush is hydraulic. We have a small cylinder, the ileum; a large cylinder, the cæco-colon; and a piston, the column of feces, inseparable, albeit, from the body to be moved. The difference in the sectional areas will represent a multiplication of the power by six. Definite functions have now been assigned to the rectal pouch, the sigmoid flexure, the great arch of the colon, the cæcum (two), and the intestinal gas. A feasible explanation has also been tendered for the great discrepancy in size between the large and small intestines.

The Treatment of Cancer by Phototherapy.—Dawson Turner says that external cancer, before ulceration, may be treated either by the Finsen light or by the *x*-rays, and, as a rule, he prefers the Finsen light. After ulceration the Röntgen rays should be used. For internal cancer the Röntgen rays only can be used. The clinical results of the treatment are: (1) To remove or diminish the pain; (2) to loosen adhesions and to cause the disappearance of the contracting and tightening feeling; (3) to cause an ulcerating and sloughing surface to take on a healthy and healing aspect, and to diminish in size through the growth of epithelium from the edges; (4) to dissipate and remove cancerous and sarcomatous tumors. The author reports eighteen cases, nearly all inoperable, and therefore the more difficult to treat successfully, and yet all but three of them showed improvement, and some of them remarkable improvement. The breast cases are the most successful, and the tongue the least. Recurrence is usual, and in no case has the author seen a definite cure; the treatment seems to be a race with the disease, but the recurrences yield as before, and a stage is arrived at in which one or two short exposures per week will suffice to keep the disease in abeyance and to remove any distressing symptoms.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

Stated Meeting, Held December 11, 1902.

R. G. FREEMAN, M.D., CHAIRMAN.

Case of Foreign Body in the Intestine.—Dr. L. EMMETT HOLT reported this case. The patient was a child of six months, the son of a physician. He was in the habit of swallowing foreign bodies. Early in June he had an attack of measles, and after the temperature had fallen as usual, it rose again, and he developed an acute mastoiditis. The ears were punctured, but the temperature remained between normal and 106° F. for several weeks. The child recovered without a diagnosis having been made. The temperature would remain normal until noon or 3 P.M., and then would rise rapidly almost to 106°. The father made innumerable blood examinations, but malaria was excluded. The lungs were absolutely normal throughout the attack. In the third week of the attack the child was found one morning cyanosed and struggling. It had been playing with a paper of safety-pins a few minutes before. The trained nurse entered the room at this time and removed a handful of the pins from the mouth, but it was certain at the time that at least one pin had been swallowed. This was on July 5, and on July 10 the mother reported that three safety-pins had been discharged from the rectum, including one which was bent like a fish-hook. The child then had a large constipated movement, and although the trained nurse insisted that it was free from pins, the mother examined the stool very carefully, and was rewarded for her trouble by finding four more safety-pins. Dr. Holt also referred to the case of a child who had been playing with a set of toys, and as a result, had swallowed a sugar tongs, about one inch and a half long, and a knife, which was a little longer. This emphasized the necessity for great care in selecting for little children toys having parts which cannot be loosened and swallowed. The speaker said that he had made an autopsy on a child some years ago, and had found a safety-pin impacted in the larynx. It had apparently caused death.

Acute Pyogenic Infection in the New-born.—Dr. HOLT reported this case. He said that on October 13 a child had been returned to the New York Foundling Hospital because of sickness. The baby had been apparently well until fourteen days old, when a few dark spots were noticed on the extremities. These increased very rapidly, and on the third day the lower half of the face, the neck, the entire skin of the extremities and the buttocks were covered with a hemorrhagic eruption. The majority of the spots were one-fourth of an inch in diameter, and were irregular in shape; those on the buttocks were very close together. Surrounding each hemorrhagic area were slight redness and marked induration. There was slight bleeding from the umbilicus. On the gum nothing was visible except in the site of the upper incisor tooth, where there was a hemorrhagic area about half an inch long. There was no scaling of the palms and no hemorrhages into the eye. The examination of the internal organs was negative, with the exception of a decided enlargement of the spleen. The child's temperature was 100.8° F. in the rectum. During the next thirty-six hours the child failed rapidly, and it died two days after admission, without new symptoms, except that the urine was slightly blood-stained and râles were present over the lower half of the lung. At the autopsy the left lung was found to be the seat of some atalectasis and purulent meningitis, with abundant exudate on the convexity and at the base of the brain. The ventricles were distended with serum containing flocculi of pus. Cultures were made by Dr. Wollstein from the skin during life, and from the internal organs after death. A pure growth of the staphylococcus pyogenes aureus from the spots on the skin, from the blood of the hypogastric artery, from the blood of the heart and liver, and from the pus in the brain.

The speaker said that although the pyogenic infection of the newly born was very simple in its etiology, it was very complex in its symptomatology. Apparently this child was quite well up to the fourteenth day of life, and the hemorrhagic eruption appeared from the fourteenth to the eighteenth day. This was the most abundant eruption of the kind that he had seen. It was also interesting to note that although the only lesion of importance was a meningitis, the child presented no symptoms of this disorder. The temperature never rose above 101° F., and there were no convulsions. Of course, the infection clearly entered through the umbilicus, and as a result the rule had been made in the Foundling Hospital that no infant should be sent out from there until the umbilicus had healed. It was worthy of note that this child presented no peritonitis, and this had been his experience in other similar cases. In connection with this, mention was made of a child seen recently at the Lying-in Hospital. It had been brought back by the mother nearly four weeks after its birth with the assertion that its thigh had been broken at the hospital, but the subsequent developments, particularly the symmetrical development of lesions, proved that the case was one of infection.

Dr. H. L. K. SHAW of Albany said that he had seen last winter, with Dr. Hun of Albany, a babe of ten months in whom the temperature remained between 103° and 105° without obvious cause. The blood examinations showed no leucocytosis. On the twelfth day the temperature fell somewhat, and on the fifteenth day a long bristle was passed per rectum.

Dr. J. FINLEY BELL of Englewood said that the rule was to give a dry and bulky diet to children who had swallowed foreign bodies, and hence it seemed to him very unwise to liquefy the fæces by giving an enema, as had been done in one of the cases reported.

Dr. HOLT said that he had learned of the case of a child who had suffered from a severe attack of intestinal disorder for the greater part of the summer. Improvement began at once upon the passage of a large ball of hair. The child had been accustomed to sit upon a large bear's skin rug, and had evidently swallowed, little by little, a considerable quantity of the hair. After the passage of this foreign body recovery was complete. It seemed to him imprudent to give little children toys covered with hair or wool.

Report of a Case of Adenoids with Malaria.—Dr. W. F. CHAPPELL reported the following case: A girl of one month developed symptoms of nasal obstruction, and although when four and a half months old she weighed 16½ pounds, she was very pale. When five months old he had removed ten small pieces of lymphoid tissue from the nasopharynx without anæsthesia. On the following day the child was very bright, and at once began to gain rapidly in weight. A few weeks later she became irritable and restless, and then the temperature rose rapidly. On examination a slight enlargement of the spleen led him to suspect malaria. It was then ascertained that the child had been carefully protected through the summer from mosquitos, but during a birthday party the mosquito netting had been unintentionally left off, and the child had received two severe bites from a mosquito. These were so severe that they remained for two weeks. Examination of the blood showed the presence of the organisms of tertian malaria. It was found necessary to push the quinine, so that the little one took altogether a total of 241 grains in twenty-seven days. The quinine was stopped on November 6, and since then there had been no return of the malaria. The first malarial symptoms had appeared ten days after the child was bitten. He had subsequently obtained thirty specimens of mosquitos from the locality

in which the child had become infected, and of this number three were anopheles.

Officers Elected.—Dr. Henry Heiman was elected Chairman, and Dr. L. E. LaFetra, Secretary of the Section.

SECTION ON GENERAL MEDICINE.

Stated Meeting, Held December 16, 1902.

James K. Crook, M.D., Chairman.

A Brief Review of Some of the Etiological Factors in Intestinal Dyspepsia.—Dr. E. Franklin Smith read this paper, and said that intestinal dyspepsia might be due to abnormalities of secretion, of absorption, or of peristalsis. After a brief review of the predisposing factors, he followed Hemmeter's classification, dividing his subject under the following nine headings: I. Intestinal Dyspepsia, Due to Anatomico-Pathological Alterations of the Intestinal Walls, Nerves, Lymphatics, or Blood Vessels. Diseases or injuries of the small intestines might be accompanied by dyspepsia if the lesion deprived the mucous lining of its power of absorption and, under this heading, there were included inflammatory lesions, neoplasms, obstructions, deformities, and displacements, such as enteroptosis, or splanchnoptosis. II. Absence, or Deficiency of the Intestinal Digestive Secretions, Especially of Bile and Pancreatic Juice. (1) The Succus Entericus. So little was known with regard to the intestinal juice that no satisfactory explanation as to how abnormalities of this secretion affected digestion had thus far been given. (2) The Bile. Just what part the bile played in the digestive process had always been open to much discussion, some claiming that it took a very important and essential part, while others claimed that it was simply an excretion. (*a*) Acholia. A lessened production of bile might occur from causes which diminished the size of the liver, from hunger, febrile diseases, and uræmia. Certain chemical agents might reduce its secretion. A lessened amount of bile reached the intestines when there were any obstructions by gallstones, cholelithiasis, catarrhal icterus or neoplasms which pressed upon the common gall-duct. As a result of a lack of the normal amount of bile, it lost its antiseptic and purgative action, and there followed an increased fermentation with the development of irritating products giving rise to intestinal dyspepsia. (3) The Pancreatic Juice. Under this heading he considered (*a*) Succorrhœa pancreatica. A reflex pancreatic secretion might be increased by any irritation of the lingual nerve, or the central end of the vagus. (*b*) Hypochylia and achylia pancreatica. A diminution, or absence, of the pancreatic juice might be due to atrophy of the gland structure, either partial or general; it may be due to nervous influences; it might occur in anæmic conditions, in subnutrition, or from certain chemicals; it might result in febrile disturbances, or in carcinomatous or other malignant diseases of the pancreas. Chewing and smoking tobacco were causes of deficiency or altered pancreatic secretion. III. Intestinal Indigestion Due to Qualitative or Quantitative Irregularities of Diet. Under this head he made three subtypes: (1) The diet might be excessive in quantity, and could not be transformed in a normal manner by the amount of digestive secretions present. (2) Although normal in amount, it might be irregularly and unhealthfully mixed. There might be an excess of proteids, of fats, or of carbohydrates. Over-eating was a very frequent cause of intestinal dyspepsia, if the food was not completely digested, as this permitted an increase of germs. (3) Abnormal and injurious substances might be contained in the diet, in the form either of toxins, the result of putrefaction and fermentation in the food itself, or of chemical substances, added by accident or by design for therapeutic reasons. Many chemicals and medicines taken for the relief of gastrointestinal diseases often exerted a deleterious effect upon the normal course of digestion. The imprudent use of drugs, especially laxatives, might cause intestinal dyspepsia. Many drugs given to relieve supposed indigestion and dyspepsia were really the causes of them. A review was given of the drugs, condiments, articles of food, and toxins, which were capable of giving intestinal dyspepsia. IV. Intestinal Dyspepsia Due to Abnormal Bacterial Activity. Bacteria were not essential to good digestion and health, although he stated that there were a very large number of bacteria which, through their fermentative action, could convert starches into sugars and also cause these sugars to ferment. Among the more common protozoa found in the intestines was the amœba coli, which appeared to exert a necrotic and solvent action upon the tissues, causing a remarkable destruction with the formation of nuclear fragmentation and detritus, the lesions being particularly found in the submucous coat of the large intestines. The superficial epithelium of the intestine was the chief protective agent against the invasion of bacteria; when the epithelium was well preserved bacteria were not found in the submucosa; whereas, they might be seen entering at places where the epithelium had been injured or destroyed. As many as fifty known species of microorganisms had been identified at various times in the fæces of those suffering from intestinal dyspepsia. V. Intestinal Dyspepsia Due to Abnormal Gastric Chemistry. The fact was well known that abnormalities of the gastric secretions might produce intestinal dyspepsia, because of the meteorism and disturbances in peristalsis which followed upon hyperchlorhydria, and the diarrhœas noted in achylia gastrica. The entrance of chyme into the duodenum caused a reflex secretion of the pancreatic and biliary fluids to a sufficient extent to neutralize the acid contents of the stomach and establish a degree of alkalinity which was most suitable for the action of those ferments which completed the processes of digestion. An abnormal acid state of the chyme might completely neutralize the alkaline secretions of the small intestines and so stop the digestive process. A very prolific element in the cause of intestinal dyspepsia is deficient mastication and insalivation of the food. He believed that sooner or later every case of aberration of function of one portion of the intestinal tract would be followed by some derangement of other portions. VI. Intestinal Dyspepsia of Nervous Origin—Neurasthenia Intestinalis. This demanded notice on account of the one prominent symptom of intestinal dyspepsia, although, logically, it belonged among the neuroses. In all works upon practice of medicine, the prominent influence of the nervous system upon the secretion of the digestive fluids had been emphasized, and he did not consider it surprising, therefore, that there should exist a state of intestinal dyspepsia of purely nervous origin which could not be classed under any other heading. VII. Intestinal Dyspepsia Caused by Abnormal Substances, or Irritation, Reaching the Intestines from the Blood. Here were classified the dyspepsias occurring in uræmia, malaria, septicæmia, croupous pneumonia, gout, and many other diseases, including the infectious diseases. VIII. Intestinal Dyspepsia Due to the Activity of the Intestinal Parasites (exclusive of Bacteria), Worms. All varieties of intestinal worms might give rise to intestinal dyspepsia, whose severity depended upon the closer approach to, or departure from, the health of the individual. IX. Intestinal Dyspepsia Due to Hyperperistalsis or Excessive Motility of the Bowel. Under this heading he considered three conditions, as follows: (1) Motor Neurosis. (*a*) Nervous, or morning diarrhœa was a condition observed in nervous and hysterical women and hypochondriacal men. The motor nerves became abnormally irritated from emotional disturbances which excited the diarrhœa. (*b*) Nervous constipation was a condition in which there was a nervous inhibition of peristalsis, occurring in the hysterical and emotional as the result of worry, fright, etc. (*c*) Enterospasm, or nervous cramps, was another condition in which

was found an annular constriction of one portion of the intestines from some peculiar reflex; as a result, the contents of the bowel were forced against the narrowed portion, distending the intestines above, causing colicky pains. (2) Sensory Neurosis. (*a*) Enteralgia, colic, or enterospasm was another condition frequently met with in the hysterical, neurasthenic, and anæmic subjects. Coarse, indigestible, or decomposing food migh be a cause as well as scybala, gallstones, enteroliths, or other foreign bodies. Local irritation from disease of other organs, such as the uterus, ovaries, kidneys, or bladder, might be a causative factor. Taking cold was a common cause of colic in some. (*b*) Proctospasm, or neuralgia of the rectum, was quite common in the neurasthenic patient, and was often secondary to rectal irritations, as fissure or fistula. (*c*) Anæsthesia. This was a condition in which there was a loss of sensitiveness of the intestines to the stimulus of food, which ordinarily caused peristalsis. It was quite common in organic brain diseases. (3) Secretory Neurosis. In this no inflammatory lesions were found, and it was supposed to be a functional disorder, or a secretory neurosis of the mucous follicles of the colon causing the secretion of a mucoid substance.

Intestinal Indigestion and Its Relation to Arterial Sclerosis and Renal Disease.—Dr. Leonard Weber related, from a large number of observations, three cases of chronic gastrointestinal indigestion in the course of which interstitial nephritis developed, of which the men finally died. He considered these cases of chronic disorder of the gastrointestinal tract as furnishing the existing cause for arterial and renal sclerosis of great clinical value, in so far as he had attended upon them for twenty-five or thirty years, watching them almost from beginning to end, and was in a position to exclude all other factors in the etiology of the chronic nephritis. In calling attention to the fact that physicians who see much of infantile diseases have lately become aware that cholera infantum and similar acute and subacute gastrointestinal dyspepsias and catarrhs are not infrequently complicated, and even terminated by, acute nephritis, he remembered that Dr. A. Seibert of this city had related such cases to the New York Academy of Medicine four or five years ago If ptomains and other toxins can do this in acute cases why should not similar poisons chronically supplied insidiously produce arteriocapillary and renal changes of the slowly progressive variety of interstitial inflammation? Dr. A. E. Elliot of Chicago, at the last meeting of the American Medical Association, declared his belief that absorption of toxic material from the gastrointestinal tract played the most important part in the etiology of chronic nephritis. He pointed out that when the kidneys failed in their excretory function, because of the toxic substances which were present in the blood, the liver then failed to metabolize substances which came to it, and added its own quota of toxic material to the blood, thus still further irritating the kidney, and that the vicious circle thus formed continually deteriorated the general condition of the patient. Dr. Elliott's contentions were favorably received by many here and abroad, and there certainly was this great point to make one cling to his belief, that, if true, it threw a far more hopeful light upon the treatment of this disease, if seen at an early stage, than seemed to be shown by other views with reference to its etiology. In a paper published in the *Post-Graduate Journal*, October, 1898, the author tried to prove that interstitial inflammatory processes of the kidneys were brought about through the toxins of tissue-metabolism acting upon the parenchyma of the urinary organs while coursing through the lymph spaces of the renal cortical substance, and related a number of already established cases of renal and arterial sclerosis, which had been greatly benefited by the persistent use of small doses of the iodides, *i.e.* four to five grains three times a day; he thought that the potassium iodide inhibited the proliferation of connective tissue, induced disintegration and fatty degeneration of corpuscular material, and the removal of the same by stimulating the vasomotor nerves and increasing the functional activity of the parts. It was self-evident that, in order to prevent kidney disease arising from the toxins from gastrointestinal indigestion, we must resort to intestinal antisepsis by more or less frequent doses of calomel, lavage of the colon, proper diet, regulation of the patient's mode of life, etc. Further he was convinced that through faulty metabolism in the tissue cells many active poisons—toxalbumins—were produced which were at least as powerful in producing organic disease as the intestinal toxins, if not more so. It was, in fact, the interstitial, intermediate toxins which were the originators of genuine autointoxication. To this group of systemic autotoxins belonged the constitutional diseases, such as gout, uric-acid diathesis, diabetes, and its acute exacerbations—diabetic coma, uræmia, and eclampsia. Also the diseases caused by the anomalous function or loss of function of certain organs: Graves' disease, myxœdema, cretinism, Addison's disease, and pancreatic diabetes. For the purpose of early diagnosis of these conditions, blood examinations would be of greater service than those of the urine, for the blood was the chief carrier of the toxalbumins, and we must hope to recognize their presence and effects by the study of the changes in the composition of the blood. The doctrine of autointoxication was already firmly established by thousands of good clinical observations, and it must be conceded that the intestinal and interstitial toxins irritated the kidneys, producing albuminuria, desquamation of epithelia, and nephritis in passing through them.

The Treatment of Intestinal Indigestion, with Preliminary Remarks on the Diagnosis.—Dr. John C. Hemmeter of Baltimore read this paper, which was a critical summing up of that which was of clinical significance and practical importance concerning dystrypsia; this he presented, as it was conceived through personal critical experience. In acute enteritis of the jejunum and ileum the most objective evidences were found in abnormal conditions of the stools, mostly diarrhœal and thick, like gruel; the characteristic features were (1) shreds of mucus intimately mixed with the fecal matter; (2) bile pigments; (3) epithelia and muscle fibers stained with bile. The exact localization of catarrh of the small intestines was practically impossible.

Dyspeptic Diarrhœa in Connection with Stomach Diseases.—In achylia gastrica severe diarrhœas were encountered during which the objective gastric symptoms were completely submerged under the clinical picture of what looked like enteritis. This also occurred in the abnormality of gastric secretion, which he designated as "heterochylia." To recognize this dyspepsia with diarrhœa a test-meal analysis was indispensable, and stool examination necessary. Gastric peristalsis was unimpaired, but chymification absent entirely. The fæces showed unchanged residue of meat, connective tissue, especially vegetable foods, and even fat residue. He referred to the work of Pavlov, and the newly discovered enzyme in gastric secretion, a specific ferment, chymaze, which did not digest food, but which accelerated the action of the ferments of the pancreatic juice. He believed that the most efficient means of counteracting dystrypsia due to pancreatic insufficiency was to bring about an appetite. Appetite was the stimulus to normal gastric digestion, and this, in turn, was the normal stimulus to healthy pancreatic secretion. He then considered the newer gastric physiology, not only because the stomach was the preparatory organ for intestinal digestion, but because the chemical processes which various foods underwent in the stomach were of far-reaching importance for the change which was to occur when the food reached the intestines. Experiments had proved the astounding fact that for every kind of food a definite gastric secretion was formed of specific composition. The mucous membranc of the stomach was capable of distinguishing between the varieties and classes of food that came in contact with it. "What is the object

of appetite?" Under the influence of psychic secretion, a gastric juice was furnished, which was more effective than that which was secreted under purely chemical stimulation of the food, *i. e.* which was taken without any special appetite. Therefore, under the influence of psychic secretion foods which otherwise would not stimulate the gastric mucosa to secretion became converted by the already psychic secretion into something else which constituted a further stimulant to the secretion of gastric juice. Revelations from Pavlov's laboratory disclosed the fact of very important relations between the various kinds of foods, permitting the conclusion that they mutually advanced or interfered with the digestion of their various constituents in the gastric chyme. These experiments had given the clue to the treatment of gastric secretory disorders, not by drugs merely, but by dietetic measures. In order that we might have good normal intestinal digestion, we should, above all things, see that the mouth and the stomach were in good condition.

Dystrypsias Due to Qualitative and Quantitative Abnormalities of Diet.—In a qualitatively unhygienic mixture of the diet, containing an excess of carbohydrates, the various bacteria and fungi would cause an excessive fermentation with the formation of organic acids, particularly acetic and lactic acids, and this would interfere with the action of the digestive secretions, especially the pancreatic, which required a certain degree of alkalinity for its action. Abnormal peristalsis was due to an irritation of the excess of organic acid, fermentation began in the jejunum, and the hyperperistalsis also began there, which resulted in hurrying the jejunal contents through the entire small intestine with great velocity; here the first evacuations represented the contents of the lower bowel, with nothing characteristic, but the following stools were highly characteristic, and gave the whole clinical picture of "jejunal diarrhœa." The recognition of these stools depended upon one's familiarity with the condition of the jejunum chyme. In distinguishing between a catarrhal and a jejunal stool, he said that, in the former, there were present epithelia and round cells derived from the mucous membrane, which were absent in the jejunal stool. The jejunal stool was rich in bile, had a slight fecal odor, and generally had an acid reaction. If dystrypsia was due to excessive carbohydrate or proteid ingestion, an exclusion of this particular class of food would be necessary. The seat of starch dystrypsia was in the small intestines; as starch was the most readily digestible substance in our diet, the appearance of an abundance of starch granules in the stool pointed, as a rule, to severe digestive disorder if the cases were chronic, the acute fermentative dystrypsias of adults excluded. In chronic persistent cases it was his custom to exclude all starch from the diet. The presence of meat fibers was always significant of abnormal intestinal digestion, and if the nuclei in the muscle fibers were very evident, it signified that there was an abnormality of the pancreatic secretion. The presence of an excessive amount of undigested connective-tissue fibers, when scraped raw beef had been taken, justified him in the conclusion that the gastric digestion was imperfect. Therefore, the presence of an excessive amount of connective tissue pointed to an abnormal gastric, rather than intestinal, digestion. The appearance of droplets of fat or of fatty crystals was pathological, but the appearance of fat in the form of soaps had no diagnostic significance.

In conclusion he stated that intestinal autointoxications were most effectively treated by prophylactic measures, diet, evacuation of the gastrointestinal tract, rest, and restoration of the digestive canal to normal functioning, after an exact diagnosis had been made. It had been suggested that this form of autointoxication, like exogenous poisoning, might be treated by antitoxins or antidotes. It was not impossible that we might in the future come into possession of antitoxins effective against the poisons originating within the body, but in order to accomplish this, we must first isolate these toxins, and study them outside of the organism. So far the idea of the antitoxin treatment of the autointoxications was nothing more than a hopeful suggestion.

Dr. W. W. Van Valzah said that after we exclude diseases of the blood, organic diseases of the nervous system, of the stomach, liver, pancreas, bowels, or other organs, there still remained an abnormal condition of the bowels, pure and simple, which, for want of a better term we call intestinal indigestion. For practical purposes, in every day practice, he had found the simple classification based on the different kinds of food satisfactory, that is, intestinal indigestion due to an excess of animal or of starchy food and sugars, or of the fat foods, or an excess of the accessory articles of diet, such as tea, coffee, and condiments. The intestinal indigestion caused by animal foods was usually shown by excessive indican, foul stools, muscle fiber or connective tissue cells in the stools, and by a greater or less degree of putrefactive toxæmia. This form was best treated by materially lessening of the animal foods, or entirely stopping them for a short time; by lavage of stomach and bowels, which was very helpful in all forms of intestinal indigestion, but, unfortunately, the patients would refuse to make use of it; by giving small doses of calomel, 1-40 to 1-10 of a grain, one to four times daily, or protoiodide of mercury 1-20 to 1-10th of a grain one to four times a day. Or else ichthyol two to 4 mms. two to four times daily may be given with benefit. The intestinal indigestion due to starchy foods and sugars, was commonly made evident by gases in the large and small bowel in excess and by looseness, or constipation, and in some cases by headache. The diminishing or temporary stopping of the starchy foods and sugars was indicated, and ichthyol was beneficial, as also was salol, soda bicarbonate, and calcined magnesia. Intestinal indigestion due to fat foods was shown by excessive gases, by pain or burning, or a sense of unrest in the bowels, and possibly by fat in the stools, and, in many cases, by a passively congested liver. This congestion of the liver, he said, might be present in all forms of intestinal indigestion, but was more often met with in those forms due to faulty digestion of the fats in animal foods. In this form fats must be lessened or stopped for a time, the stomach washed out, if possible, and the engorged liver overcome by very small doses of mercurials, and alkalies, such as vichy, mild laxatives and the free and generous use of pure water internally. Sufficient water should be used in all the forms to keep the urine down to the normal specific gravity. If the intestinal indigestion was due to the accessory foods all that was necessary was to lessen or stop these foods. If diarrhœa was a feature it was to be treated with the bismuth salts, by prepared or precipitated chalk, by tannin, tanigen, tanalbin, etc. If constipation was present, the mildest remedies or measures which would bring about one daily formed movement should be used. All the forms of intestinal indigestion required the regulation of the daily life, as to sleep, rest, exercise, bathing, clothing, etc., and finally, that which was so often disregarded, a happy, hopeful, health-giving, health-expecting mental state.

Dr. Morris Manges agreed with Dr. Hemmeter in urging that the knowledge of the abnormal processes in the intestines would be increased by a study of the physiological processes, rather than by paying attention to treatment alone. If Pavlov's investigations on the stomach had shed so much light upon the functions of this organ, he asked what might be expected in the near future with regard to the much more important and complicated processes going on in the intestines? He cautioned against arranging the clinical classification too rigidly. Intestinal indigestion was not referred to separately as a disease in the textbooks of Boas and of Rosenheim, and in the monumental work of Nothnagel only five pages were devoted to its discussion. In fact, Nothnagel stated that

it would be discussed individually under each disease, since it was a symptom, rather than as a separate disease.

In considering Hemmeter's and Adler's new ferments in the saliva (chymaze), he thought it would be well to recall the experimental evidence of the nervous effects of mastication upon the secretion of gastric juice, especially Richet's celebrated case of complete stricture of the œsophagus. He thoroughly agreed with Hemmeter in his views upon the limited value of the ferments, and referred to the difficulty of convincing physicians upon this point. The psychical influences upon the secretion of gastric juice, he considered of great importance in explaining the variations of hydrochloric acid, especially in neurasthenic cases.

Dr. Weber's paper he considered of value in once more directing attention to the important etiological factor of faulty intestinal indigestion in diseases of the kidneys and arteriosclerosis. Possibly this would explain the early occurrence of arteriosclerosis in the young, where no other cause could be determined. Dr. Manges also discussed the researches of Nicholl, of the McGill University, by whom the entire subject had been presented, both from a pathological and the clinical side. Much of the data presented by him emphasized the importance of the gastro-intestinal tract in the etiology of chronic nephritis.

Dr. George B. Fowler said that the study of the psychic influences over the intestinal juices in the dog originated in this country.

Dr. Max Einhorn took Dr. Hemmeter to task for using the word "dystrypsia." He gave the derivation of the word "dyspepsia" showing that it had nothing to do with "pepsin" as was intimated by Dr. Hemmeter. Dystrypsia, in his opinon, was too narrow a word, meaning difficulty in trypsin digestion, leaving out of consideration the other pancreatic ferments. The term "heterochylia" he believed to be a good one.

Dr. Beverly Robinson believed a thing of considerable importance was experience of each individual with regard to certain treatments which the individual had tried to follow up in the march onward of science. As regards disinfection of the intestinal tract, he referred to the following three things: (1) good charcoal; (2) salts of bismuth; (3) minute doses of creosote when properly given. He asked that such combinations of food be given that would touch the palate of the patient, for he believed that unpalatable food would not be digested properly.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held December 15, 1902.

Alexander Lambert, M.D., President.

The Rational Treatment of Tetanus.—Dr. W. H. Luckett presented a brief report on this subject. He said that if one accepted the theory that tetanus germs produced their toxic effect at the point of introduction into the cord, then it was certainly most rational to resort to subarachnoid injections of antitoxin. Three cases were reported. The second case received eight injections, varying in quantity from 8 to 15 c.c. This patient received a total of 92 c c., and 159 minims of cerebrospinal fluid were withdrawn. In the third case five injections were given, and a total of 59 c.c. Altogether 532 minims of cerebrospinal fluid were withdrawn.

Dr. A. V. Moschcowitz was invited to discuss this subject. He said that he had been engaged in collating the work that had been done on tetanus, and had made some experiments with the introduction of the antitoxin directly into the brain. He thought, however, the method that had been so successfully employed by Dr. Luckett was superior, and he would give it a trial at the first opportunity.

The Modern Treatment of Urethral Strictures.—This was the subject for special discussion.

Introduction. Dilatation of Strictures.—Dr. J. W. S. Gouley introduced the subject by saying that urethral strictures were less frequent than they were thirty years ago, and this was not to be wondered at when one recalled the caustic injections employed in those days. After a brief historical sketch, the speaker took up the subject of dilatation. He laid down the following general principles: (1) Strictures at the meatus, being ordinarily dense, require incision; (2) strictures in the scrotal region which are narrow, indurated, resilient, and refractory to treatment, require internal incision; (3) strictures which render catheterism difficult or dangerous ordinarily require internal incision, if in the scrotal region, and external incision if in the perineal region; (4) strictures in the perineal region which are narrow or refractory to divulsion require external incision; (5) strictures in the perineal region, which are narrow and complicated with fistulæ, and accompanied by masses, require external incision; (6) strictures in the perineal region complicated by abscess formation or with extravasation of urine, require immediate external incision; (7) traumatic strictures in the perineal region require early external incision, and (8) other urethral strictures are generally amenable to dilatation, or at least to divulsion. Continuing, the speaker said that the principal modes of dilatation were: (1) Gradual; (2) continuous, and (3) rapid dilatation. Gradual dilatation was indicated in the formative stages of stricture, and also in long neglected cases with involvement of the upper urinary organs when a bloody operation was likely to prove fatal. It should be remembered that the restoration, as nearly as possible, of the urethral substance was essential to a proper cure. In the early stages of strictures due to urethritis they could be permanently cured in a few months by simple dilatation, but with a long-standing callous stricture many months or years of dilatation would be required. Continuous dilatation was indicated in narrow strictures, which do not yield to ordinary dilatation and threaten to cause retention of urine. This term implied the retention in the urethra of a proper instrument for a few hours or for one or two days. It was only a preparatory step to other operative measures, and should not be employed longer than three days at the most. The continuous dilatation of narrow strictures was ordinarily effected safely by first passing in a soft instrument of smaller caliber than the stricture, and allowing it to remain for six or eight hours, and then replacing it by a little larger instrument, and so on. Rapid dilatation was indicated in those narrow strictures which threaten to cause retention of urine. By this term was meant the increase of the caliber of the urethra to the extent of three or four numbers at each sitting, the sittings being two days apart. The speaker did not favor violent divulsion. Periodical dilating catheterism, he said, was essential, not only after gradual dilatation, but after divulsion and urethrotomy.

Internal Urethrotomy.—Dr. L. W. Hotchkiss read this paper. He said that strictures at or near the meatus were best divided on the floor of the canal by a bistoury under the guidance of the sight as well as touch. The Maisonneuve urethrotome was specially suitable for the narrow strictures which would admit only of the passage of a filiform guide. The Otis urethrotome found a useful field in strictures of a larger caliber, and sometimes to complete the operation begun with the Maisonneuve instrument. The Otis instrument, if properly used, would cut completely and accurately through strictures. It had been claimed that the urethrotome was a dangerous instrument, but this was equally true of the steel sound in careless hands. He had always made it a point to exercise the greatest care in accurately locating each stricture before attempting its division. When the stricture was situated at a point 4½ to 5 inches from the meatus, that is, in the region of the bulb, he was accustomed also to do perineal cystotomy. The bulbo-membranous portion of the urethra was a dangerous area,

in that it constituted a "dead space" as to drainage, and general surgical principles required that all such dead spaces, which could not be obliterated by sutures, or by the healing by blood clot, should be drained. After drainage for a few days the perineal opening should be allowed to close. Through this opening it was possible frequently to irrigate the urethra when this seemed necessary. After the first few days a steel sound should be passed into the urethra at short intervals. The dangers from internal urethrotomy were: sepsis, hemorrhage, urinary suppression and distortion of the penis at the site of the operation. The writer felt no hesitancy in saying that a well-planned and well-executed internal urethrotomy was often followed by permanently good results, and that many of the deeper strictures often treated by internal urethrotomy could frequently be effectively treated by dilating internal urethrotomy combined with perineal drainage, as already described.

External Perineal Urethrotomy.—Dr. PARKER SYMS read this paper. He said that this operation in cases of impassible stricture with retention of urine was safer than aspiration or puncture of the bladder. While the operation was comparatively simple when done with a guide, it was often most difficult when no guide was available. In performing external perineal urethrotomy with a guide, the urethra should be opened in front of the stricture, a narrow bistoury introduced on the guide, and the stricture divided, and the urethra for a short distance behind it; then a large catheter should be passed into the bladder, and the latter emptied and irrigated. Next, the meatus should be divided to its full size, and then with the urethrotome all anterior strictures should be cut. A full-sized sound should be passed through the urethra into the bladder. After thorough irrigation, a large-sized rubber perineal drainage tube should be passed into the bladder and fastened in the wound, and gauze packed around the tube. An ample gauze dressing and a T-bandage completed the dressing. If no guide could be passed through the stricture, a staff should be passed down to the stricture, the urethra opened in front of the stricture, and silk loops introduced as guides. A careful search should then be made for the opening, and when this was found, a tunneled catheter or a grooved director should be passed into the bladder. The stricture is then divided and the operation completed as already described. It was desirable to employ continuous drainage for five or six days. On the fifth day a full-sized sound should be passed through the entire urethra, and this passage of the sound should be repeated at gradually lengthening intervals. In cases of sudden retention, due to prostatic obstruction, followed by instrumentation and consequent injury to the urethra, external perineal urethrotomy should be done, and subsequently perineal prostatectomy.

Dr. JOSEPH D. BRYANT said he had never been a believer in indiscriminate internal urethrotomy. He avoided free division of the meatus, simply cutting this opening sufficiently to allow of the introduction of the necessary instruments for the treatment of the stricture. Continuous dilatation was a method which he regarded very highly, but in using it the condition of the urethra, of the bladder, and of the patient should be taken into consideration in determining how long the process should be kept up. Rapid dilatation he had only employed occasionally, and he had never looked upon divulsion with favor. A free incision appeared to be safer. In external perineal urethrotomy, without a guide, success would usually be achieved if sufficient patience were exercised.

Dr. JOHN F. ERDMANN was of the opinion that the use of the Oberlander dilating instrument was more convenient, and inflicted less pain. It was his custom to dilate 2 to 4 mm. at each sitting, the intervals being four or five days. He was in favor of continuous dilatation when it was demanded, but in cases that he had seen that threatened to require this procedure, relief had been afforded by the warm bath for from fifteen to thirty minutes. In a recent case of hemorrhage following internal urethrotomy he had found adrenalin chloride a valuable aid. In doing external urethrotomy without a guide, he favored the operation advised by Dr. Bolton. The patient is placed in the reversed Trendelenburg posture, and an incision made from one ischial tuberosity to the other in the form of an arc. When the apex of the prostate was reached, one punctured and made a dissection toward the membranous portion of the urethra. This procedure had been recently advocated, but had so far invariably proved successful. If the urine were not foul, it was his rule not to drain the bladder for more than twenty-four hours.

Dr. E. L. KEYES, JR., said that in the few cases in which he had been compelled to do external perineal urethrotomy without a guide he had found it very important to make use of a wide incision. By making a large external incision and cutting down upon the urethra external to the stricture, fastening two stout silk threads on either side, and splitting it up until the face of the stricture was reached, it was comparatively easy to find the opening and complete the operation. The free incision recommended by the last speaker most certainly proved useful, yet it seemed to him an unnecessarily free dissection. The use of urotropin seemed to him exceedingly valuable in these cases.

Dr. FERD C. VALENTINE said he had not seen, in a somewhat extended experience, any stricture which he could not pass eventually, and having once been passed, even by the finest filiform bougie, that stricture was conquered. The method of leaving the dilatation of the stricture to the patient was, in all but a few instances, reprehensible. He was strongly in favor of the treatment by dilatation, as compared with operative measures.

Dr. WILLIAM A. SHUFELT spoke of a case of retention of urine from enlarged prostate, which he had just seen, and which had impressed upon him the wisdom of resorting to perineal section promptly, rather than indulging in prolonged attempts at the introduction of instruments, through the urethra into the bladder.

Dr. ROBERT NEWMAN said that up to seven years ago he had successfully treated, by electrolysis, over 2,000 strictures of the urethra. The electrical current by its chemical action, absorbed the pathological conditions, causing the stricture. In more recent years the number of cases of urethral stricture so treated had increased, and, including cases in hospital practice, might be estimated at 2,400 or 2,500. Relapses never took place, and patients could be found in this city who had remained well as long as twenty-six years after this treatment. In 1883 he had compiled 1,755 cases from various sources, which had been successfully treated by fifty-four operators. By a resolution at a meeting of the American Electrotherapeutic Association in 1892, a committee was appointed of his peers to investigate the statistics on this subject that he presented. This committee worked diligently for one year, investigating the cases, interviewing the patients and physicians and investigating the documents submitted. This report, which was published in the Transactions for 1893, over the signatures of Drs. A. H. Goelet, W. J. Morton, and W. J. Herdman, said: "We have examined the records of Dr. Newman's cases of urethral strictures, submitted to us, and regard his conclusions as well sustained by the statistics he has presented, and, as far as our experience in this line of work adds further testimony, it is confirmatory of the value of the continuous current in resolving a large class of urethral strictures. The committee made diligent efforts during the year to comply with the directions given them, to enlist the coöperation of surgeons of large experience in other methods of treatment of urethral stricture in examining both the patients and the statistics, but failed to receive such assistance from them." Continuing, Dr. Newman said that one of the reasons that internal urethrotomy would not restore the caliber of the urethra was that incisions healing by first intention could

not make the urethra larger, while if the incision was kept apart and dilated the gap would be filled up by granulation. thus forming a cicatrix which would make the condition worse than before. Many authorities had admitted that internal urethrotomy was a wrong procedure, and he was greatly pleased to hear Dr. Gouley say that he, too, was against this operation. True, internal urethrotomy might succeed in some light cases, the mucous membrane being only a little contracted, but it would not cure an organic stricture when the surrounding tissues were pathologically infiltrated. If time permitted, it would be easy to cite many authorities as opposed to internal urethrotomy. Dilatation was an ideal treatment for the cure of that class of cases described by Dr. Gouley. In this connection he would say that he had found Dr. Gouley's tunnelled sound so useful that he had adapted it to his work in electrolysis.

Dr. Gouley said that when a urethra would admit an instrument, No. 20 French, there was no need of a cutting operation, for such a stricture would prove amenable to dilatation. If the surgeon would be careful to make the incision in *front* of the stricture in cases of external perineal urethrotomy without a guide, he would have no great difficulty in finding the opening of the stricture. He was horrified at the suggestion of making an external perineal wound for the purpose of draining a foul bladder, for this could be done effectively through the urethra. He had done internal urethrotomy comparatively few times, perhaps only fifty altogether, although much younger surgeons had reported internal urethrotomies by the hundred. In none of his internal urethrotomies had there been severe hemorrhage.

Dr. Hotchkiss said that he had learned the method of perineal drainage in Bellevue Hospital, where he had seen it very extensively and very successfully employed. It had proved exceedingly useful in the severe cases ordinarily met with in hospitals.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, Held November 12, 1902.

A Case of Quartan Malaria, with Demonstration of Specimens.—Dr. F. C. Wood demonstrated some slides of parasites of quartan malaria at different stages of their development. He said that he called the attention of the society to the specimen because in his experience these cases were exceedingly rare in New York. He personally had never seen a case before; the specimens which he had seen had been obtained through the kindness of the Johns Hopkins Hospital staff. The patient was an Armenian, about thirty-five years of age, who had been in New York for the past two years. While in Asia Minor he had suffered for several years with irregular attacks of fever. During his residence in this city he had also had attacks of fever at irregular intervals, the attacks lasting usually for two or three weeks, and being then followed by a period of comparative health. He had taken quinine, but without the supervision of a physician. The present attack had lasted for about three weeks. The patient had a chill regularly every fourth day, beginning at 11 o'clock in the morning. He had an enlarged spleen, and very marked anæmia, the hæmoglobin being about 50 per cent. The blood at the time of the beginning of the chill showed very beautifully the characteristic rosettes of the quartan parasite. None of the rosettes seen had more than nine merozoites. In fresh blood the morphology was even better than that in smears, and the segmentation was watched a number of times on a warm stage. Very marked phagocytosis was present under these conditions; but there was no evidence of flagellation, though there were a considerable number of gametes in the specimen. The patient was watched through two complete cycles, and it was found that there was only a single group of organisms. The preparations were stained with the Wright modification of the Jenner stain, which had, in the hands of the speaker, proved a very useful method of staining the chromatin of malarial parasites, though the results were not so perfect as those obtained by the use of the Nocht method. By this chromatin stain two types of gametes could be made out, one form in which the chromatin was collected into small masses in one portion of the parasite, and the other in which the chromatin was in the form of fine dust-like particles. In the presegmenting forms double rods of chromatin in each segment were easily seen, just as has been figured by the Italian observers. Occasionally the red cells showed degeneration, but the cells harboring parasites showed none of the peculiar degeneration which is so frequently seen in cells infected with the tertian organism. In this case all infected cells were small and dark, in contrast to the large swollen red cells of the tertian infection. There was a relative increase in the large lymphocytes, but no other changes were noticed in the white cells.

Dr. Ewing said that he considered this specimen a very beautiful demonstration of quartan rosettes, and one that a New York observer very rarely encountered.

A Case of Mixed Quartan and Estivoautumnal Malaria.—Dr. James Ewing presented this case because of its great rarity, it being the first case of quartan infection he had seen in a ten years' study of malaria. The patient was a man who had been sent to British Guiana in July, 1902. He returned in September, broken in health, with a history of irregular illness without distinct chills. No distinct chills occurred during the time he was under observation in New York, which was for about a week. A few typical quartan parasites were found in the blood smears, and in a subsequent review of the slides crescents were found. This case was therefore to be regarded as one of mixed quartan and estivoautumnal malaria.

Dr. George P. Biggs said that quartan malaria was very rare in New York, and that he had never been able to convince himself that he had really seen a case.

A Melanoma in a Cow.—Dr. James Ewing presented this specimen for Dr. V. A. Moore of Ithaca. The case was one of great interest on account of the extent of the tumor growth. There was no history. The growth was primary in the breast, there being a very considerable mass of tumor in that region. The exact location could not be made out, but on the skin there were a few pigmented spots from which the original growth may have sprung. There was a very large mass in the udder, which measured ten by six by five inches. The center was softened. From this starting point all the viscera of the animal were extensively affected. The liver was very large, and showed very distinctly the relation of the tumor to the liver parenchyma. A most interesting feature was the manner in which the growth passed along the superficial lymphatics of the diaphragm. At the tendinous edge there were several large cauliflower masses, very densely pigmented; while along the tendinous fibers were thin elongated masses, coal-black in color, apparently distending the superficial lymphatics. The heart was riddled with small nodules of melanotic tumor. Beneath the periosteum of the ribs there were large diffuse tumor masses. The microscopical structure was similar to that which is seen in the human subject. The cells in the secondary growths were almost all fusiform and richly pigmented. The original point of development was not found. Dr. Ewing said that he was inclined to accept the belief of Unna, Marchand, and others, that these tumors were, in a large majority, epitheliomata arising from the basilar cells of the Malpighian layer of the skin, and showing very atypical cell forms in the metastases. In a series of melanomata he had found some which showed very distinctly that the beginning of this process was well within the epithelial layer of the skin, from which foci there was a proliferation of the cells into the derma. From this point the cells became atypical, and epithelial characters were not retained.

Dr. George P. Biggs said that the presentation of this

case had been extremely interesting to him, particularly the remarks on the nature of these growths. He had himself come to the same conclusion, as the result of a specimen examined in which the growth was studied in early development. There were very clearly shown in some places branching columns of epithelial cells working down into the deeper tissues, and the tumor, as a whole, had an alveolar arrangement. He had diagnosed the case as of epithelial origin. The tumor had originally occupied the outer surface of the arm, and the metastases removed several weeks later from the axilla had the appearance of pigmented embryonic connective tissue growths; but taking the primary lesion into consideration, one was forced to the conclusion that these irregular cells of the secondary deposits were also of epithelial origin.

Dr. EWING said that the name melanoma was used by Virchow, who gave it in order not to define his position more fully. He said he had recently been shown some sections of embryonic eyes in which the pigment cells of the choroid could be demonstrated as continuous with the retinal epithelium, and, therefore, evidently of epithelial origin. This relation, however, was denied by most ophthalmologists. One of the chief arguments against the epithelial origin of melanomata had been that very similar tumors were found to develop from the "connective tissue" cells of the choroid. It would be seen, however, that if the choroid cells themselves were derived from epithelium the argument lost one of its chief supports.

A Meningocele.—Dr. JAMES EWING presented for Dr. OTTO H. SCHULTZE a specimen of meningocele, which had been obtained from a child whose body had been taken to the morgue, and in which the protrusion included almost the entire cerebellum.

Dr. HARLOW BROOKS said that about two years ago he had seen a similar case in which the meningocele contained the greater part of the right lobe of the cerebellum, and a small portion of the left lobe. The mass had been removed surgically. The child lived for nearly a month after the removal, and finally died of pneumonia. The mental status was very low. He was probably idiotic, but as he was but four months old this could not be definitely determined. At the autpsoy a condition was found similar to that shown, except that the cerebellum was almost completely removed.

Observations of Adrenalin Glycosuria, and Certain Relations between the Adrenal Gland and Carbohydrate Metabolism.—Dr. C. A. HERTER presented a paper on this subject. It had been known for some time that extracts of the sheep's suprarenals were capable of inducing glycosuria in dogs and rabbits when injected subcutaneously. Dr. Herter found that after the injection of solutions of adrenalin chloride into the peritoneal cavities of dogs a marked glycosuria developed, the percentage of sugar ranging from 3 to 10 per cent. This gradually wore off, and in the course of thirty hours the glycosuria had disappeared. The glycosuria produced by subcutaneous injections of the same dose or by the same dose given by the stomach was much less. Intravenously a moderate glycosuria could also be obtained, but it was not of so high a grade as when the dose was given intraperitoneally. In glycosuria caused by adrenalin the amount of sugar in the blood was distinctly increased above the normal, in this respect resembling the diabetes of the human subject. An interesting fact developed by Dr. Herter was that when applications of adrenalin were made to the pancreatic gland itself it was possible to call forth a large amount of sugar by the use of a small amount of the drug. These results were dependent in all probability upon excessive conversion of glycogen into sugar, this conversion taking place in the liver, as it had been shown that the blood in the hepatic vein contained much more sugar during the treatment than the blood in the portal vein. The action was probably through the nervous system, for if one collected the blood from the pancreatic vein after painting with adrenalin and injected it into the blood of a normal animal, one got only trivial glycosuria. Reducing agents also caused glycosuria when applied to the pancreas. Four things were observed which led to the opinion that the suprarenal gland influenced carbohydrate metabolism in an important way. One was that intermittent massage of the suprarenals was followed by glycosuria. Another was that extirpation of both adrenals was followed by a fall in blood sugar. The third was that adrenalin failed to induce glycosuria when injected intraperitoneally into dogs from which the adrenals had been previously removed, or in which the adrenal vessels had been tied. Finally, it was found that the onset of glycosuria after extirpation of the pancreas was delayed by previous extirpation of the adrenals. This inhibitory effect was only temporary. Dr. Herter at first interpreted these facts as meaning that the phenomena observed were due to chemical derangements connected with an excess or diminution of an adrenal internal secretion. It now seemed likely that many of the phenomena were really of nervous origin, and further work was necessary to decide whether the internal secretion hypothesis was tenable, and if so, to what extent.

Dr. EWING said that he felt that these studies furnished a very large amount of information on the subject. He would many times have liked to stop Dr. Herter to ask questions, make suggestions, and put various queries. He felt that a paper of this sort could be discussed only at great length, and only by those who were intimately familiar with the subject; and that, therefore, the amount of discussion which such a paper would bring forth must be tatally inadequate to the value of the paper. It seemed to him that if Dr. Herter had succeeded in showing that an injection of adrenalin extract produced glycosuria; that the application of the substance to the surface of the pancreas produced glycosuria; that compression of the adrenal gland produced glycosuria, while compression of other abdominal structures did not; that tying off the vessels of the adrenals rendered it impossible to produce glycosuria by ordinary means; that if, after extirpation of the pancreas, the glycosuria was diminished by tying off the adrenals, he had a considerable volume of evidence to show that the adrenal was very important in the pathology of human diabetes.

Dr. HERTER said he realized very well that unless the members of the society had a chance to think over the facts brought out it was unsatisfactory to enter into a discussion. He felt sure that the facts would stand the test of subsequent observations, but as to the construction to be put upon them he could not speak confidently. It looked to him as though it were safe to assume that the suprarenals exerted a marked influence on carbohydrate metabolism. He was at first inclined to put a chemical construction on all the facts, but on more careful consideration had come to the conclusion that he was not justified in doing this without further data. Dr. Herter thought his experiments should show whether or not the blood passing through the pancreas was in any way changed so that its sugar was converted into something else in preparation for the process of storing in the liver. The study of carbohydrate metabolism was very complex. There could be no doubt that all active metabolism of the body was closely connected with sugar combustion. More than one-half of the energy of the body came from sugar. The question was not limited to the pancreas or adrenals or nervous system. It was something that concerned every tissue in the entire body.

Vacancies in the Army Medical Corps.—There are thirty-five vacancies in the grade of Assistant Surgeon in the army, and there is little prospect of filling them until Congress shall have revoked some of its unwise legislation in the matter of the rank and prospects of army surgeons. The next examination to be held in Washington will take place some time in April, and an examination is now being conducted in the Philippines to fill some of the places.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 27, 1902:

	Cases.	Deaths.
Measles	127	10
Diphtheria and croup	356	43
Scarlet fever	135	4
Smallpox	..	..
Varicella	87	1
Tuberculosis	245	148
Typhoid fever	75	18
Cerebrospinal meningitis	..	2

The Gas Evolved in the Decomposition of Hydrogen Dioxide by Pus.—John Marshall concludes his paper as follows: It seemed that possibly the bactericidal action of hydrogen dioxide might be due to its penetrating the cell membrane of the bacterium, and coming in contact with some body contained in the bacterium, which possessed the property of decomposing hydrogen dioxide, liberated the gas which, by its physical action, ruptured the membrane, thus destroying the vitality of the bacterium, but experiments made with the bacillus megatherium, bacillus anthracis, and the yeast-cell did not appear to substantiate the thought. Von Bruns, in recommending the use of hydrogen dioxide in the treatment of infected wounds, attributes its action as being partly physical and partly chemical. It certainly has a physical action in mechanically loosening and disintegrating necrotic matter, and probably also a chemical action, due to the liberation of oxygen in the nascent state, in the production from noxious substances of new compounds which may be innocuous in character. Use is made of its physical action as first suggested by Crile (Browning), in mechanically removing the particles of carbon in gunpowder burns, which, after the healing of the wound, give a bluish-black appearance to the skin. It might also be found useful in removing the particles of coal which produce the bluish-black stains in the wounds of workers in coal. It is unlikely that absorption into the circulation of a quantity of the solution sufficient to produce gas emboli occurs when it is employed in the treatment of wounds and cavities, provided openings exist for the free escape of the gas, so that no pressure is exerted on the liquid.—*University of Pennsylvania Medical Bulletin.*

Congenital Hydronephrosis.—G. N. Acker reports two cases of this condition, which is certainly not a common one. It is due to congenital malformation at some point in the urinary channel, which may consist in phimosis, stricture of the urethra, valve-like insertion of the ureter in the bladder, or an abnormal insertion in the pelvis of the kidney. In some cases the cause cannot be demonstrated even on autopsy. Distension of the abdomen is a prominent feature in congenital hydronephrosis; the veins of the abdomen are enlarged, and the skin has a pale, smooth, shiny appearance. By compression of other organs various complications arise, such as constipation, vomiting, dyspnœa, and palpitation. Complete anuria may suddenly occur. Constitutional symptoms and local pain are absent, as far as can be ascertained. This condition has been mistaken for sarcoma of the kidneys. Double hydronephrosis often presents the appearance of tuberculous peritonitis. Ascites is also suggested by the uniform swelling of the abdomen and fluctuating character of the growth. Aspiration of the fluid will usually settle the doubts as to the nature of the swelling, for it is free from blood and pus, and commonly contains urinary constituents. The course and termination of this disease is rapid and fatal. Death results from uræmia or some complication. No treatment is of any avail in cases of true congenital hydronephrosis.—*Washington Medical Annals.*

Nitrogen Excretion in Pneumonia, and Its Relation to Resolution.—Henry Wireman Cook gives the following summary of his work on this subject: (1) In cases of pneumonia a surplus amount of nitrogen must be excreted during the days of resolution that will correspond at the least to the original quantity of exudate poured into the involved lung. In most cases there is more, the rest representing in great part a continuation of the formation and an absorption of the inflammatory exudation, plus other tissue destruction. (2) In cases of marked delay in resolution the continued high nitrogen output indicates a continuation of the local inflammatory process, so that in those cases of several months' persistence we might speak of a chronic pneumonia. (3) In cases of rapid resolution the leucocytosis curve follows the curve of nitrogen excretion with a very striking parallelism, and would seem to point to a causal relation between leucocytes and resolution.—*Bulletin of the Johns Hopkins Hospital.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending December 27, 1902:

SMALLPOX—UNITED STATES.

		Cases.	Deaths.
California, Los Angeles	Dec. 7–14	1	..
Sacramento	Dec. 6–13	2	..
San Francisco	Dec. 7–14	3	..
Georgia, Atlanta	Dec. 10–17	3	1
Illinois, Chicago	Dec. 13–20	2	..
Indiana, Elwood	Dec. 14–21	1	..
Indianapolis	Dec. 13–20	22	4
Kentucky, Lexington	Dec. 13–20	1	..
Louisiana, New Orleans	Dec. 13–20	1	Imported from Monroe, Louisiana.
Massachusetts, Boston	Dec. 13–20	16	6
Everett	Dec. 13–20	..	1
Lawrence	Dec. 13–20	2	..
Michigan, Grand Rapids	Dec. 13–20	6	..
Missouri, St. Louis	Dec. 7–14	14	..
Nebraska, Omaha	Dec. 13–20	5	..
New Hampshire, Manchester	Dec. 13–20	7	..
Nashua	Dec. 13–20	15	..
New Jersey, Camden	Dec. 13–20	3	..
Newark	Dec. 13–20	2	..
New York, Buffalo	Dec. 13–20	2	..
New York	Dec. 13–20	1	..
Ohio, Cincinnati	Dec. 12–19	1	..
Cleveland	Dec. 13–20	9	5
Dayton	Dec 13–20	7	..
Hamilton	Dec. 13–20	2	..
Pennsylvania, Erie	Dec. 13–20	6	..
Johnstown	Dec. 13–20	8	2
McKeesport	Dec. 13–20	1	..
Philadelphia	Dec. 13–20	15	..
South Carolina, Charleston	Dec. 6–13	3	1
Tennessee, Memphis	Dec. 6–13	2	..
Washington, Tacoma	Dec. 7–14	2	..
Wisconsin, Milwaukee	Dec. 6–20	15	..

SMALLPOX—FOREIGN.

Austria, Prague	Nov. 22–29	9	1
Belgium, Antwerp	Nov. 22–29	1	1
Brazil, Bahia	Nov. 15–29	4	1
Ecuador, Guayaquil	Nov. 22–29	..	2
Gibraltar	Nov. 23–30	1	..
Great Britain, Birmingham	Nov. 29–Dec. 6	1	..
Edinburgh	Nov. 29–Dec. 6	1	..
Leeds	Nov. 29–Dec. 6	3	1
Liverpool	Nov. 29–Dec. 6	18	4
London	Nov. 22–Dec. 6	10	..
India, Bombay	Nov. 11–25	..	4
Calcutta	Nov. 15–22	..	1
Madras	Nov. 8–15	..	1
Italy, Palermo	Nov. 22–29	4	1
Mexico, City of Mexico	Nov. 30–Dec. 7	6	2
Russia, Moscow	Nov. 15–22	7	..
Odessa	Nov. 22–29	1	..
St. Petersburg	Nov. 22–29	4	1
Straits Settlements, Singapore	Oct. 8–25	..	1
Turkey, Constantinople	Nov. 23–30	..	3
Uruguay, Montevideo	Nov. 1–8	16	1

YELLOW FEVER.

Ecuador, Guayaquil	Nov. 29–Dec. 6	..	4
Mexico, Coatzacoalcos	Dec. 6–13	1	..
Tampico	Dec. 6–13	..	8
Vera Cruz	Dec. 6–13	13	4

CHOLERA—INSULAR.

Philippines, Manila	Oct. 19–Nov. 1	33	20
Cebu	Oct. 30	..	1
Provinces	Oct. 19–Nov. 1	7,764	4,800

CHOLERA—FORRIGN.

Egypt, Alexandria	Nov. 22–29	..	11
India, Bombay	Dec. 11–25	..	1
Calcutta	Nov. 15–22	..	26
Java, Batavia	Oct. 24–Nov. 8	81	68
Straits Settlements, Singapore	Oct. 18–25	..	17

PLAGUE.

China, Hongkong	Nov. 1–8	1	1
India, Bombay	Nov. 11–25	..	253
Calcutta	Nov. 15–22	..	9
Karachi	Nov. 16–23	19	18

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Original Articles.

A COMPARATIVE STUDY OF THE ROUTINE TREATMENT OF CERTAIN DISEASES IN FOUR OF THE LARGE NEW YORK HOSPITALS.*

BY HENRY P. LOOMIS, M.D.,
NEW YORK.

THE personal equation is a most important factor in practical therapeutics—more so than in any other branch of medicine, and tends so directly to influence results that it is most difficult to attribute these specifically to any routine treatment.

In our large metropolitan hospitals we may look more than anywhere else for the most advanced methods of treatment, as here every new suggestion in therapeutics is tried, weighed, discarded, or adopted. Accurate statistics are kept, thus furnishing data for approximately reliable and impartial conclusions, and all under the critical eye of the young and enthusiastic members of the house staff who, before their two years are up, are well able to determine the treatment producing uniformly the best results. Therefore, in the large hospitals I should say we can find, if not the best plan of treatment, certainly the one that is accepted by the majority of the profession as giving the best results. I have taken for comparison four of the largest hospitals in New York: The Presbyterian, Roosevelt, New York, and Bellevue (second division).

On the visiting staff of these four institutions are some of the ablest men in the profession, certainly men with large practical experience. As the medical service in all these hospitals rotates, the criticism might be offered that the treatment would change as each new visiting staff comes on duty, in accordance with their personal ideas. This I have found not to be the case to any extent. After a talk with the present house staff of all these hospitals, I find that there is in each institution what might be called a routine treatment for most of the common diseases, based upon past experience and drawn from the most effective suggestions of the various visiting physicians. Upon investigation one finds a fairly unchangeable method of treatment, which can be compared to a composite photograph, being the final result of many years experience and experiments—superimposed and assimilated.

The details of treatment in the various hospitals differ distinctly if not radically. However the statistics of results compare favorably one with another.

I have restricted comparison to only a few diseases, such as typhoid fever, pneumonia, pleurisy with effusion, etc., because hospital treatment, as at present practised, shows the best results and the lowest mortality in these diseases. A mortality lower in spite of the large number of unfavorable cases, than that obtained in private practice. Again these diseases present the same types or run the same course as they do in patients in private practice, which cannot be said of many other diseases seen among hospital patients.

The hospital treatments which I shall speak of will differ somewhat from the treatment we each might carry out, but it will certainly represent the prescribed treatment of the majority. To obtain the details of treatment from the different hospitals, I had typewritten a careful series of questions. These were answered in writing by the different house physicians; then personal interviews with the medical staff of each hospital were had, and I found that in many instances one or more of the visiting staff had verified the answer to the questions and had added elaborations of their own. I also found that more variation in the ideas of the visiting physicians occurred in Roosevelt Hospital than in the other hospitals.

Typhoid Fever.—The mortality from this disease, during the last two years, as furnished by the statistics of the four hospitals, is practically the same in all, namely, 10 per cent. This is as low a death rate as has been reported in any of the large hospitals of the world.

Murcluson reported, in England, in 27,000 cases of typhoid fever, a death rate of 17.45 per cent. Jaccourd, in France, in 80,000 cases, a mortality of 19.23 per cent. Seventeen thousand cases in Vienna showed a mortality of 22.5 per cent.

The principle continental hospitals have a mortality varying between 16 and 25 per cent. Some years ago Dr. Delafield collected from the records of the New York hospitals, extending over a period of five years, 1,305 cases with a minimum mortality of 20.1 per cent.

To the present treatment of this disease must be given the credit of saving over 50 per cent. of the people who formerly died, for the disease certainly does not average any milder type now than it did ten or twenty years ago.

To the Brandt Bath is rightly given a great deal of credit for this decrease in mortality, but to my mind as much credit is also due to the careful nursing now in vogue, to the strict attention to details in the general management of the cases, to the care in diet, and, lastly, and of great importance, to the reaction from dosing.

Watching typhoid fever in the hospitals, one is impressed with how seldom drugs are used now as compared with the past, and how they are only given when absolutely necessary to meet conditions that cannot be corrected by any other way.

The best illustration of this is now seen in the controlling of most cases of diarrhœa and abdominal distension by restricting the diet to milk, modifying the milk if necessary, and not considering the diarrhœa an essential symptom of the disease to be controlled by opiates and intestinal antiseptics, as formerly.

The details of the treatment are nearly the same in all respects in the different hospitals. Only in four things does there seem to be any material difference of opinion: (1) Whether the diet shall be

*Read before the New York Clinical Society, November 28, 1902.

exclusively milk or not. (2) When and how the diet shall be modified at the end of the disease. (3) What temperature of the patient shall call for the giving of the Brandt Bath. (4) The question of giving the Brandt Bath in every case.

I will ask your consideration of these four differences more in detail:

First.—The Diet in Typhoid Fever. Milk is the exclusive article of diet during the whole course of the disease in all the hospitals except the Presbyterian; there they give besides milk, beef tea, chicken broth, egg albumen, and varieties of wheaten food. The milk is always modified with lime water or vichy and sometimes peptonized. At Roosevelt Hospital, only during the service of one visiting physician, besides the milk, broths (chicken, beef, or mutton) are used. At the New York Hospital the milk is often modified by adding cerium oxalate (gr. v), sod. bi-carb. (gr. x) to milk (℥ viii).

Second.—When and How the Diet Is Modified at the End of the Disease: This is the one point of greatest difference in the various hospitals, and is the one point on which the different visiting physicians of the same institution do not agree. At Bellevue and Roosevelt hospitals no change is made in the milk diet until the temperature reaches normal. At the Presbyterian Hospital the first day the temperature is under 100° milk and toast and soft boiled eggs are given. At the New York Hospital when the temperature begins to fall, if the patient complains of hunger, beef juice is given. At Roosevelt Hospital Dr. Delafield gives beef juice and scraped beef only in protracted cases, before the temperature reaches normal. Dr. Thomson gives scraped beef when the temperature has not reached 100° for three days. At Bellevue Hospital the patient is generally kept on milk diet for from four to six days after the temperature has reached normal. In the majority of the hospitals, as soon as the temperature reaches normal, the diet is changed as follows: Milk toast, broths (plain), raw eggs in milk, soft boiled eggs, beef juice ℥ i, scraped beef sandwich, then chops, and, later, baked potatoes, after four to seven days of normal temperature.

Third.—Giving the Brandt Bath to Every Case. At the Presbyterian and New York hospitals all cases "are tubbed." At Bellevue Hospital many cases in which the temperature can be kept below 103½° by alcohol sponging, the Brandt Bath is not given. At Roosevelt Hospital the bath is given in nearly all cases running a temperature above 103°. Drs. Delafield and James use the tubs, but rarely after the first two weeks. Dr. Delafield tubs some cases with comparatively low temperature, but who are much poisoned.

Fourth.—At all the hospitals the Brandt Bath when given is ordered when the temperature reaches 103°, with the exception of the Presbyterian Hospital, when it is given for a temperature of 102.5°. At the other hospitals the only exception to the general rule is when Dr. Peabody is on duty at the New York Hospital, when he orders the baths for a temperature of 102.5°, and Dr. James, when on duty at Roosevelt Hospital, for the same temperature. Two of the hospitals (Presbyterian and Bellevue) give the baths every four hours, and two (Roosevelt and New York) give them every three hours. The temperature of the first bath in all the hospitals averages 70°. All the children are tubbed at a higher temperature, viz., 85°. The duration of the bath is fifteen minutes, and whiskey before and hot milk after the bath is universally given. The temperature is taken in all the hospitals except the Presbyterian (one hour) one-half hour after the bath.

The following is the composite treatment of typhoid fever as based upon the methods and details at present in use in the majority of the four hospitals we are considering:

Complete Treatment of Typhoid Fever.—(Composite Treatment). Based on the present treatment in four of the New York hospitals. *General management* directions are given that the patients' stools be disinfected by a solution of formaldehyde 1-40; that the personal linen and bed-clothes be soaked in a solution of carbolic acid 1-20 before they are sent to the wash; that the nurse should wash their hands in a solution of bichloride 1-1,000 after attending to the patient.

The *diet* of the patient should be as follows: (1) During the course of the disease, milk exclusively, either with lime water peptonized or prepared. (2) At the end of the disease, when the temperature has reached normal, or is running under 100°, the following articles of diet are given: soft-boiled eggs, chicken, beef sandwiches, and finally, at the end of four days, a chop can be added.

When *stimulation* is indicated by the pulse, heart action, and general condition of the patient, whiskey in ℥ ss. doses is the form used. Strychnine should only be given when whiskey is not holding the patient; it is not given as a routine practice, but more to reinforce whiskey. Digitalis is only given when there is evidence of right heart failure, as shown by the evidence of pulmonary œdema, blueness of the extremities, etc. It is better given hypodermically.

The *Brandt Bath* should be given in all cases when the temperature reaches 103°. It should be ordered every four hours. The technique is as follows:

The patient receives ℥ ss. of whiskey (diluted) before the bath and a glass of hot milk after. The temperature of the bath should be 70°, and gradually reduced by ice to 65°. The patient should remain in the water fifteen minutes and should be constantly rubbed. A cold compress or ice cap should be placed on the head. On removal from the bath the patient should be dried off by a sheet which is removed, and then the patient is wrapped in blankets. At the end of half an hour, the temperature is taken, and noted on the chart, the effects of the baths being recorded by a red line. The 4 A.M. bath can always be omitted with advantage, and in most cases the 12 P.M. bath also.

The following is the treatment for the *special symptoms* that may develop in the course of typhoid fever: (1) Headache—ice cap, acetanilid, and caffeine. (2) Sleeplessness—trional. (3) Constipation—no cathartics should be given beyond the initial dose of calomel. The bowels should be moved if necessary, only by daily enemata. (4) Tympanites—ice coil, turpentine stupes; 5 m. turpentine q 3 h internally. (5) Hemorrhage—restrict milk to small quantities, stop enemata, apply ice coil, give majendie hypodermically. (6) Perforation—operate at once.

When *convalescence* is established, the patient can be allowed to sit up in bed after the temperature has been normal one week. Can get out of bed after it has been normal ten days. Can leave house two weeks from the time patient was first out of bed. The patient is allowed to return to a regular diet three weeks after normal temperature; care, however, being exercised for six weeks in the eating of fruit.

Pneumonia.—When a patient enters any one of these four hospitals suffering from pneumonia, he is.

TYPHOID FEVER.		PRESBYTERIAN.	NEW YORK.	ROOSEVELT.	BELLEVUE.
Gen'l. Management.	How Stools Disinfect.	Formaldehyde.	Formal 1-40	Bicl. 1-500 Carb 1-20	Carbolic 1-20
	" Clothes "	Carbolic 1-20 Baked.	Dry Heat.	Carbolic 1-20.	Carbolic 1-20
	Mouth Wash.	Listerine.	Listerine. Tr. Myrrh. Sod. Bicar. ℥ss ℥ss H₂o	Listerine, Perox. & Tr. Myrrh. Glyc. & Lime Juice. Sordes	Lime H₂o. Dobells Sol. Boracic H₂o Glyc. & Myrrh. Oil Peroxide.
	Nurses Hands.	Bichloride 1-1000	Bichloride 1-1000	Bichloride 1-2000	Carbolic Sol. 1-100
DIET.	During Disease.	Milk not exclusively. Milk and Barley Water 3-1 Coffee, Tea, Beef Tea, Chicken Broth, strained Egg Albumen. Mellins Imp. Gan. Mild Cases 6-10 Eggs. If dont take Milk. ℥ss	Milk exclusively Peptonized or Prepared. If milking. Mutton Broth. Alb. H₂o. Broths. Rice Gruel. Beef Juice	By most. Milk exclusively.	Milk with Lime H₂o or Peptonized.
	End of Disease.	1st Day under 100° Milk, Toast, Soft Boiled Eggs. Beef Sandwich. End of Week.	When tempt. begins to fall. if hungry. Beef Juice ℥ss t.i.d. Next sandwich.	When tempt. normal Beef Juice D. In protracted cases before normal.	Changed gradually after fever ends. to Broths, Soups, Eggs. Gruel.
	When Meat Given.	End of Week. Chops.	4 days after. Beef Juice Baked potatoes, then Eggs.	4 days normal temperature. D.	Not until convalescence is fully established.
STIMULANTS.	Indications for	Before baths. Pulse - tongue.	Pulse rapid - weak - Diercic Dry tongue. Intense apathy.	Weakening pulse. Later weeks.	Pulse. Weakness. Tongue, Dry, Etc Alcoholic Heat.
	Form and Dose.	Whiskey ℥ss Diluted. ℥iss per day.	Whiskey ℥ss q. 2.3 & 4 H. Brandy (When Whiskey dont agree for children. Dose ℥ss q 4 H.	Whiskey almost excl. ℥ss q 3 H. Gen. 4	Whiskey ℥ss Brandy ℥ss
	Strychnine?	Pulse rapid 120 - Gr. 1/30 q 4 H.	To reinforce Whiskey when desired, not to increase Whiskey in desperate cases.	When pulse is fairly under full doses of Whiskey.	Yes. Alcoholic failing.
	Other Cardiac Stimulants.	Digitalis (Thompson only) Early Convalescence.	Nitro-Glyc. Oedema Lungs. Tense Vessels. Digitalis (Ad Ext) Gen'l. Hypo.	Digitalis. Caffeine & Spartiene.	Digitalis not as routine, then as Hypo.
TREATMENT OF FEVER, BRANDT BATHS. OTHER METHODS.	How often tempt. taken.	q. 4. H.	q. 3. H.	q. 3. H.	q. 4. H.
	Brandt Bath used in all cases.	"All cases bathed."	Used regularly unless some painful inflam. like Neuritis.	Nearly all cases.	Sponge B (If fail Cold Pack.) Brandt.
	Bath at what tempt?	102.5°	103° F(102.6°)	103° F. J. 102.6°	103° 103.5°
	Tempt. of H₂o	85° Lowered.	70° Child 85° F. 65°	70°-75° Gen'l.	70° Lowered to 65°
	Duration of Bath.	15 Min.	10 Min.	10-15 Min.	15 Min.
	Any stimulants before bath?	Whiskey before.	Whiskey before or after as F. wishes.	Whiskey before. gen'l. Not always.	Whiskey.
	Any Milk?	Hot milk or broth after.	Hot - After.	Yes-Hot.	Hot milk alone.
	When tempt. taken after bath?	1 Hour.	1/2 Hour.	1/2 Hour.	1/2 Hour.
	Given during Night.	4 A.M. Omitted.	11. P.M - 2. A.M. Omitted. Persistent tempt. 104° Night.	Midnight. 3 A.M. Omitted.	All night unless patient needs sleep.
	Any other treatment for Fever. What?	Sponge Baths, Alcohol Sponges and Coil used when bath not well taken.	Alcohol Sponge (When B.B. Cold Pack. (Contra indicate only	Sponge B. (Tub not Flush B. (born. Cold Pack. (Pneum. (too heavy.	Sponges. Packs.
	Antipyretics Given?	None.	Phenacetine Gr. V. q. 3. H. When Hydro. contra ind.	Acetanilide Gr. ss Caffeine Gr. ss Morph. Gr. ss q. 3 H. if temp. 103° after bath	None.
TREAT. OF SPECIAL SYMPTOMS.	Headache.	Ice Cap. Caffeine.	Ice Cap. Hot Bottle. Mustard Paste. Chloral & Camph. Sod. Brom. & Codeine.	Cold Compresses. Ice Cap. Acetanilidi Caffeine, Morph.	Cold Compress.
	Sleeplessness.	Trional. Gr. xv Codeine, Gr. 1/4 Bromide, Gr. xx	Trional. Codeine. When important Morph. Hypo.	Tepid Sponging. Trional. Codeine. B & C.	Sponging. Codeine. Dovers. Morph.
	Constipation.	Enemata. Early Calomels Late Caseard.	Before 10 ds. Calomels, then suppos. Enem. c.o.d. Tale and as can Castor O. Liquors.	Enemata. Small doses Calomel. one Daily . . . every 3 day.	Beginning Calomel & c.c. pills, then Enemata
	Tympanitis.	Ice Coil. Turpentine.	Coil. Turpent. M v 3. H. (Capsuls) Stupes. High Enemata. Turpentine.	Turpentine, Enemas & Stupes.	Ice Coil. Turpentine mouth M v Stupes. Rectal Tube.
	Hemorrhage.	Stop milk, Give broths. Peptonoids. Stop Enema. Ice Coil. Majende Supra renal. gr. v q. 6 H.	Coil.	Coil. Opii. (Tr. Deod.) Restricted Diet. Alb. H₂o only.	Coil. Inject Ice H₂o Morph. Supra renal. Ext.
	Perforation Operation?	Sept. 02. operated 7 hours after 1st Symptom Recovery. First case	One recovery. June. 1902. Op. 40 Hours. after	None in 18 months 2 cases before. Died.	All Die.
	Are intestinal Antiseptics used?	Rarely. Salol.		T. only. Bismuth Sub Carb Gr. xx Pepsin Gr. x routine. q 3 H	Salol. Bismuth.
CONVALESENCE.	Allow sit up. When?	After 1 week Normal tempt.	When tempt. below 100° 6 ds.	3-4 days after tempt. normal.	1 week after tempt. normal.
	Convalescent. Allowed out of bed When?	After 10 days.	" " " 10 days.	3 or 4 days after sitting up	10 days after tempt. normal.
	Eat ordinary food.	3 weeks after normal.	Careful about Fruit & Pastry 6 weeks after leaving Hospital.	4-7 days after solid food	2 weeks usually.
	Leave House.	" " " "	After up 2 weeks.	1-2 weeks after out of bed	2 weeks after up.
	Mortality.	Oct. 1900 - Oct 1901. 152 Cases 15 Deaths. 10%	10%	10% All cases 1901.	10%

TABULAR ANALYTICAL TREATMENT OF TYPHOID FEVER IN SOME OF THE NEW YORK HOSPITALS.

given calomel, usually in small doses often repeated, and this is followed by a saline in the morning. The calomel is repeated during the course of the disease if necessary.

All the hospitals at the present time apply local measures to the affected lung when the pain and distress is intense. Flaxseed poultices are still used more than any other local applications. It seems to me that these applications are not used by the general practitioner as much as they are in the hospitals. In one of the hospitals an electric poultice is often used instead of the flaxseed poultice, it being much more readily applied, cleaner, and keeps a constant temperature. In some of the hospitals the pneumonia-jacket is used. The treatment of fever varies more than anything else. Some tub most of their cases with a temperature of 103° and over, when they are alcoholic and delirious, and sponge regularly q. 3 h. for ten minutes all cases when the temperature reaches 102°. This plan of checking fever is not adopted in all hospitals; 103½° is the ordinary sponging temperature. At some they wait until the temperature reaches 104°, and then use wet packs, applied to the anterior half of the body, and wrung out of water at 80°.

It is well known that the treatment of the fever in pneumonia is not now considered so important as it was formerly. We all remember the time when cold sponging, antipyretics, drugs, etc., were constantly employed to keep the temperature below 102°. Now it is believed that a short run of temperature in this disease has but little effect on cell protoplasm. Some foreign bacteriologists claim that the pneumococcus will not grow at the high temperatures (104°), while they thrive at a temperature of 102° or below, and so they advise not to attempt to reduce the fever in pneumonia.

For the very severe *pain* over the affected lung, which is so often the prominent symptom of the ushering-in stage of this disease, two methods of relief are in vogue in all the hospitals: (1) Poultices to the side; (2) Morphine hypodermically if necessary. At the Roosevelt Hospital they often strap the side, in place of applying poultices.

For the *insomnia*, which is often a distressing symptom, the one drug which is universally used is codeine in ¼-grain doses. At some hospitals it is often combined with 15 grains of trional. The next drug which is most commonly used for this condition is bromide of potassium in 20-grain doses. Three of the hospitals use codeine gr. ¼ for cough, and one uses heroin. As we all know, the critical time in a case of pneumonia begins with the evidence of cardiac failure. The first indication of systolic weakness and failure of arterial tonicity leads to the administration of cardiac stimulants. The three cardiac stimulants which are used in all the hospitals are alcohol, strychnine, and digitalis.

Of these I find the one that stands first, and on which the greatest reliance is placed, is alcohol. Always in the form of whiskey, and practically always in the constant dose of ℥ ss., the time of its administration varying from q. 4 h. to q. 1 h., according to indications.

There has been a peculiar thing about the use of the second drug in pneumonia—strychnine. Most of us can remember when we first began the practice of medicine, strychnine was seldom, if ever, given as a cardiac stimulant in pneumonia, now it is universally used. Clinical experience has confirmed what physiological experimentation has long ago proven. When we remember the physiological action of this drug, how it stimulates the heart and tones up the arterial system by its direct stimulant action on the vasomotor centers, and not like alcohol and digitalis by its action on the heart muscle and the arterial wall, we find an explanation of its effectiveness, it whips up the heart, one might say, from its powerful nerve center. Strychnine is never followed by the secondary depression so often seen after alcohol. I find this drug universally used in the hospitals. In talking over its use with the various house physicians, I learn that the two indications which call for its use are: (1) When whiskey is not able to hold the heart, they always used it, however, secondary to whiskey; to reinforce it, as it were. (2) When there is evidence of pulmonary œdema and cyanosis—here it is generally given hypodermically in $\frac{1}{20}$ grain doses. At two hospitals this second symptom is the special indication for its use. All alcohol cases were especially found to respond to the action of this drug. At all the hospitals, when, in spite of the alcohol and strychnine, the pulse became very rapid (130 and over) and feeble, digitalis was given, either m.v. of the Tr. q. 3 h. or m. ii Fl. ext. q. 4 h. This drug is not given as a routine practice, and only, apparently, when after whiskey and strychnine have both been given, the heart failure is found to be increasing.

At Roosevelt Hospital, Dr. Delafield uses digitalin $\frac{1}{8}$ mg. with aconitine $\frac{1}{8}$ mg. in cases with rapid heart action, when the pulse is not too soft, and the pulmonary circulation is good. These dosimetric granules are given q. 1 h. until the pulse drops to 100, then stopped, until the pulse reaches 112 again, and then resumed.

The only other drug that I found used in the hospitals was nitroglycerin. All the hospitals use it occasionally. Besides the pulse of high arterial tension that may call for its use in any case, cyanosis is the one symptom that especially indicates its use. At one or two hospitals it is always used when cyanosis becomes marked. At one, when œdema of the lungs develops, it is generally given. Atropine and caffeine are not given in a case of pneumonia in any of the hospitals. Oxygen is always given as soon as pulmonary œdema develops and cyanosis is marked. One change in the administration of oxygen that has been noted is its earlier use. It is not now always given as a last resort. We can all remember when we saw the oxygen tank come into the sick room, we knew the end was near; this is not so now. At some hospitals they use it often early in the disease, for labored breathing, and always when there is the least cyanosis.

I find that during the past year or so a number of drugs have been tried in pneumonia and discarded; for example, iodide of potassium in ℥ i doses a day; sodium salicylate, large doses of 240 grains a day. For the past year creosote in some form has been extensively tried. Many of the hospitals have given this remedy a trial, but, as far as I am able to learn, with no results. Antipneumococcus serum has not been used in any of the hospitals, with the exception of one ward in one of the hospitals. Here the results, as I understand them, were negative.

Acute Articular Rheumatism.—Of all the acute diseases met with in the New York City hospitals, acute articular rheumatism is the most common. Again, it is certainly more often seen in hospital practice than in private practice.

The specific treatment at the present time in vogue is a combination of the old alkaline treatment and the newer salicylic-acid treatment. In all the hospitals the stock preparation which is kept in the wards, and almost always used, is a freshly-made

combination of salicylic acid and sodium bicarbonate in equal parts. Large doses of this freshly-combined salicylate of soda are used; doses I think much larger than those given outside the hospitals. It has always seemed to me that large doses must be given to be effective. Twenty grains q. 3 h. or q. 4 h. is the average dose given. As the case improves, the frequency of the dose, but not the size, is diminished. There seems to be greater difference in the preparation of salicylic acid used at the Roosevelt Hospital than any other. For example, Dr. Delafield when on duty gives the following: Acid salicylic 9v gr. x, soda bicarb. gr. vi, ext. glycyrrhiza, powd. gr.iii, glycerin m x L, aquæ ad. qs. ℥ii, this dose is given q. 3 h. As is seen, the amount of salicylate of soda is small, 10 grains to a dose. Dr. Thomson gives strontium salicylate gr. xx q. 3h. Dr. James is a believer in the ol. gaultheria, and uses it at the Roosevelt and Presbyterian hospitals, in preference to the salicylates, in doses of m. x q 4 h. Dr. Kinnicut also uses ol. gaultheria. With these exceptions salicylate of soda is universally used, but always the freshly-made preparation.

The combination of the alkaline treatment with the salicylic acid treatment is used in all the hospitals, with the exception of Roosevelt. The preparation which is given with the salicylate of soda mixture at the Presbyterian and New York hospitals is what is known as the A.B.C. mixture: R. acetate, citrate and bitart. potass. of each gr. xv to xxx at a dose, well diluted with water every four hours. The New York Hospital varies the mixture a little by putting in rochelle salts in place of potass. bitart. At Bellevue Hospital an extra amount of bitart soda, generally 20 grains, is added to each dose of the salicylate of soda mixture. At the Roosevelt Hospital the salicylic-acid treatment is pushed from four to seven days; if then not effective, it is stopped and the alkaline treatment tried. The object of the alkaline treatment is to get the urine alkaline, and to keep it so. It is continued in decreasing doses after all joint and constitutional symptoms have disappeared and the salicylates have been stopped. I have tested a number of times how long it takes to get the urine alkaline in acute rheumatism, and I have found it very much longer that one would believe from reading the works on acute rheumatism—as it takes at least three days and often four. At Bellevue and New York hospitals asperin has been used lately as a substitute for the salicylates, with good results. The local treatment of the inflamed and painful joints vary somewhat in the different hospitals. The one preparation which is used in all the hospitals except Roosevelt is guaiacol. At Bellevue Hospital it is diluted with equal parts of olive oil; at Presbyterian Hospital, with glycerin, while at the New York Hospital it is diluted with alcohol. Guaiacol is applied to the joints on compresses, covered with rubber protective or bandages. Joints are treated at the Roosevelt Hospital by ice-bags during the early stages and later by oil of wintergreen, locally applied. A 10-per-cent. ichthyol ointment is often used at both the Bellevue and the New York hospitals. I have seen exceedingly good results at the New York Hospital by simply wrapping the inflamed joints in cloths wrung out of methyl salicylate and giving no medicine internally. In thirty to forty minutes the urine of these cases will give the salicylic-acid reaction, showing that the drug has been absorbed through the joints and eliminated. It has seemed to me often that the constitutional symptoms—fever, pain, etc.—disappear as quickly under these local applications as under internal medication. I have tried at different times over twenty cases on this treatment alone.

The diet in all the hospitals is the same during the attack—exclusively milk; not until the patient has left his bed is he allowed to have any meat. The time when it is considered advisable for the patient to get up varies somewhat in the different institutions. At the Roosevelt Hospital, as soon as the patient's temperature is perfectly normal. At the Presbyterian Hospital, a few days after a normal temperature. At the New York and Bellevue hospitals, not until the temperature has been normal for a week and all the joint symptoms have disappeared.

A number of years ago, in studying a large number of cases of acute rheumatism, with the idea of endeavoring to ascertain the causes of the relapses, which, as we all know, are so liable to occur in spite of all we can do, I came to the conclusion that two things were the most important factors in causing these relapses, viz., too early feeding and too early getting up. It seems to be that the treatment of convalescense in this disease is fully as important as the treatment of the attack. The one cathartic which is used in all the hospitals is the salines epsom or rochelle salts.

Hyperpyrexia is treated at the New York and Presbyterian Hospitals by tubs for a temperature of over 105°. No cases of a temperature above 105° have been seen at the Presbyterian Hospital during the past two years, and only one at the New York and one at the Bellevue. So the complication must be rare. Pericarditis is treated at all the hospitals by the application of an ice-bag to the pericardial space, and morphine if necessary. At the Presbyterian Hospital during the past two years fifteen cases with embarrassed respiration and a bad pulse, in whom the diagnosis of fluid in the pericardium was made, were aspirated. In half they found fluid, in one-half they did not. No bad results followed the attempts at respiration. My own experience bears out the above that the diagnosis of fluid in the pericardium is one of the most difficult diagnoses we are called upon to make.

Pleurisy with Effusion.—At only one of the four hospitals, and there only during the service of one of the visiting physicians, is the fluid removed from the chest in pleurisy with effusion at once when the condition is first diagnosed. At all the other hospitals the case is watched before aspiration, and then they only aspirate when one of the following conditions is present: (1) Large amount of fluid, causing displacement of the heart and dyspnœa. (2) Filling of the chest cavity with a large amount of fluid even if there is no evidence of cardiac embarrassment. (3) Pain, embarrassed heart action and marked prostration. (4) When the fluid remains at a fixed level for five days (P) to ten days (B) (N.Y.)

The technique of emptying the chest cavity varies somewhat at the various hospitals. The point of inserting the trocar at the Presbyterian Hospital is in the eighth interspace, just below and outside the angle of the scapula; at the New York Hospital it is usually in the ninth interspace, at the outer border of the erector spinæ. At Bellevue Hospital, two spaces below the tip of the scapula in the posterior auxiliary line.

All these points of inserting the needle differ from that usually given in the textbooks. At all the hospitals a hypodermic of a 2-per-cent. solution of cocaine is injected under the skin where the needle is to be inserted. At the New York Hospital a small cut is made through the skin

before the trocar is inserted. At Bellevue Hospital ethyl-chloride is sprayed over the point of puncture before the cocaine is injected. Personally, it has always seemed to me much less painful to introduce the trocar without all these preparations. The hypodermic injection of cocaine seems to me more painful than the quick puncture of the aspirating needle. At Bellevue Hospital the Delefeuy apparatus is used to draw off the fluid. At the Presbyterian Hospital, bottles from which the air has been exhausted by a pump. At the New York Hospital a trocar and cannula with a long rubber tube is employed, an artery clamp is put on the upper end of the tube and the air forced out, then another clamp is put on the lower end. After the cannula is introduced the upper clamp is taken off, and when the tube has filled, the lower clamp is removed. After the needle is removed from the chest, a dry, sterilized dressing is applied and held in place by a plaster. At Bellevue Hospital sometimes cotton soaked in collodion is placed over the point of puncture. At all the hospitals the aspiration is usually continued until all the fluid that can be reached is removed; however there are certain conditions that may develop which call for suspention of the operation at once and removing the needle.

The following are recognized at all of the hospitals: (1) Any indication of cardiac embarrassment as indicated by the pulse, pallor, and dyspnœa. (2) severe pain; (3) persistent cough; (4) faintness.

The diet for a case of pleurisy with effusion adopted by the different hospitals is what is known as a soft diet: Eggs, gruel, soup, and, principally, milk. Dr. James at the Presbyterian Hospital keeps his patients on a "dry diet." At the New York Hospital milk is given exclusively as long as there is any fever. At Bellevue and New York hospitals one drug is given as a routine treatment in this condition, which is looked upon somewhat in the light of a specific, viz., syr. ferri iodide in 3 ℥ doses t.i.d. At Presbyterian and Roosevelt hospitals no drugs are given except stimulants, when indicated.

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EXTRAUTERINE PREGNANCY.*

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I shall limit myself in this paper to my personal experience, which consists of 258 cases seen by me in my own practice and consultation, since November, 1879, at which time I saw the first instance. (*American Journal of Obstetrics*, 1880, p. 502.) No instance is included in this number in which there was even an iota of doubt as to the correctness of the diagnosis. I exclude the retrouterine hæmatoceles on which I operated and which were not observed by me from the beginning of their formation. In the majority of instances I have had an opportunity to observe the diagnosis verified by operation, either by myself or my colleagues; and in a few instances it was verified by autopsy. Only twice was extrauterine pregnancy present, even its problematic existence not being diagnosed at all; both instances occurring in the beginning of my career. Several times ectopic gestation was diagnosed, but on operation another condition was found.

The causes of tubal gestation may be found in contortion of the tube; the presence of small neoplasms or mucous polypi within the tube, or of neoplasms in the wall of the tube; pathological changes in the fecundated ovum may also prevent it from migrating into the uterine cavity. Probably the most frequent cause is inflammatory conditions of the tube, which prevent tubal peristalsis. That the salpingitis in instances of tubal gestation is not due to the impregnation of the tube, but rather to an ascending infection from the uterus, may be assumed with certainty by the fact, so far as observed, that usually the most intense inflammation is present near the uterine extremity of the tube, diminishing in intensity toward the seat of impregnation. Further, that in those instances in which the non-impregnated tube was examined, a similar salpingitic process was present, corresponding in site and intensity to that of the impregnated tube.

According to the seat of the conception product, we may have various forms of extrauterine pregnancy; namely, (1) tubouterine; (2) interstitial; (3) proper (the most usual variety); (4) ampullar; (5) tuboovarian; (6) tuboabdominal; (7) ovarian. A tubouterine pregnancy may possibly become converted into a uterine pregnancy, if a few recorded observations are correct. After a tubal rupture, or a tubal abortion, we may, secondarily, have an intraligamentous, or an abdominal, pregnancy. Although it may appear to be a true abdominal pregnancy to the naked eye, yet the cases that have been submitted to microscopical examination by competent pathologists have been found to be primarily some form of tubal pregnancy. Ovarian pregnancy is still doubted by most authors, yet there have been such accurate descriptions of this variety, that its possibility seems beyond question. Some classify intramural pregnancy separately, but it is only a product of interstitial pregnancy, in which the ovum buries itself into the adjoining muscular structure of the uterus; an exceedingly rare variety of which I have seen but one instance.

Pathology.—The placenta forms at the site where the ovum is embedded, the maternal blood vessels coming from those of the tube. Much doubt has been expressed as to the formation of a decidua reflexa, yet while there is perhaps no complete formation recorded, there can be no question of its partial formations. Likewise many deny the formation of a decidua vera, whereas a decidua serotina has been recognized by most students of embryology. Regarding the existence of a decidua reflexa, the descriptions of Zedel, in the *Zeitschrift für Geburtshülfe und Gynäkologie*, 1893, p. 78 to 142, and those of Rosenfeld in the *Monatsschrift für Geburtshülfe und Gynäkologie* for September, 1901, as well as those of several other authors can, in my opinion, leave no doubt. The changes which are found in instances of salpingitis, are found in varying extent and intensity in nearly every instance. The changes which take place in the wall of the tube consist in an hypertrophy of the muscular structure and an increase of connective tissue. At and near the site of the ovum the muscular elements become atrophied by pressure of the growing ovum, and the proliferation of connective tissue. As a consequence we frequently find a thinning of the tubal wall at that point. Because of the additional weight of the tube, it has a tendency to sink to the pelvic floor, unless old adhesions prevent it from doing so. There it usually forms adhesions to the surrounding structures. An exception is: when the extrauterine pregnancy is of the true interstitial variety. In such patients the affected tube obviously does not descend. The swelling is in such instances so intimately connected with the uterus that it seems to form a part of it. The position of the uterine body assumes a more vertical line instead of the normal physiological anti-flexed position; it is also pushed somewhat out of the

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median line toward the unaffected side. It is, in fact, possible, if the examination is not carefully made, that the uterine swelling may be mistaken for the uterine fundus. In patients in whom the catarrhal inflammation is intense, the blood vessels increase in number and size with a thickening of their walls, the latter being most marked in the outer coat of the vessel.

Usually the death of the embryo within the tube takes place during the first two months after the faulty conception. Yet a few instances are on record in which the development went to, or nearly to, full term, and a living child was delivered by means of abdominal section. I have seen four instances of secondary abdominal and one of intraligamentous pregnancy at, or nearly at, full term.

The most frequent termination of tubal gestation is tubal abortion, to which Veit of Leyden first called attention, and not, as is believed by most physicians, a tubal rupture. Were the latter the case, the death rate from ectopic gestation would be greatly increased, because the intraperitoneal hemorrhage in instances of rupture is usually so large that, unless such patient is operated upon without delay, acute anæmia ends life. The exceptions to this rule are those patients in whom the process of rupture takes place slowly, then through a small partial rupture some blood exudes and forms a hæmatocele, which slowly becomes larger, and is gradually encapsulated. Another exception is, when the rupture takes place between the folds of the broad ligament, so that the bleeding has some check put upon it by the walls of that structure. The danger, even under such favorable circumstances, is not ended, because the surrounding walls of the hæmatocele may likewise rupture and the bleeding continue intraperitoneally. Even under the most favorable circumstances such patients may sometimes remain invalids for months. Besides the hæmatocele may undergo suppuration by infection with colon bacilli from its near relation to the intestinal tract, and thus become a pelvic abscess. In the most favorable instances the hæmatocele is gradually absorbed, but the adhesions which its walls necessarily undergo to the surrounding intestines and pelvic peritoneum, and pelvic contents, require a long time for their absorption; but they seldom remain permanent.

The most favorable instances of tubal abortion are those in which the conception product is aborted *in toto* within the first two or three weeks after conception. The bleeding is then usually moderate, and the blood and conception product is readily absorbed by the peritoneum. Later than the period mentioned, the abortion usually is only partial, and the bleeding continues with the formation of a hæmatocele, with a process progressing as already described.

The changes in the uterus accompanying ectopic gestation are similar to those of true uterine pregnancy, only in a less marked degree; in fact, I have seen a few patients in whom they were practically unrecognizable. The loss in consistency of the muscular structure was not even as pronounced as we usually find it in marked endometritis. The mammary changes are almost as constant as in uterine pregnancy. If my memory serve me right, I have seen but one or two patients from whom no cholostrum could be expressed from the breasts.

Symptoms.—We now come to the most important part to the general practitioner, namely, the objective and subjective symptoms. While for a patient the most important part is the proper treatment, the physician must necessarily make a correct diagnosis, and, as near as possible, be able to appreciate the conditions present before intelligent treatment can be begun.

Fortunately, the prolific discussion of ectopic gestation in medical literature during the last fifteen years, and the mastering of bimanual examination by most physicians, have placed the profession, as a whole, in a position to recognize extrauterine pregnancy in about 50 per cent. of the cases. This has been my experience in consultation practice during the last five years. The per centum mentioned in which correct diagnosis are made by family physicians becomes increased if the patient presents typical symptoms. Unfortunately, however, a goodly number of patients do not present the classical symptoms, so that even for a specialist the diagnosis may be difficult and sometimes only problematical.

The typical symptoms briefly mentioned are: The usual symptoms of pregnancy; non-appearance of menstruation at the expected period, when a patient has previously been regular. The delay of the period may be from a few days to five weeks or more. Usually, however, but one week or less elapses, and then other symptoms begin to manifest themselves. These consist of pain in the lower abdomen, most marked on the affected side. The pain is usually cramp-like and quite severe; it may continue for a variable period of time, usually not more than from half an hour to an hour. After the lapse of a day or two another attack of pain may follow, which may resemble the first attack, or it may be more severe. These paroxysms of pain may be repeated at varying intervals. Following or accompanying the first attack of pain, there usually is a loss of blood, which the patient generally thinks to be the menstrual flow, but it is tarry; that is, it has a dark appearance, and is thicker than normal menstrual blood.

The character and duration of the pain depends upon the process which is going on in the tube, there may be a tubal abortion, or a partial, or a complete tubal rupture in progress. I have never been able to notice a marked distinction in either the objective or the subjective symptoms between progressing tubal abortion and a gradual tubal rupture. In instances of sudden and complete tubal rupture, however, a patient experiences a pain so intense that she usually collapses; a condition due both to the pain and the large intraperitoneal hemorrhage.

The appearance of a patient who is having a gradual tubal rupture, or a slow tubal abortion, does not change markedly, because the loss of blood is comparatively small. The existing anæmia, of course, depends on the amount of blood lost. The uterus is often pushed somewhat to the opposite side, according to the size of the blood-mass. Intense pain in the rectum is sometimes complained of. In instances of complete rupture the appearance of the patient always indicates marked anæmia; the pulse may be absent or only faint, barely perceptible; the skin moist; in short, her appearance presents the picture of profuse hemorrhage. I have twice been able to open the abdomen under such circumstances without administering an anæsthetic, because of the existence of profound syncope.

With or soon following the first attack of pain in cases of progressing abortion or gradual tubal rupture, small pieces of membrane (decidua), sometimes one large piece, sac-like in shape, are expelled from the genital tract.

Bimanual examination will show the uterus somewhat enlarged and its consistency relaxed. To either side of the organ, and sometimes behind it,

if a hæmatocele is already in the process of formation, a mass, which is in close proximity to the uterus, is felt, which is very sensitive to the touch. The consistency of this blood-mass depends upon its age. The longer the hæmatocele exists, the firmer its consistency will be. The breasts usually contain cholostrum.

In cases of complete rupture, if the intraperitoneal hemorrhage has been as great as is usually the case, a careful examiner should be able to detect some fulness in the cul-de-sac of Douglas (free blood). Even if the patient is seen in a condition of syncope, pressure upon the abdomen usually shows that pain is caused thereby by the patient uttering a low groan, or moving as though to get away.

Patients without the prodromal symptoms of beginning rupture, or beginning tubal abortion, have never been seen by me, and it is my opinion that such instances are usually discovered accidentally, because if there are no symptoms present which cause a woman to consult a physician, how could the discovery be made, unless by mere accident. The symptoms of early pregnancy are present in such instances as well as in the other classes mentioned, including the swelling of the tube. A woman who is bleeding may suppose herself to be pregnant and undergoing an abortion, and this may really be the case, but it is essential to bear in mind the character of the pain. She may be pregnant intrauterine, and at the same time an ectopic pregnancy may also exist, this giving rise to the symptoms for which a physician is consulted. It is, therefore, necessary, bearing this possibility in mind, to make a careful examination of all such patients.

The symptoms vary quite often, so that there is no hard and fast rule for the existence of a definite line of symptoms. Menstruation, or at least what is supposed by the patient to be the regular flow, may be regular to the day, or it may be several days ahead of the regular time. The color of the blood may also vary. I have occasionally seen it as only a light pinkish discharge and in very small quantity. It may be an intermittent spotting, or a continuous flow (as is usually the case), or it may be present for two or three days, then cease, only to reappear a few days later. Bleeding from the uterus usually denotes the death of the embryo. Cholostrum may be absent.

There may be no appreciable change in the uterus at all. A number of times I have seen the organ practically normal; anteflexed, not relaxed in consistency, and of normal size.

The passing off of a decidua, upon which some writers lay so much stress, I have observed only in a small minority of patients.

There are many patients who do not present any marked symptoms at all, at least none which lead them to seek advice until sudden rupture with its concomitant effects set in. Frequently I have been called in consultation to see a woman in syncope under such conditions.

To recapitulate: The principal features upon which a diagnosis rest are: Arrested menstruation, generally but two or three days over time. A sudden attack of pain of a cramp-like character in the lower abdomen, located more especially to the affected side, associated at times with an intense pain in the rectum of a lancinating character. The blood passed is usually dark, grumous in appearance, and its flow is generally more or less constant. The paroxysms of pain continue for an hour or more, and are at intervals of from one to three days or more. Bimanual examination is painful, especially when the tumor to either side of the uterus is palpated. The uterus is changed in size and consistency, and is dislocated, according to the size and position of the blood-tumor. If the patient has not nursed a baby for more than two years, or has previously not been pregnant at all, the presence of cholostrum is an important symptom, especially when taken together with other existing symptoms.

Rupture is diagnosed by the suddeness of the attack and the excruciating pain followed by more or less pronounced syncope; and if it is possible to obtain a history from a relative, the data already given may aid in corroborating the suspected diagnosis.

The *differential diagnosis* is, at times, very difficult; in fact, it is impossible, in some instances, without an exploratory section. The condition in which it is likely to be impossible, is rupture of a large ovarian hæmatoma, especially if there is a continuance of oozing from the torn surface. Several such cases have been reported, and, in addition to the two already reported by me, I have seen one more.

It is likewise very difficult at times to make a differential diagnosis between subacute pysoalpinx, especially of gonorrhœal origin, and tubal pregnancy. I have made such mistakes two or three times, and many others have erred likewise, because, at times, the symptoms resemble those of our subject in every particular, so that one may be misled into making a wrong diagnosis, even though the uterine changes, nearly always accompanying ectopic gestation are absent. Usually in suppurative disease both tubes are effected simultaneously, whereas tubal pregnancy is but very seldom present in both tubes. But suppurative tubal disease may be, and frequently is, markedly present only on one side, the other side being but slightly affected. Vaginal puncture, or a small vaginal incision, would, of course, clear the doubt, but inasmuch as either condition requires surgical intervention to bring about a well-being of the patient, I do not see the necessity of making a preliminary vaginal section or puncture. The latter method has been in vogue many years for diagnostic purposes, but with better diagnostic ability of physicians during late years, it is not employed often. In results there is no difference between a puncture, as it should be made, and a small vaginal incision; in fact, for diagnostic purposes only, if one can not form a definite opinion, a puncture, properly made, is to be preferred, because the opening from the needle closes at once and leaves no scar in the vaginal vault. I very seldom have occasion to resort to it. Formerly curetting and examination of the scrapings was resorted to by many, and I thought it had gone entirely out of practice, but only recently I saw a patient upon whom this diagnostic method had been used. I can not find too strong terms of adverse criticism for such procedure, because a fecundated tube is liable to rupture extensively by the traumatism necessarily caused by such procedure.

Treatment.—The safest plan for the patient is to look upon every extrauterine pregnancy as one would regard a beginning malignant neoplasm, which, of course, should be removed as soon as possible after the diagnosis has been made; except under circumstances which will become apparent in the further discussion.

I shall dismiss the treatment by means of electricity, and that by the injection of morphia into the tubal sac, as well as the aspiration of liquor amnii, as measures which, in my opinion, are too hazardous, although there is sufficient evidence that these methods have, a number of times, been productive of good results in the hands of their respective advocates.

But two methods will be discussed by me; namely

the conservative and the surgical treatment. Preliminary to entering upon the consideration of either, I wish to lay stress upon the desirability of having such patients in a clinic (*i. e.* hospital or sanitarium). This especially holds good for those patients on whom it is intended to carry out a conservative plan of treatment.

If a patient is seen who has a tubal abortion in progress, and from the examination it is evident that the blood is well formed into a clot, determined by its consistency, it may be permissible to watch and wait, provided she is amid surroundings which will permit of immediate surgical intervention, if such becomes necessary. She should be kept absolutely at rest with a nurse in constant attendance; ice-bags, or, still better, an ice-coil applied to the abdomen; morphine to keep her comfortable, and fluid diet. She must, under no circumstances, be permitted to move in any way by her own exertion, either to change position, or at defecation, or urination. If, then, examination, repeated from time to time, shows that the size of the tumor does not increase markedly, and that its consistency does not become softer, but rather firmer, we are justified in the continuance of such treatment. The moment, however, that a severe attack of pain, with a rapid increase in the size of the blood-tumor, is present, operation is imperative for the greater safety of the patient.

If the history and symptoms show that the patient has had a complete tubal abortion, objectively determined by the absence of a thickened Fallopian tube, such as we would find were the embryo still within the tube, and if she has recovered from the shock thereof, a similar course is permissible. A hæmatocele will then form in the course of a few days to such an extent that it is readily recognized by the examining finger, and its increasing firmness and diminution in size would indicate that its absorption is progressing satisfactorily. I have observed twenty-three patients in the condition mentioned above, who went to complete recovery without surgical intervention. The first two of this number absolutely declined to be operated upon, and it was a matter of necessity to follow the expectant plan of treatment. A third patient declined operation and changed consultants; the new one at first made a different diagnosis, but a few days later he adopted the diagnosis previously made by me, the hæmatocele then having become distinct; but the patient again changed consultants, because consultant No. 2 strenuously insisted upon operation. The third consultant, I was told, made the diagnosis of pelvic cellulitis. No operation was performed, the patient finally recovering. There could not have been the slightest doubt as to the correctness of my diagnosis. Later I purposely followed the expectant plan of treatment in selected cases, and but twice was it necessary for me to subsequently perform an abdominal section among those so treated from the beginning of observation. On seven of that number a subsequent vaginal section was made to empty the hæmatocele. The rest made an uneventful recovery. The shortest time to complete recovery from the beginning of symptoms was four weeks, and in the longest it was a little more than three months before active household duties could be resumed. The average time was from five to six weeks. Before leaving the conservative treatment, I can but reiterate that if one is not fairly confident that a patient is likely to have an uneventful recovery, it would be safer to operate. But, as already remarked, there are patients who, under certain conditions, are equally sure to recover without surgical intervention. Experience has proved this to many. To show how important it is to appreciate the existing condition, I may mention that I have seen two patients within a year on whom I had made the diagnosis of ectopic gestation and for whom I advised immediate operation, because it was evident that the hemorrhage was progressing into the free peritoneal cavity, yet the family physician doubted the correctness of my diagnosis and wished to wait for further development. In one an opportunity was had to perform an autopsy three days later; in the other, six days later. In both it was thought that an error of diet had caused the colicky pains. My opinion had been requested in these instances as to the possible existence of appendicitis. They were both right tubal pregnancies with rupture.

Surgical Treatment.—But little need be said on this point. I invariably prefer to do an abdominal section on patients who have not a well-defined hæmatocele. Nearly simultaneously with Duehrssen, I conceived the operation of vaginal cœliotomy, and considered it of greater practicability. I did the operation about two weeks before I saw Duehrssen's first case reported in the *Centralblatt für Gynäkologie*, and have done several operations by that method, but have given it up again, because one has not as clear a field to work in, and it is no more time saving than the abdominal operation. On a patient who presents the symptoms of complete rupture of the tube, I prefer to operate at her home, if her general condition is such that it would endanger life to have her transported. The abdominal incision should be rapidly made, and be of sufficient length to permit one to work as expeditiously as possible. The blood sometimes wells up out of the abdomen as from a fountain. No attention should be paid to this. The pelvis must be reached at once, and the affected tube brought up and clamped. Then we should proceed to have warm saline solution poured into the abdomen by a nurse, while the operator removes the clotted blood from the pelvis and lower abdomen, and examines as to the condition of the other tube and ovary. The affected tube is then tied off, and the abdomen is closed in tiers. If the intraperitoneal hemorrhage has been profuse another assistant makes an intravenous infusion of from 1,000 to 2,000 c.c. of saline solution. No attempt is made to get all the blood out of the abdomen as long as the clots are removed, at least all that are easily accessible. The abdomen is left filled with saline solution. An operation for ruptured tubal gestation at an early period of gestation should seldom consume more than from ten to twenty minutes.

An important question is how to manage patients in whom the pregnancy has advanced to, or nearly to, the period of viability.

Some operators advocate immediate operation in all instances of extrauterine pregnancy as soon as possible after the diagnosis has been made without regard for the life of the child. Others prefer to wait for active placental circulation to cease, and then operate, with the hope of saving both mother and child.

While I have not had an opportunity to see a patient with a living extrauterine gestation product at or near the period of viability, I should, if an opportunity presented itself, advocate the latter procedure. The mother in such circumstances should be placed in a hospital or sanatorium, where she could be under constant competent observation, so that, should occasion arise for surgical intervention, it could be resorted to without unnecessary delay and without the dangers of transportation. The method of operating varies with different

operators. It is my opinion that no fast rule can be laid down which will govern all cases; each must be treated according to circumstance. As a rule, the most desirable method would be to extract the child, then to detach the placenta, and to stop hemorrhage by suturing the most profuse bleeding areas, and tightly tampon the cavity. The wall of the sac is to be sewn into the abdominal wound. The first packing may remain in the sac four or five days, but, subsequently, the dressings should be changed every other day, putting into the cavity less gauze and packing it looser until it has become entirely obliterated. The case is different if no sac is present at all. If it is possible to detach the placenta without causing too serious a hemorrhage, this course should be preferred. Unfortunately, the bleeding in such cases is likely to be so profuse as to endanger life directly, so that after making an attempt to remove the placenta, and it is not found practical to do so, the next best course would be to endeavor to isolate the placenta from the general peritoneal cavity by bringing the intestines and omentum around it, and to place the placenta near to the abdominal wound, to then pack into the cavity thus made a Miekulicz drain of sterile gauze. The subsequent treatment being similar to that described when the sac is attached to the abdominal wound. The danger from hemorrhage at a subsequent period, and from sapræmia, or sepsis in such instances, is obvious. Some operators advocate in patients in whom no sac is present, to close the abdominal wound and let Nature take care of the placenta. This is a good plan of treatment if one could be absolutely certain that every detail of the operation had been aseptic.

Patients with retrouterine hæmatocele should, if surgical intervention is indicated, be treated by making an extensive vaginal incision behind the cervix; the opening should be enlarged so that the operator can introduce his hand to clean out the coagulated blood and determine the interior condition of the hæmatocele, eventually to break up existing partitions. The cavity is then irrigated with sterile water and loosely, or tightly packed (according to the amount of surface bleeding), with sterile gauze. The dressings should be changed as often as circumstances may require.

ADHESIVE PLASTER STRAPPING FOR SPRAINS—THE INDICATIONS FOR ITS USE.

By FINLEY R. COOK, M.D.,
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In the January number of the *New York Polyclinic*, 1893, Dr. Virgil P. Gibney published a paper on the subject of adhesive plaster strapping for spains of the ankle.

In the *New York Medical Journal* of February, 1895, he made another contribution, relating a series of cases which had been treated by this method with most gratifying results. He said that, as far as one could learn, this method was first employed by Mr. Edward Cotterell of London.

Strapping has been found to be serviceable in a great variety of articular and periarticular affections.

The pathological conditions which respond most readily to strapping seem to possess one factor in common, viz., relaxation of tissue.

The relaxation of tissues, following acute or subacute inflammatory disturbance, of a rheumatic, specific, gonorrhœal, tuberculous, or traumatic character. A relaxation of veins leads to a passive venous stasis, with exudation into joints, bursæ, tendon sheaths, and neighboring cellular tissue. Hence, we have swelling, tenderness, pain, and more or less impairment of joint function. We may, in addition, have redness and increased local heat, and in chronic affections, a cellular hyperplasia, leading to a connective tissue thickening of the normal structures within and without the joints, and the formation of adhesions.

To correct these conditions we usually employ counterirritants, such as hot fomentations, alternating hot and cold douches, stimulating lotions, baking, blistering, and the Paquelin cautery. We employ active and passive motion, pressure, massage, variable immobilization, and gradually diminishing support and protection.

The good results obtained in strapping, when these indications are present, especially in sprains and contusions and stiffened joints following prolonged and over-immobilization, are due to the fact that adhesive plaster strapping, when properly applied, meets, in a measure, many or all of those indications.

In the first place, strapping affords support. It can be applied so as to act as a perfect substitute for sprained ligaments, relieving them from all superincumbent weight, which adequately accounts for the ease with which patients walk about.

In order to secure the full amount of substitution, the ordinary diagnosis of sprain is inadequate.

It is not only necessary to determine what particular ligament or ligaments are involved, but, in addition, when a ligament has more than one insertion, or more than one function—as in the case of the external and internal lateral ligaments of the ankle-joint, each having three distinct fasciculi—to ascertain what special fasciculus or fasciculi have become the seat of sprain.

Such a diagnosis is, in most cases, readily made, by ascertaining the position of the parts when subject to trauma, the position of the parts at rest and in motion following trauma, by outlining the area of maximum tenderness and maximum local heat, and by comparing the amount of pain induced by forcing the parts into all the extremes of motion, of which the joint is capable.

For illustration, the ankle turns in a position of equino-varus, straining the anterior fasciculus of the external lateral ligaments. The foot will be held in a moderate position of calcaneo-valgus, thus affording the greatest comfort and relaxation. A limited area of maximum tenderness and maximum surface heat will be found to extend over this fasciculus; from its origin at the inferior margin of the external malleolus, downward and forward over its insertion to the astragalus.

The forced position of calcaneo-valgus is the *least* painful of all, and may be comfortable; pain increases in the order of calcaneo-varus, equino-valgus, equinus, and equino-varus, the latter, the original position, the most painful of all.

The ankle is strapped in the position of moderate calcaneo-valgus. In the second place, strapping affords protection. In the third place, strapping induces counterirritation; more effective following the use of the Paquelin cautery and more effective still when, by reinforced strapping, the underlying strips are forced into folds. The amount of counter-irritation varies with individual susceptibility. In one case a severe dermatitis, with great swelling of the arm, ensued in three days after strapping for a sprain of the biceps. It depends, also, on the variety of plaster strapping employed. In the fourth place, fomentation. After the removal of strapping the parts are seen to be moist, bleached, and softened. In the fifth place, strapping affords pressure. It

supports relaxed blood vessels, and is the most effective means of limiting swelling. Pressure is increased through reinforcement. Lastly, strapping with the use of the parts is an excellent form of massage. We believe this to be the most important function of strapping. In former days manual massage was the most effective treatment for sprains, and the success of osteopathy is attributable to its use.

The following case demonstrates this action of strapping:

Mary F. had been confined to her bed for six weeks with an ulcer of the foot, resulting from a burn. Various ointments and lotions were ineffective. The foot was swollen to nearly twice its normal proportions. Over the dorsal aspect there was an indolent ulcer, the size of a hen's egg, one-half inch deep throughout, the floor of which was the seat of a thick slough. There were absolutely no signs that the slightest healing had taken place during the six weeks' confinement to bed. The foot was immediately strapped from the toes well up above the ankle. She got up and went about her work as usual. Two days later, when the strapping was removed, the change was most astounding. There was only a trace of swelling and the slough came away with the strapping, leaving an active granulating surface exposed. Healing was rapid, after successive strappings, and was complete in twenty-one days. Pressure or support could not have brought about such a result, neither could strapping and rest. It was undoubtedly the action of the various tendons and muscles about the foot, beneath the strapping, which caused the rapid disappearance of the swelling.

Discrimination should be made between sprains and contusions. In contusion, the affected side is relaxed; in sprains, is placed on a tension.

In contusions swelling is apt to be more marked, and in position, more independent of joint structures; in sprains, less in extent, and in the early stages will bear a relation to special structures about the joint. In contusions superficial pain and tenderness are more characteristic; in sprains deep pain and tenderness are more marked. In contusions redness and heat are more confined to the area of swelling; in sprains redness and heat, in the early stages, overlie distinct tendons or ligaments in the neighborhood of joints. In contusions ecchymosis is early in appearance and more constant; in sprains, later and less constant.

The method of treatment is different. In contusions the parts are strapped, relaxed; in sprains, in closer approximation. Cases in which contusions and sprains are concomitant are very common. The signs are mixed, and those either of one or the other will predominate, the treatment varying accordingly.

The writer has employed strapping for the past seven years, and the following cases are illustrative:

Case I.—Patient, Mary S., was admitted to the P. H. Hospital in the fall of 1895. Six months previously she had sustained a Potts' fracture of the right side, which had been encased in plaster-of-Paris six weeks. For six months she had used crutches, and could not bear her full weight on the affected side. The ankle was only slightly swollen. Localized tenderness over the anterior and middle fasciculi of the internal lateral ligaments. The foot was held in a position of valgus, probably as a result of the fracture, and this position being unfavorable, might account for the stubborn nature of the sprain. Motions were limited. The ankle was strapped, and she was urged to walk about, which she did with no pain, but with great apprehension. In four days she was walking freely about the ward, without pain, limp, or crutches. The ankle was strapped in varus.

Case II.—In October, 1898, a young girl came to the Vanderbilt Clinic with a lame knee, which had been immobilized for two years in a plaster cast. It had been regarded as tuberculous. The joint was slightly swollen, ankylosis nearly complete, only 5° of motion. Only moderate atrophy of thigh and calf existed. A diagnosis of over-immobilization in a rheumatic arthritis was made. The treatment was active and passive motion, and the Paquelin cautery followed by strapping. In four months the patient had recovered the full amount of motion, and walked and ran without pain or limp.

Case III.—In July, 1902, a young lady at Garrisons, was thrown from a high trap, spraining her ankle. That same evening she was to have her coming-out ball. Looking forward to the rôle of a wall-flower was not particularly entrancing. The ankle was swollen, tender, and painful. Strapping was applied a few hours after the accident. In a few moments she was walking about freely without pain or limping. She danced eleven turns that night, and considered herself cured the next morning. On the third day, when the ankle was restrapped, very slight tenderness and swelling remained. Since then she has never had any further trouble.

Case IV.—Last winter Madam S., weighing over 220 pounds, turned her ankle on the pavement, and not being able to stand or walk, was taken home in a carriage. The next morning the ankle was swollen, red, and painful. She hopped about the house with great distress. Ambitious and eager to keep up her work of expert hair dressing, which required walking several miles a day in going from house to house, the ankle was strapped, and she was told to go about as if nothing had happened. This she did, and five days later, when the strapping was removed, it was not deemed necessary to pursue further treatment.

Case V.—In July a young man applied for treatment, who, seven months before, had wrenched his left knee, since when he had walked with pain and limp. He had been advised to undergo an operation for a loose cartilage. Upon examination, the knee-joint was swollen, patella floating, increased localized heat and tenderness over the internal lateral ligament. Extension normal. Extreme flexion painful. Adduction negative, abduction painful. No loose body was found. Strapping afforded immediate relief. Treatment was continued for five weeks, at the end of which time, he could walk or climb without support, and without pain or limping. Slight thickening about the joint remained.

In this case the Paquelin cautery was used before the strapping was applied.

Case VI.—On December 1, 1901, a professional pitcher was placed under my care with a lame shoulder. Two years prior to this time he had sustained a severe wrench, and since then he had not been able to throw a ball. There was slight swelling, and thickening about the upper aspect of the joint. Adduction and abduction somewhat limited and painful. External rotation limited. Internal rotation, flexion, and extension negative. Also tenderness over the upper aspect.

A diagnosis of sprain of the superior fibers of the capsular ligament was made, and strapping applied accordingly. One month later he could throw a ball with the shoulder strapped, but not otherwise. In six months he played a professional game without any support whatever, when strapping was discontinued.

Case VII.—The following case shows a comparison of different treatments. October 16, 1901, Mrs. K. came to the Vanderbilt Clinic with a severe

sprain of the external lateral ligament, associated with marked contusion. The foot and ankle were very much swollen. She walked with great pain. A wet lead and opium dressing was applied, and she was instructed to remain in bed and keep the dressing wet. On the third day she returned, and the swelling had increased in a surprising manner, now extending to the upper third of the calf. Function was more restricted, and pain in a like manner, considerably worse. Strapping was now applied, and after walking several laps around the room, she walked home, a distance of over a mile. Three days later she paid a second visit to the clinic, without pain or limping, and the swelling had subsided in the most remarkable manner. The ankle was restrapped, and she did not return for further treatment.

5 Park Avenue.

INGUINO-SUPERFICIAL HERNIA (KUESTER).*

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Ever since the introduction of antisepsis into surgery, operations for the cure of inguinal hernia have become of such frequent occurrence that there is given abundant opportunity for the observation of anomalies in the location of the hernial sac. Even before the advent of this epoch however, observers (Boyer, Bartholin) mention in their writings cases in which the hernia did not descend into the scrotum, but spread out between the layers of the abdominal wall. Kroenlein and Kuester, however, deserve the credit not only of having called attention to two distinct abnormalities in hernia, but of having described them in such detail and with such accuracy that, with the exception of adding case reports, nothing further remains to be written.

Undoubtedly the most complete and the most comprehensive article on interstitial hernia, as a whole, has been written by Goebel.[1] At the very outset, I beg your indulgence to quote two sentences from this exhaustive article, as in a measure they invite publications of this nature, and furthermore they form a justification for the publication of the solitary case which it has been my good fortune to observe and operate upon. Goebel collected all the published cases of interstitial hernia, and in spite of the appreciable number thus collected, has this to say in his introductory remarks: "Leaving out of consideration the sparse reports of German authors on this abnormality, the cases of this form of inguinal hernia offer sufficient of interest to merit publication, when an operation has exposed the anatomical relationship of the parts;" and, further on, in speaking of that particular variety which is usually designated as "inguino-superficial hernia," he says that "it has been very rarely observed." In view of these facts, the publication of my case has been decided upon:

Harris S., twenty-eight years of age, was admitted to the Mount Sinai Hospital in the evening of March 5, 1902. As far back as his recollection goes, the patient has had only the right testicle in the scrotum. Since adolescence he has noticed a small ovoid swelling in the left inguinal region, which he has looked upon as the missing testicle. When twenty-one years of age, the patient noticed in this testicle a tendency to descend, and, as a matter of fact, the positive assertion is voluntarily elicited from him, that the testicle has descended to the root of the scrotum, at least one and one-half inches. This gradual descent was accompanied by considerable pain in the inguinal region, which, however, the patient learned to alleviate by pushing the testicle back to its original position. This condition continued for approximately three years, but the accident occurring with greater frequency and increased pain, he was forced to seek advice at a local dispensary. He was advised there to wear a truss in such a manner that the pad was to lie on a plane above the testis. The patient tried to follow these instructions for a while, but the pain was so unendurable that he was forced to abandon the attempt. During this time, however, he noticed that he obtained relief only when the testis accidentally slipped upward, so as to lie above the pad of the truss. The natural outcome was that he soon learned to reverse the directions given to him, and for the past seven years he has worn the truss in such a manner, as to prevent the descent of the testis toward the scrotum. In spite of all precautions, the testis occasionally slipped below the pad, and this was always accompanied by very sharp pains, relief from which occurred only when the testis was returned to its abnormal position.

Twenty-six hours prior to admission, while walking down stairs rather hastily, the patient suddenly felt a very sharp pain in the left inguinal region; this was accompanied by nausea, and only with the exertion of a great deal of will-power was he able to walk to his home, some three blocks distant. On arriving at his home he again attempted to obtain relief in his usual manner, by pushing the testicle upward. Somewhat to his surprise, however, the mass was immovably fixed in its position, and no amount of manipulation would move it thence; a further point which struck the patient at once was the fact, that the mass was at least double its former size. He remained in this condition until the following morning, when his family physician was called, who, recognizing the serious condition, advised his removal to the hospital.

He was admitted to the hospital just twenty-four hours after the accident, and the following condition was found: In the left inguinal region, parallel with and above Poupart's ligament, there was to be seen and felt a smooth, ovoid, painful, and tender mass, about the size of a goose-egg. It was firmly fixed to the deep structures, but the skin covering it could be moved slightly in all directions. On careful palpation this mass could be differentiated into two unequal superposed halves. The inferior and, at the same time, anterior half was smaller, firmer to the touch, and distinctly more tender; the superior and posterior half was larger, but less tender, and imparted to the examiner an indistinct sense of fluctuation.

The external inguinal ring could not be palpated; the left half of the scrotal sac was empty. There were no abnormalities on the right side. The bowels were constipated, but there was no tympanites, and no symptoms referable to the peritoneum were noted.

The diagnosis of torsion of the spermatic cord was made, and immediate operation was proceeded with. An incision was made over the prominence of the inguinal mass, along its entire anterior surface, and parallel with Poupart's ligament. After the skin and superficial fascia had been divided and retracted the mass was exposed in its entirety. (Fig. 1 and Fig. 2.) The mass previously described, of a deep bluish-black color, presented in the wound, and in addition there was to be seen, emerging from its inferior and mesial extremity, a flat cordlike

*Read before the Surgical Section of the New York Academy of Medicine, November 10, 1902.

structure, extending downward and inward, which was recognized as the spermatic cord. On reaching the upper margin of the external inguinal ring, this was bent acutely upon itself, and entered the inguinal canal. No torsion or twisting was to be seen. The previous diagnosis was therefore abandoned, and in its place that of strangulation of the testicle was made; the testicle being dislocated upward and outward upon the aponeurosis of the external oblique, to which it was slightly adherent. It was also seen that the tumor did not consist

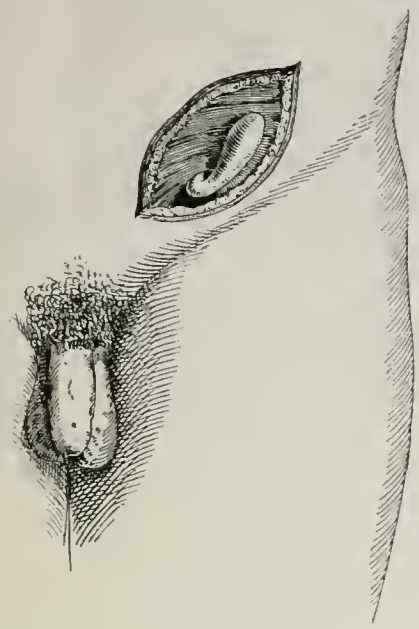

FIG. I.—Appearance of the Tumor after Division of the Skin and Superficial Fascia.

entirely of testicle, as there was in connection with and posterior to it a separate definable mass, which for the time being was taken to be an inflammatory hydrocele.

When the whole mass was freed from its attachments and elevated so that its direction was in a line with the inguinal canal, it suddenly and visibly became smaller, from reduction of its contents. The sac which had originally been situated posteriorly to the testicle, but on account of the replacing of the testicle into the normal position, had now come to lie anteriorly to it, was opened; this gave escape to a slightly sanguinolent, odorless, transudate, "hernia-water." A large mass of omentum was seen occupying the deeper portion of the sac, which was reduced with very little difficulty; the testicle, of a deeply-purplish color, lay within the sac; in other words, we had to deal with a hernia of the so-called congenital variety.

After a tunica vaginalis had been formed from the most inferior portion of the sac, there followed the usual steps of the Bassini operation, with the following additional steps, that the left half of the scrotum had to be dilated for the reception of the testicle, and that in suturing the aponeurosis of the external oblique, each stitch was also made to take in a small bit of the cord, in order to prevent, if possible, another dislocation of the testicle; to assist further in this attempt, the scrotal opening was also narrowed by suturing, leaving just space enough to transmit the cord without undue constriction.

There was some pain in the wound on the second and third days, necessitating an inspection, but nothing abnormal was found. Primary union resulted, and the patient was discharged cured on the sixteenth day.

Examination of the patient eight months after the operation shows that there is no recurrence of the hernia, that the testicle is practically of normal size, and that it is still down in the scrotum; in other words, it is practically normal, with the exception that it is very slightly softer than its fellow.

If the history and operative findings of the case just reported are carefully looked into, the following conclusions must be arrived at: Originally the man undoubtedly had an undescended testicle, with an open funicular process. At the period of adolescence, in consequence of the increase in manual labor, which this age entails, the testicle was gradually forced out of the inguinal canal. When it had been entirely extruded through the external ring, it found the entrance to the scrotum barred; these factors caused so much pain that the patient, in attempting to relieve himself, soon found that he could do so by pushing the testis upward. However, instead of pushing it back to the position it occupied before, he pushed it upward and outward, so that the testicle came to lie between the skin and superficial fascia on one side, and the aponeurosis of the external oblique on the other. This gave rise to the rare, if not unique, anomaly, that the testicle lay dislocated in the position above described, with an open funicular process behind it; both the spermatic cord and the funicular process were bent sharply upon themselves at the upper margin of the external inguinal ring; but so long as there was ample room at the ring for these structures to pass through, there did not arise any acute symptoms; whether the intracanalicular portion of the funicular process had any hernial contents or not is merely speculative, and in fact of no great moment. While the patient was running downstairs on March 7, in all probability the intraabdominal contents found their way into the open funicular process; not only into that portion lying within the inguinal canal, but also into that which lay reflected upon the

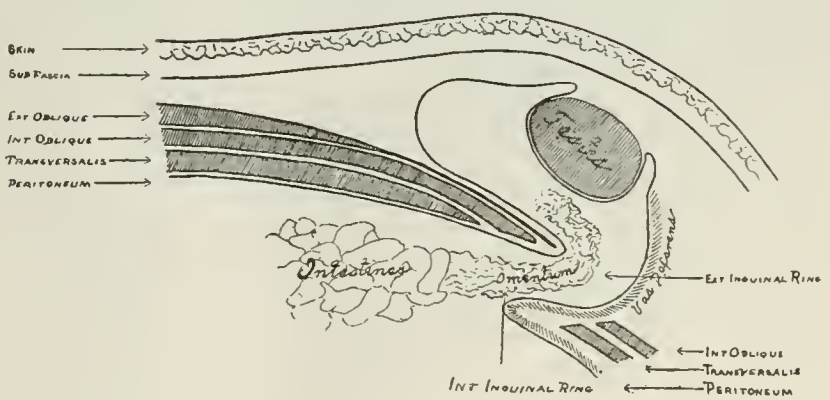

FIG. II.—Diagrammatic Cross-section of Hernia, Passing Obliquely through the Inguinal Canal.

aponeurosis of the external oblique. From the anatomical relations of the parts, it is very readily seen that under these conditions the following accidents must have supervened:

1. An acute flexion at the external ring of whatever hernial contents had passed it, followed by an interference with the circulation, accompanied by the phenomena dependent upon this condition.

2. Because of the increased contents of the funicular process where this structure was bent, undue

compression was brought to bear on the reflected portion of the spermatic cord, which caused an interference with the circulation of the blood to and from the dislocated testicle.

3. The absence of more violent symptoms is to be accounted for by the fact that omentum only, and not intestines were strangulated.

4. A cure could result only by operation, or, if a diagnosis had been feasible, by a reduction of the hernial contents. It is needless to say that taxis could be performed only in a direction first downward and inward, then upward and outward.

As already stated in the introductory remarks, this particular variety of abnormal localization of the hernial sac is exceedingly rare. The few cases recorded, however, are described so minutely in all details, that in order to avoid repetition, I can do no better than to refer those interested to the classical article of Kuester[2] upon this subject.

It will be sufficient if I note here that all of the remarks to follow are applicable to that particular subvariety of interstitial hernia which has received the name of inguino-superficial hernia. As is well known, this is the form in which the hernial sac is spread out between the aponeurosis of the external oblique and the integument covering it.

In 1900 Goebel (*loc.cit.*) gave a masterful description of the different varieties of abnormalities (hernia inguino-properitonealis, interstitialis, and inguino-superficialis), and collected all of the cases published up to that time. Of the inguino-superficial variety he collected in all fourteen cases, viz.: Kuester,[2] three cases; Fano,[3] one case; Curling,[4] one case; Hulke,[5] one case; Moynihan,[6] one case; v. Wahl[7], one case; Macready,[8] six cases; Undoubtedly there are other cases; the actual number cannot be stated, as some writers, *e. g.* Langton,[9] merely give a description of this variety of hernia, and do not state the number treated, nor do they give any histories. Since then Goebel[10] has published another characteristic case and described it in full detail.

In addition to the above, I have been able to find one other case in literature, which is so concise in its description that it may serve as a type for all. Possibly on account of the rarity of the journal in which it was published, and possibly also because of the title, which does not give an accurate idea regarding the true nature of the case, it has escaped all writers until now. The case is the following:

Salzman[11] found a hernia at the autopsy of a patient who had died of pleurisy. The hernia, of the so-called congenital variety, was exceedingly large, containing approximately one-half of the intestines, extended from the left inguinal region upward and outward to the ribs, and was situated between the skin and superficial fascia on one side, and the external oblique on the other. The opening through which the hernia made its exit from the abdomen was a round hole about the size of a dollar, and was situated about one inch above the inner third of Poupart's ligament. On account of the long duration of the hernia, the inguinal canal was absent, and in its stead only the ring above described existed. The testicle, atrophied to one quarter of its normal size, was found to lie within the hernial sac, at about the level of the anterior superior spine of the ilium.

In spite of this relatively small number of cases recorded (I have been able to find but seventeen, including my own), one might say that the subject of this variety of hernia is well studied and understood in all its details. Only one point is still under discussion, and that is the genesis. In other words, why do some herniæ, instead of taking the usual course in the direction of the scrotum, take this unusual course, and spread out between the layers of the abdominal parietes; in our case, between the superficial coverings and the aponeurosis of the external oblique?

It would exceed by far the intended limits of this paper were I to recount all the theories which have been proposed with the idea of accurately explaining the occurrence of this abnormality.

Primarily, the most characteristic point of all forms of interstitial herniæ (this term is used here in the collective sense) is their association with some form and degree of cryptorchism. It would however, be manifestly wrong to build an absolute hypothesis on this point alone; while it is true, that practically all interstitial herniæ are associated with some degree of cryptorchism, the obverse does not hold true, for all cases of cryptorchism are not associated with some form of interstitial hernia. As a matter of fact, we are now in possession of a goodly number of convincing statistics. Macready (*loc. cit.*) has found in the statistics of the London Truss Society 158 cases of cryptorchism in 17,538 patients afflicted with hernia; but of these 158 cases, only fifteen, or about 10 per cent., were of the interstitial variety. While, of course, by no means absolutely convincing, it is still a matter for good argument that cryptorchism alone and uncomplicated, *i. e.* without any additional factors, gives rise only very rarely to an interstitial hernia. My personal experience is too limited to discuss the genesis of all forms of interstitial herniæ; for the present only the inguino-superficial form interests us, and for this form the following method of genesis appears to be not only possible, but also most probable. It certainly was the method in the case above described in detail; and I am sure if the history is carefully weighed it will not require further or more convincing argument. I might add here that my patient was possessed of more than the ordinary intelligence, that he related his history in a straightforward manner, and that I did not at any time put any leading questions to him.

Originally we evidently had to deal with the following two factors: (1) A cryptorchism; (2) An open processus vaginalis.

In the course of time, it is not only possible, but even probable that the hernial contents, let us say omentum or intestines, found their way into the open processus vaginalis. Owing to the increased intra-abdominal pressure, the testicle gradually, but surely dilated the external inguinal ring, and in this way it attained a certain degree of mobility, slipping in and out of the inguinal canal. The next step in the development was the extrusion of the testis entirely out of the ring; owing to the shortness of the cord, so much pain was produced that the patient, in order to alleviate this pain, attempted to slip the testis back into the inguinal canal, but instead of doing this, he slid the testis between the skin and the aponeurosis of the external oblique, and in doing so, the structures of the cord necessarily were bent. It must be remembered, however, that in this case we had to deal not only with the usual structures of the cord, but in addition with the open processus vaginalis. Because of the flexion above described, that portion of the processus vaginalis, distal to the external inguinal ring, was empty. When on March 8 the accident above noted occurred, either because of greatly increased intraabdominal pressure, or because of the momentary favorable position of the sac, the hernial contents found their way into the extra-inguinal part of the processus vaginalis. But it was just as difficult for the hernial contents to become reduced as it was for them to find their way into the

sac. The final step was that of congestion, swelling, etc., as we usually find it in a strangulated hernia.

I have gone at some length into the explanation of this point, perhaps longer than warrantable. While I lack the objective proof, I am firmly convinced of the correctness of my view. Perhaps it will aid in clearing up the genesis of other cases.

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925 MADISON AVENUE.

REMARKS ON BACTERIOLOGY AND SERUM TREATMENT OF PUERPERAL SEPTICÆMIA, WITH AN ILLUSTRATIVE CASE.

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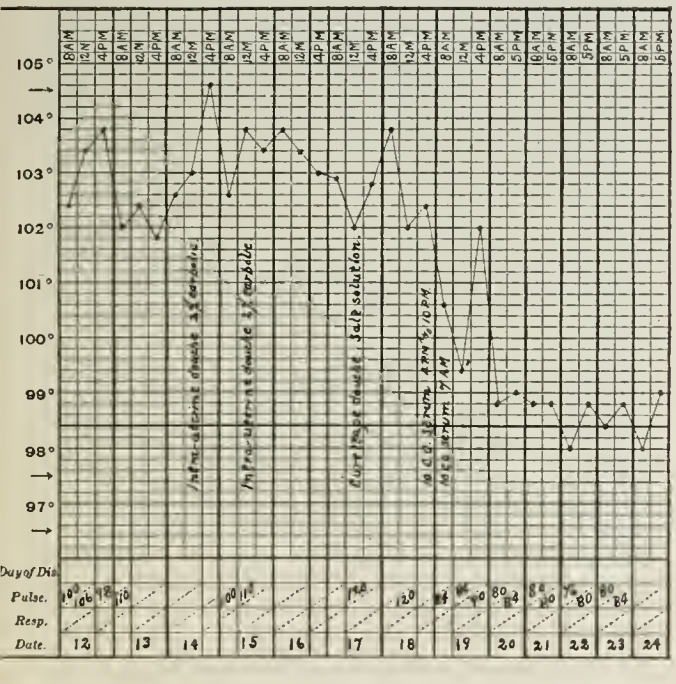
WHILE the subject of the treatment of puerperal sepsis is a trite one, there is probably no other disease which gives the physician greater concern or more anxiety, be he a general practitioner or a skilled obstetrician. The advent of antisepsis and asepsis



has undoubtedly diminished the prevalence and mortality of infectious fevers, but we feel relieved when all dangers of post-partum fever vanish. Strive as we may to prevent it, cases do occur, not through negligence of the accoucheur or nurse, but probably through an invading army which lies dormant in the vagina until a suitable nidus presents itself for infection. We know that pyogenic organisms, probably in an attenuated form, frequently exist in the vagina and uterus of the lying-in patient, and these are just those cases in which no possible source of sepsis can be ascertained.

The methods of combating puerperal septicæmia have been legion, and vary from "masterly inactivity" to hysterectomy, the advocates of each particular line of therapy or surgery stanchly defending and recommending his respective plan.

The case reported below simply adds its mite to the evidence in favor of the serum treatment, but will not serve as an infallible therapeutic guide in future cases. However, our convictions are but mosaics, and it requires many small pieces of clear-cut truth, cemented by the mortar of reflection, to mold a concrete opinion.

Mrs. S., thirty-one years old, VI Para. Good family history and labors normal. On April 6, 1902, after a short, normal labor, she gave birth to her seventh child, a vigorous baby, and for the following six days her puerperium was featureless, with the exception that she felt stronger than after previous deliveries. On April 12 her temperature became elevated for the first time, reaching 102.2°, accompanied by chilliness and malaise. The fundus of the uterus was then about three inches above the pubes, but this organ was not the site of pain or offensive discharge, though the lochia was blood-tinged. The following day she was not so well, and complained of intense headache and sleeplessness. The temperature remained above 101.8°. Her diet was restricted, the infant taken from the breast, and sedatives and hypnotics given with disappointing results. She did not improve on the 14th, but grew worse; the thermometer recorded 104.6° at 4 P.M. An intrauterine douche of 2 per cent. carbolic acid solution was given, and a daily vaginal douche of boric acid was ordered. The flushing of the uterus was repeated on the 15th. Her prominent symptoms at this time were anorexia, coated tongue, and heavy breath, constipation, abdominal distention and tenderness, rapid (110 to 120), small pulse, violent headache, and persistent insomnia. Whiskey and strychnine were freely used, as on the day previous. She was evidently growing worse from day to day.

Dr. Gott of Falls Church, Va., asked me to see the patient April 17. She presented a striking picture of septicæmia, with sallow skin, sunken eyes, abdominal tenderness, pulse of 120 and evident exhaustion. She was placed across the bed, a culture was taken, and the uterus was gently curetted with a dull instrument (without anæsthesia, as it seemed contraindicated), removing some débris but no placental tissue, then the uterus was cleansed with normal salt solution. The depth of the uterus was seven inches. Vaginal douches of 7 per cent. solution of sodium chloride were to be given night and morning and the stimulation increased. She was fairly comfortable the same evening, and succeeded in getting some sleep, but awoke early next morning feeling as badly as before. Her temperature at 8 A.M. was 103.8°. The culture was examined and found to contain the streptococcus pyogenes and a short bacillus. (Dr. James Carroll, U.S.A., kindly verified my findings.) The urine was free from albumin, sugar, and casts, though it had shown sugar during the early part of the pregnancy.

I saw her again on the 18th. Her condition seemed unchanged, and I ordered 10 c.c. of anti-streptococcic serum every six hours until 30 c.c. were given. The first dose was given at 4 P.M. the same day; the second at 10 P.M., and the third at 7 A.M. on the morning of the 19th. It was not given as

specified, as she was enjoying her first refreshing sleep for several days at the time the third dose was due. Within twenty-four hours after the serum treatment an urticaria appeared, remained about six hours with itching, then melted away. On the morning of April 19, at 8 A.M., her pulse was 84, temperature 100.6°. At 4 P.M. her temperature rose to 102°, but the pulse was but 90. The following day (20th), at 8 A.M., pulse was 80, temperature 98.8°, and subsequently her temperature never exceeded 99°. Dr. Gott informed me a month later that her convalescence was not rapid, but was entirely satisfactory and free from sequelæ.

I would call especial attention to the diminished pulse rate following the use of the serum. Unfortunately a record of the pulse was not kept previous to my visit, but it varied from 98 to 120. The fall in temperature and improvement in the mental symptoms and general aspect is significant. I attributed the change entirely to the serum, and consider that it demonstrated its specific action in this instance quite as markedly as antitoxin in cases of diphtheria. That the patient made a smooth, satisfactory recovery, free from relapse, is further evidence of its neutralizing properties.

Without discussing the *pro* and *con* of serum therapy it is apropos to say that Marmorek claims that anti-streptococcus serum is suitable for all cases of streptococcus poisoning, while the consensus of opinion rather inclines to the belief that it is potent in certain forms only of streptococcic intoxication, and, inasmuch as we are unable to differentiate this specific infection, I believe we are justified in employing it in all sepsis due to this organism. Dangerous or alarming symptoms following its use never or rarely occur, and, while it may fail in some instances, it is not disappointing, on the whole, but, on the contrary, remarkable achievements are recorded. In several instances in which I have used it the patient was unimproved, but in these cases the streptococcus was not found, but the serum used as a last resource.

The use of serum is not new, and that it has not proved to be a specific for streptococcus pyogenes is not an argument against its use. We have but a few examples of the specific action of a drug in the whole range of medicine, notwithstanding the abundance of literature to the contrary. On the other hand, the ultimate results will be gratifying and even brilliant in well-chosen cases. By this latter term I mean cases of streptococcus infection, excluding all processes due to the other pyogenic organisms, possibly excluding erysipelas. In this connection, the work of Moser of Vienna with scarlatinal streptococcus serum is especially promising, having reduced the death rate from 13.09 to 8.99, in spite of the fact that he admitted only the severe cases to St. Anna Hospital for this treatment.

The Blood During Pregnancy, Parturition, and the Puerperium.—William Sengel analyzes the results of former investigators, and gives a bibliography, and the tabulated results of his own studies in twelve primiparæ, twenty-five multiparæ, two of the children, and of a differential count in fifteen cases. He concludes: (1) During the first three months of pregnancy there is frequently anæmia, but no hyperleucocytosis; (2) The blood during the remainder of pregnancy is usually characterized by increase in the number of red blood-corpuscles, in hæmoglobin content and in leucocytes, the last being especially increased in primiparæ; (3) A greatly-increased leucocytosis occurs during parturition, being greater among primiparæ; (4) The hyperleucocytosis rapidly diminishes after labor, showing a slight rise about the fifth or seventh day and again about the eleventh day; (5) This hyperleucocytosis is due to the polynuclear neutrophiles; (6) During the first ten days of the puerperium there is usually a diminished number of red blood-corpuscles and of hæmoglobin content; (7) There is often a polycythæmia after the second week of the puerperium; (8) Hyperleucocytosis disappears in normal cases by the fifteenth day; and (9) Simple mastitis, suppurative mastitis, postpartum hemorrhage, and frequently puerperal sepsis, cause a marked hyperleucocytosis above that already existing. —*Yale Medical Journal.*

The Utility of Lumbar Puncture in the Diagnosis of General Paralysis.—A. Joffroy and E. Mercier, from the results of their study of the subject, state that lymphocytosis is very rare in occurrence in chronic alcoholism with meningitis; nothing points toward its existence in the early stages of alcoholic intoxication. When the quantity of white blood-corpuscles is not augmented, one is justified in rejecting the supposition of the existence of general paralysis; if, on the contrary, the quantity is above the normal, and if no other affection of the nervous system exists to explain this presence, one is justified in diagnosing general paralysis. The authors cite a case in which the presence of general paralysis could only be suspected; a lumbar puncture with examination of the cerebrospinal fluid showed that the number of white blood-corpuscles was augmented. A positive diagnosis of general paralysis was made, which was fully justified by subsequent events. An examination of the cerebrospinal fluid will help to decide between general paralysis and an attack of mania or of melancholia; also between paralysis and mental confusion.—*The Journal of Menta Pathology.*

A Case of Pathological Sleep in an Hysterical Subject.—Serge Soukhanoff describes the case of a markedly hysterical young woman, who after having for some time exhibited symptoms of sleepiness, which gradually encroached more and more upon the waking hours, finally fell into a profound sleep. Four days after she had been thus sleeping, she was seen by the author. The sleep lasted three days longer, but she would occasionally awake enough to get out of bed and drink water. Several other attacks of prolonged sleep followed, alternating with hysterical attacks. From an analysis of the case the author concludes that the pathological sleep here considered has two morbid elements: Firstly, the patient unconsciously tried to isolate herself from outside impressions; this she did under the influence of her mystic delusional ideas. Secondly, there was a distinct hysterical phase of the disease. For a detailed consideration of pathological sleep, particularly of hysterical nature, the author refers to Gilles de la Tourette's works.—*Journal of Medical Pathology.*

Kleptomania and Collectivism.—James G. Kiernan says that, in the vast majority of cases, kleptomania is a morbid manifestation of neuroses and psychoses, rather than a psychosis by itself. In many cases of so-called kleptomania, stealing is a manifestation of viciousness or feeble morality. The majority of cases of both these forms occur in the department stores. "Bargain sales" are determining factors of theft. Pregnant women are more apt to be predisposed to kleptomania than others, as are those who are menstruating, who are neurasthenic, alcoholic, opium eaters, hysterical, climacteric, and senile, from so great a weakening of the will that they fall ready victims to obsessions and morbid impulses. The "Collector" type of kleptomaniac, is, as a rule, perfectly responsible. "Book snatching" is a besetting vice of bibliomaniacs, just as coin and stamp purloining attacks numismatics and philatelists. Parisians think it "smart" to steal sugar and matches from restaurants. Not a few sane Americans think it is equally smart to steal rides on railroads.—*The Alienist and Neurologist.*

MEDICAL RECORD:

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MARRIAGE AND MORTALITY.

AFTER citing the claim of Farr, based upon the statistics of France for 1853, that marriage is a "healthy estate," and that of Starr, Registrar-General of Scotland, that bachelor life is much more destructive to males than the most unwholesome trade or residence where not the most distant attempt at sanitation exists, Mr. Frederick L. Hoffman analyzes, in the *Spectator* for November 6 and 13, 1902, the statistics of the census of 1900 for the "registration area" (States and cities registering accurate vital statistics; population, 20,312,000) bearing upon this point. From his tables the following ones are made by combination, and by calculation upon a mortality of 1,000 married males as a basis; and, in the incompleted lines, a comparison of females, *inter se*, is given, calculated upon a mortality of 1,000 married females as a basis:

RELATIVE MORTALITY FROM ALL CAUSES.

	SINGLE		MARRIED		WIDOWED	
Ages.	Males.	Females.	Males.	Females.	Males.	Females.
15–44 ...	1,160	765	1,000	1,123	2,418	1,506
15–44		681	.....	1,000	.....	1,341
45–64 ...	1,632	1,069	1,000	853	1,843	1,216
45–64		1,253	... ..	1,000	.....	1,425
65.	1,437	1,183	1,000	873	1,552	1,183
65		1,354	.....	1,000	.....	1,354

From a study of the component tables Mr. Hoffman concludes: "These tables, though limited to essential facts and to periods rather too long for life insurance purposes, conclusively show that (1) the mortality of the single of both sexes is higher than the mortality of the married, and at all periods of life, except ages 15 to 44 for women; (2) the mortality of the single of both sexes is less at all periods of life than the mortality of those who are widows at ages under sixty-five, while at ages sixty-five and over the differences are too slight to indicate a definite law one way or the other; (3) the mortality of the married of both sexes is more favorable at all periods of life than the mortality of the widowed; (4) the mortality of single males is higher at all ages than the mortality of single females; the mortality of married males is higher than the mortality of married females, except in the age period 15 to 44, . . . ; (6) the mortality of widowers is higher than the mortality of widows at all periods of life." For the ages fifteen to forty-four years, the death rate for the married of both sexes is higher than that for the single, from all causes except consumption, but this lower rate for consumption more than balances the higher rates from other causes. Tumors are quite excessive in the married, especially women. The rate from nervous, circulatory, digestive, and urinary diseases is considerably higher in married than in single women, and a very important difference exists in the rate from diseases of the generative organs (2,555 married for every 1,000 single). The rate for the widowed of both sexes is higher than that for the married, from all causes. Among the widowed the rate from consumption is excessive (for men more than three times, for women more than one and one-half times, that for the married); other important differences are: for widowers a higher rate from circulatory diseases, and a much higher one from suicide, and for widows an excessive rate from nervous, circulatory, and urinary diseases. For the ages forty-five to sixty-four years the rate for the married is less than that for the single from all causes, except for married women a slight excess from digestive diseases. The most important variations are, for the married of both sexes a much lower rate from consumption, less liability of married men to suicide, and a lower rate for married than for single women from diseases of the generative organs. The rate for the widowed of both sexes is higher than that for the married from all causes except (for widows) that from diseases of the generative organs. Widowers show a much higher rate from consumption, and very pronouncedly higher rates from other causes; in widows the differences from the married standard are less marked, and are most pronounced for nervous, circulatory, and urinary diseases. From sixty-five years upward the rate for the married is less than that for the single, from all causes, except a slight increase for married women from diseases of the digestive and generative organs. The rate for the widowed of both sexes is higher than that for the married from all causes except consumption and tumors (in widows). Widowers show a higher rate from nervous, circulatory, and urinary diseases, and from suicide; widows show a higher rate from nervous and circulatory diseases.

So much for the figures. The moment, however, that we ask: What do these figures *mean*? we appreciate the wisdom of Mr. Hoffman's statement that "the general problem of marriage and longevity as distinct from the mortality rate could not be considered for want of space;" and, also, his limitation of his conclusions to the single one that "the present practice of companies of accepting risks on women, especially while in the pregnant state, may require to be materially modified." Such statistics are, thus, safe in Mr. Hoffman's hands. But, for ourselves, we gaze at such a tempting array much as in our childhood we were wont to gaze, wistfully, yet timorously, at a certain peanut stand over which hung the motto: "They say the Lord helps those that help themselves, but the Lord help any man caught helping himself here." On the whole, we incline to the belief that any one who wishes from these figures to extract a demonstration of the healthiness of marriage may find himself in a quandary. For obviously, what passes for the "mortality of the married" is in no sense its *true* mortality. The latter is clearly the "mortality of the married," as now reckoned, plus a certain, entirely indeterminate, fraction of what is here classed as the "mortality of the widowed;" that fraction, in short, which represents the mortality

due to causes which originated during the married state, and not during widowhood. Our Pension Office certainly would smile at a demonstration of the healthiness of military life, deduced by ignoring the future mortality of those discharged for disability. Here the case is peculiar in that the recruits of the matrimonial army are discharged therefrom, not by reason of any demonstrated unsoundness in themselves, but on account of that of the other partner; and the question is, therefore, utterly problematical as to what their physical status is at time of discharge into the ranks of the widowed. The extreme mortality of the latter class from consumption, however, looks suspicious. May it not be due to a more frequent transmission from husband to wife, and *vice versa*, than has hitherto been supposed. This suspicion receives a certain amount of support from the consideration that though the average age of the widowed must exceed that of the married the general prevalence of consumption does not increase with increasing age. These statistics are, at any rate, certainly a composite of several factors. To show the urgent need of analysis before any conclusions are drawn, we may assume that the majority of the single fall, at a guess, between fifteen and perhaps twenty-five or thirty; and that the majority of the married fall over twenty-three to twenty-five. Now if, as is probable, most marriages last at least as long as six years, then the minimum age for the widowed would be not far from thirty. But if this comes anywhere near the truth, then we are, in the tables, lumping together mortalities not only for single, married, and widowed, but also for ages fifteen twenty-five, twenty-five and upward, and thirty and upward. The greater mortality of the single from consumption may mean many things. Only for males at ages sixty-five years and upward does it exceed the sum of the mortalities of the married and widowed. Very possibly at different age periods it may have different causes. But after considerable thought there seem to be too many possibilities present to render further guessing profitable. We are content to have indicated a few of the fallacies which might be involved in hasty generalizations upon these data. Interesting and suggestive as they are, in their present form they prove little, and they need to be supplemented by detailed data for at least every decade (and a five-year period would be better) of life before any certain conclusions can be drawn. It was doubtless statistics which the poet had in mind when he recommended drinking deep or tasting not.

POLLUTION OF THE SOIL.

Dr. George Vivian Poore, Professor of the Principles and Practice of Medicine, University College, London, is one of the most widely known English authorities on matters relating to sanitation and hygiene. He is, moreover, endowed with the gift of expressing his ideas in well-chosen and apt language. Recently there has been published the Milroy Lectures, which were delivered by Dr. Poore in 1899, together with other papers on sanitation, by the same author.

Dr. Poore is a great believer in the efficacy of the soil as a germicide, and gives it as his opinion that enteric stools may, with reasonable safety, be applied to the surface of well-tilled soil. They must not, however, be mixed with antiseptics, and they must on no account be buried deeply. They should be placed only a few inches below the surface, and be lightly covered. "There is no evidence, so far as I am aware," remarks the writer, "that fæces—enteric or otherwise—treated in this way, have ever been productive of harm. The sooner the ground is planted with cabbage plants the better, and it must be borne in mind that, if the soil is to remain sweet, tillage and cropping are a *sine quâ non*, and it is probable that pathogenic microbes succumb in the process."

The arguments adduced, in support of these views, are somewhat as follows. Tillage admits air, and in turning over the ground the beneficent effect of sunlight has the opportunity to exert its influence. The rapidity with which fecal matter disappears in the earth depends upon circumstances, viz., the state of the soil as to tillage, the mass of fæces to be dealt with, and the weather. If the weather be warm, with occasional showers, it will be discovered, at the end of about three weeks, that the whole of the fæces and paper has become humified, and no longer offends the sense of sight or smell; the smell, indeed, seems to disappear in a few hours. Drought or frost delays humification, but continued wet weather delays this process the longest.

Dr. Poore asks what harm are fæces capable of doing when thus applied to the soil? They are not likely to be eaten or inhaled; they cannot be drunk, and nothing short of absolute proof, says the writer, would make him believe that the bacilli can pass downward to the subsoil water, because, in well-tilled soil, the harder it rains the tighter are the fæces locked up, and with them one must suppose the bacilli, so long as they continue to exist.

The result is that when humification is complete there is produced what the gardener calls "good, rich, black mould," the fertility of which is unequalled.

Dr. Poore believes that there is abundant evidence for advancing the statement that a well-tilled and well-nourished humus is an absolute protection to our subterranean water-supplies, and from the experience resulting from an experiment now in its eighteenth year, declares that the best return, agriculturally, is got by the immediate and daily application of fæces to the land, and that while the fecal matter is, in agricultural phrase, "ripening," one may get a crop of cabbages, and after the cabbages, anything and everything. Much has been said and written lately concerning polluted soil, and if all were to be believed, such a condition must be a serious menace to the health of the inhabitants of the modern manufacturing town. Dr. Poore, nevertheless, does not believe that, because the enteric microbe may under certain conditions exist in the soil, therefore this should be regarded as the natural lurking place of typhoid bacillus. Furthermore, he is convinced that the balance of effects resulting from the manuring of land must be in favor of health, and that there is no evidence of evil resulting from farming or gardening operations.

The New York Polyclinic Medical School and Hospital has established a night clinic for genitourinary diseases on Monday and Thursday evenings at 8 o'clock.

ACUTE PANCREATITIS.

Only during the past few years has it been recognized that pancreatitis gave to the observer a real though not well-defined clinical picture, and it is to Fitz of Boston that our thanks are due for first having reduced the subject to a more satisfactory basis. Previous to 1889, the occurrence of several varieties of pancreatitis had been noted by different observers, and the results of a number of autopsies had been given, but the subject remained in rather a chaotic condition until very recently, and there are still many doubtful points to be cleared up.

Clinically and pathologically the condition is extremely interesting, and worthy of careful analysis. In the past two or three years the number of cases reported in the journals has increased considerably and many painstaking autopsies have been described, so that we are familiar with pathological conditions, though our knowledge of the clinical signs of the disease is neither so complete, nor so accurate, as we could wish. However, enough cases have been seen to enable us to say that acute pancreatitis is a disease characterized by rapid or sudden onset of severe abdominal pain, usually epigastric, and by more or less severe collapse, with vomiting and constipation. The physical signs may be negative, or there may be epigastric resistance, tumefaction, and tenderness. Signs of peritonitis do not, as a rule, occur early. It is obvious that such symptoms might easily, and frequently do suggest, acute intestinal obstruction or perforation of a gastric or a duodenal ulcer, and, acting upon such an assumption, some surgeons have operated, with the result that they have found a swollen pancreas and a quantity of bile or blood-stained fluid in the peritoneal cavities, and no other signs of disease. Results in such cases, and also in cases in which an operation has been done for a presupposed pancreatitis, have been exceedingly bad, patients, as a rule, soon dying from collapse, peritonitis, or exhaustion. It is evident, therefore, since medicinal treatment can only combat symptoms, that our means for coping with this formidable condition are very ineffectual, though, in the histories of some of the cases treated surgically, a ray of hope for future improvement in results sometimes appears. For example, some patients appear to have died from acute peritonitis, after apparently doing well for a time. Better technique, or, perhaps, better fortune, might avoid this danger in future cases, and give us an opportunity of judging of the possible efficacy of laparotomy and drainage. Whatever efficacy surgical treatment may have must evidently depend upon the removal of inflammatory products by drainage, with the consequent opportunity for *vis medicatrix* to exert itself and permit the diseased organ to recover.

As to the causation of this disease, we are rather in the dark. Infection undoubtedly plays an important part in this particular, and previous inflammatory disease in the bile-ducts seems to have been noted in some cases, but we are not now able to say positively that any particular thing is the cause, and even if we were, the fact would be of more practical importance in assisting diagnosis than in assuring prophylaxis. Hepatic disease seems unquestionably to be a predisposing factor in the occurrence of acute pancreatitis, and in a number of autopsies gallstones have been found in the various situations in which such concretions occur. The varying degrees of acuteness of the inflammatory process is responsible for the differences in the gross and microscopic appearances of the pancreatic tissue, and to some extent, in the intensity of the symptoms. In some cases the inflammation is so violent that greater or lesser areas of the organ become gangrenous, while in others in which the inflammation is less severe the process assumes a hemorrhagic character, with minute hemorrhages through the pancreatic tissue, and a greater or less effusion of blood into the peritoneal cavity. In still other cases, the inflammation presents types of severity varying from what we have just outlined to cases in which the pathological process partakes more of the qualities of a severe congestion than an inflammation, and which may be often considered more properly as subacute instances of the disease. In the gangrenous and hemorrhagic forms of the disease our plans of treatment have proved of no avail, and there seems very little prospect that anything can be done for the unfortunate victims of the condition under consideration, but we may hope that in coping with the less severe varieties we may sometimes be successful in saving patients.

An interesting accompaniment of this and other serious changes in the pancreatic tissue is the occurrence of fat necrosis which occurs within a short time of any serious interference with the function of the gland. It has been observed many times in the course of acute pancreatitis, and seemingly would be seen always, except that some cases prove fatal before there is time for its development. We are apparently in a fair way to understand and therefore often to eliminate and observe abdominal disease when we are attempting to diagnosticate various conditions, and although we are not thereby necessarily enabled to do much with acute pancreatitis, our knowledge will, without doubt, be of service in combating other conditions. More study and experience will make our position stronger, but the pancreas is so deeply situated and its pathological processes are so obscure that we must confess that the outlook, from the therapeutic point of view, is not encouraging. There is, however, plenty of room for investigation of the pathological side of the question.

THE JUBILEE OF LISTER.

The *British Medical Journal* devotes its issue of December 13 almost wholly to a review of Lister's life, and to an appreciation of his labors in the interests of mankind and science. Distinguished surgeons from most of the European countries join with their British brethren in contributing their meed of praise and respect to the great discoverer whose jubilee has just gone by.

Among these articles, perhaps the one which deserves the closest attention, is that of Mr. W. Watson Cheyne, for the reason not only that he was a pupil of Lister, and therefore especially qualified to discuss his achievements, but also because he gives a most intelligent criticism of the principles which he propounded. Mr. Cheyne writes as follows: "In 1877, when Lister first came to London, he was still using carbolized gauze, oil-silk protective, carbolic spray, etc., but he was as before ever o

the search for improvements, and was continually advancing with the advance of scientific knowledge. The aim which he had constantly before him was the simplification of his methods and the avoidance of irritation of the wounds by the substances employed. Hence, at a later period, when corrosive sublimate was demonstrated to be a good antiseptic, he experimented very largely on its uses in surgery, and introduced a variety of gauzes, wools, etc., impregnated with various preparations of mercury, such as corrosive sublimate, mercury biniodide, etc., till he ultimately produced the dressing which is still largely used by many—namely, gauze impregnated with the double cyanide of mercury and zinc. He also steadily diminished the introduction of antiseptics into the wounds themselves, and from the time that weak solutions of corrosive sublimate were introduced he ceased to bring carbolic acid into the wounds, reserving it for the disinfection of the instruments and skin. Ultimately, when it was shown that the dust in the atmosphere contained essentially non-pathogenic organisms, and might therefore be disregarded in its effects on wounds, and also that the carbolic spray was ineffectual as a means of destroying the organisms in dust, he readily abandoned the spray. Indeed, for years he had been hoping to be able to do so, but had hesitated till the demonstration of the above facts was complete. These are the keynotes to all his later work on wound treatment—namely, attempts to get rid of all irritating antiseptics, to avoid the contact of antiseptics with the wounds as far as possible, and to find antiseptics which, if they do happen to come into contact with the wound, shall not irritate it. Indeed, the methods of treatment which are so much the fashion at the present time, the so-called aseptic methods, are simply continuations of Lister's work, and are the completion of the aim which he held before him. How far they are the most practical methods for general employment, or as useful as some admixture with the Listerian methods—that is, the limited use of antiseptics—is a question which is open to debate; but they are in no way a departure from, or improvement on, the principle which Lister was always striving to carry out."

Mr. Cheyne has expressed in words the feelings of the medical profession everywhere, that aseptic surgery of the present time is simply the natural development of the principles set forth by Lister, and that he, and he alone, is the father of the method.

In another part of the Lister Jubilee Number of the *British Medical Journal* is this paragraph: "A distinguished American surgeon said recently, that outside the surgical clinic the physiology laboratory forms the best training-ground for the modern surgeon. A physiological institute at the present day has to have not only chemical, physical, and microscopic, but also surgical rooms." "The success of many physiological researches," Pavlow writes, "is only attainable by application of Listerism as strict as the best and newest surgical clinic can employ. I am convinced," he says, "that it is only by the development of surgical operations on the alimentary canal that we can hope to understand the exquisite chemical work effected by it." But it would be redundant to continue to quote from the many tributes of veneration which have been offered to Lister from all parts of the world on the occasion of his completion of fifty years service in the medical profession. He is, undoubtedly, the most conspicuous and most widely-known figure in the scientific world to-day. His monument stands wherever there is a hospital or wherever an operation is performed. As to his personal qualities, he is like all really great men, modest and unassuming; not seeking gain, but content to have won enduring fame for his profession and himself as one of the greatest benefactors to the human race of all time.

Typhoid Fever and Other Illnesses Due to Oysters.

There have been, of course, numerous cases of typhoid fever which have been directly traced to the consumption of infected oysters. The fatalities at Winchester, England, a short time ago, following the eating of contaminated oysters, was a notable case in question, and has drawn the attention of medical men everywhere, and especially of bacteriologists, to the matter.

In the *Lancet* of December 6 is a report by Drs. John C. Thresh and F. L. Wood on an outbreak in Essex, England, of typhoid fever and other illnesses due to oysters. This report presents several features of interest, but, as space is limited, reference will be made but to one or two points therein. The authors, writing of a bacteriological examination of the supposedly infected shell-fish, say, "We obtained a number of oysters from the implicated beds, and from the liquid inside the shell of these oysters we isolated in one case a motile bacillus capable of growing in phenolated broth, of curdling milk, and producing indol, but which did not give gas bubbles in glucose gelatin, and from another oyster the typical bacillus coli communis. The spores of the bacillus enteritidis sporogenes could not be found in the shell liquid in either oyster. In the juice from the gastric gland the bacillus coli communis could not be demonstrated in either case, but in both the spores of the bacillus enteritidis, sporogenes, or of an organism which we could not differentiate therefrom, were easily discovered. The bacillus typhosus was not found. Whether the presence of either or both of these organisms in oysters indicates sewage pollution or not, it is at present impossible to say. The bacterial contents of the shells and organs of various shell-fish is a subject which requires investigation."

"For comparative purposes we obtained some native oysters from probably the most celebrated fattening grounds in England, and our examination yielded the following results: Oyster No. 1—(*a*) Liquid from the inside of the shell gave a negative result as regards the bacillus coli communis and the bacillus enteritidis sporogenes. (*b*) Juice from the gastric gland gave all the indications of bacillus enteritidis sporogenes. A motile bacillus grew in phenolated broth which curdled milk and produced indol in abundance, yet did not give gas bubbles in glucose gelatin. Oyster No. 2—(*a*) From the juice inside the shell the same motile bacillus which was found in No. 1 (*b*) was obtained, but no bacillus enteritidis sporogenes. (*b*) In juice from the gastric gland the same motile bacillus was present which was found in the liquid inside the shell. The culture gave every indication of the presence of bacillus enteritidis sporogenes. A few of these oysters were placed in sea water, to which a bouillon growth of the bacillus typhosus had been added. On the second day the oysters were taken out and placed in fresh pure sea water. An oyster was removed on the first, third, fifth, and seventh days, and the juice taken from the gastric fluid examined.

Up to the seventh day the specific bacillus could be recovered and identified, but not afterward. Our investigations on these lines are being carried further, but the results point to the necessity of being careful about drawing conclusions as to sewage pollution of shell-fish from the presence of organisms belonging to the coli group of the bacillus enteritidis sporogenes."

Drs. Thresh and Wood do not absolutely say—because their investigations do not permit them to draw definite conclusions—that the presence of the bacillus enteritidis sporogenes is not sufficient to infect shell-fish so as to render their consumption dangerous to human life, but they seem to infer that such is the case. At any rate, however, all are agreed that oyster beds should be so situated that no sewage pollution can infect them. They certainly should not be placed at the mouths of rivers which are liable to contamination in their course. It would appear that the proper place in which to grow and fatten oysters is in the sea, where sewage pollution cannot reach them.

The Early Diagnosis of Typhoid Fever by Culture on Gelose of Diluted Fecal Matter.

It is a trite saying that the early diagnosis of a disease is of the utmost importance, but it is so true that it will bear repetition. Many valuable lives have been lost through the inability of a physician to diagnose a malady correctly and quickly. Therefore any method which will aid in this result is worthy of notice.

The Paris correspondent of the *British Medical Journal* of December 20 writes as follows: "M. Chantemesse described in May last a method of gelo-diagnosis of typhoid fever. He has now communicated to the Académie de Médecine the results of research made in his wards on the bacteriological examination of the stools in typhoid fever.

"The method is as follows: 10 c. cm. of ordinary peptone-agar-agar—peptone 3, agar 2, water 100—is taken, and to this four drops of a 5-per-cent. carbolic-acid solution, lactose 20 centigrams, and 1 c. cm. of tincture of litmus are added. This mixture is melted in a water bath, and then run into a Petri dish, so as to form a layer 1 or 2 mm. in thickness. A camel's hair brush dipped in a dilute solution of suspected fecal matter is drawn successively over the surface of five or six dishes so prepared, without being redipped in the fecal solution. After twelve hours incubation the light violet tint of the peptone agar is sown with colonies, some rose—B. coli communis, and others blue—typhoid bacilli. These latter are immediately tested by the agglutination test. Since October 1, last, twenty-three patients entered the ward of Professor Chantemesse with the clinical diagnosis of typhoid fever. Of these five were kept for some days under observation as doubtful cases. In these the agglutination test had been negative, and the agar never once revealed the presence of typhoid bacilli in the stools. Of the remaining eighteen cases sixteen had already passed the stage of rising temperature, and showed nearly all the clinical symptoms of typhoid fever; two, however, were at the sixth and seventh day of infection respectively. As to the first sixteen cases, the serum diagnosis had been positive from the time of admission, and the agar diagnosis showed the presence of typhoid germs in quite large numbers of the stools. In the two remaining cases Widal's test was negative on admission, but became positive in one case after three days, and in the second cases after four days; in both these cases at the time of admission the presence of typhoid bacilli in the stools was clearly demonstrated by agar diagnosis." The method is also shown to be extremely valuable, as a means of ascertaining the length of time the typhoid bacilli live in the intestines, during the stages of and after recovery from the disease. From his experience of patients in his wards, and whose progress was followed after leaving the hospital, Professor Chantemesse proved by the agar test that in some cases cured for over a month the typhoid bacilli was still present in the stools. In this way, he thinks, may be explained the diffusion of infection and the apparently spontaneous occurrence of typhoid fever.

The gelo-diagnosis of typhoid fever, although not available to every physician, has, it would seem, its obvious uses. At least, a trial of the method would not be out of place in hospitals, or by any physician who has the necessary appliances to carry out the method.

Pathological Sleep.

Many instances have occurred in which persons have fallen into a sleep lasting for days, and cases have been reported in which sleep has continued for weeks. This excessive sleepiness has generally manifested itself in women, and has usually been regarded as a symptom of hysteria. The condition is, however, an accompaniment of various nervous and psychic diseases, as well as of disturbed metabolism.

Dr. Serge Soukhanoff, Privat-Docent at the University of Moscow, contributes an article on pathological sleep to the *Journal of Mental Pathology*, Vol. III. He says, in part, "In most instances pathological sleep is only part of a complexus of disturbances, of which epilepsy, hysteria, and other diseases are the representative pathological forms. Narcolepsy, which was considered in the past by some authors as an individual disease, is now looked upon as the symptom of some disease." The writer then describes a case of pathological sleepiness during the course of a psychosis.

The patient was an unmarried woman, twenty-three years of age, of inherited nervous and neurotic disposition, who, after exhibiting for some time symptoms of mental instability, became prone to sleeping spells. Between November, 1901, and December of the same year she had several well-defined pathological sleeps, lasting from thirty-eight hours to longer periods.

The point which Dr. Soukhanoff wishes to impress upon his readers, judging from the case he describes, is that, as pathological sleep is met with in hysterical subjects who are also afflicted with a mental disease, we should not consider pathological sleep as being of hysterical nature only. He would define pathological sleep as follows: "Pathological sleep may be divided into two principal groups: (1) Pathological sleep, due to an organic cerebral lesion—cerebral swelling, arteriosclerosis, senile involution, general paralysis, inflamed meninges, etc., and (2) pathological sleep without any anatomical basis. Into this class may be entered the following varieties of sleep: hysterical, epileptic, that due to intoxication, to imperfect metabolism, etc. To this group also belong the varieties of pathological sleep often met with in functional psychic disturbances. There is a form of this variety of pathological sleep which might be called pseudo—or apparent sleep. During such sleep, the patient keeps his eyes closed, remains immovable, does not answer questions addressed to him, takes no interest in his surroundings, does not take any food, except what is artificially introduced into his stomach, does not micturate voluntarily, remaining like an inert mass irresponsive, even

when carried from one place to another. It is possible, however, to differentiate this condition from that of real pathological sleep by the mode of breathing, and the reflex movements of the eyelids."

Dr. Soukhanoff finally concludes that the case of pathological sleep with which he had to deal was more due to psychic disturbance than to hysteria, as the sleep was more pronounced when the former affliction was present.

Military Hospitals and Female Nurses.

In the *Journal of the Association of Military Surgeons*, Capt. J. S. Kulp gives tables showing the personnel and bed capacity of some twenty-five civil hospitals of the world, the percentage of the personnel for every department of the hospital, and several tables showing similar data for the military hospitals of the various armies, and he embodies the results of his comparison in tables, which show the proper allowance of personnel, according to departments, the allowance, according to patients of each rank, and the relation of personnel to bed capacity. Incidentally, the returns from the various hospital superintendents involved some interesting opinions relative to the strong points, and the limitations of nurses, male and female. The good qualities of the latter are superior education, cheapness, considering the high standard of work, social adaptability, refinement, temperance, morality, cleanliness of self and surroundings, and excellent habits. The disadvantages are those dependent upon her sex, greater expense in military hospitals, separate apartments and better food, and especially the difficulty of properly training hospital corps men serving along with women. Moreover, in military hospitals women cannot be utilized without the coöperation of the sanitary soldier, and not at all in battle, on the march, or even on the tented field; but in large base hospitals they will always be an important factor, and in emergencies can be obtained in adequate number.

Opinions are cited to the effect that on the *Maine* female nurses were found entirely out of place; the sick in South Africa endured two plagues—flies and women; and at posts, despite the wisest regulations and perhaps without fault of theirs, female nurses will now and then be a demoralizing factor, and should be employed only at large hospitals, and never fewer than two or three together. The hospital corps private drinks, his amusements are not refined, his home influences have not been of the best, his language is sometimes ungrammatical and frequently profane, his loves are—but, as Captain Kulp says, they are of his life a thing apart, and he is seldom on the sick list, except for cause, and can be counted upon in the time of need; in short, the intelligent, upright sanitary soldier is more and more in evidence, and upon him the service must, in the last analysis, depend.

The Use of Benzoyl-Acetyl Peroxide as an Intestinal Antiseptic in Cholera and Dysentery.

Dr. Paul C. Freer, Superintendent of United States Government Laboratories, writes from Manila concerning the preparation of benzoyl-acetyl peroxide, and its use as an intestinal antiseptic in cholera and dysentery.

After preliminary experiments, conducted in a small emergency hospital, the treatment of cholera at the tent hospital at San Lazaro divided itself into two methods: (1) The administration of benzoyl-acetyl peroxide in solution and in capsules, as an intestinal antiseptic for the destruction of the bacilli; and (2) the administration of stimulants, to enable the patient to survive, if possible, the effect of the toxin already present.

The solution given by the mouth, having been found, if persisted in, to produce protracted vomiting, was discontinued, and high rectal injections of 1 to 1,000 solution were given every four hours during the acute stage of the disease. This treatment seemed to give relief, and was largely due to mechanical action, from the sudden dilation of the large intestine, but, as shown in subsequent hospital experience, benzoyl-acetyl peroxide has also a stimulating effect.

Dr. Thos. R. Marshall, who had charge of another tent hospital, adopted three methods of treatment for cholera: (1) Benzoyl-acetyl peroxide; (2) the solution mixed with other remedies, and (3) remedies other than benzoyl-acetyl peroxide. The most efficacious mode of administration was found to be by rectal injections of 1 to 1,000 solution, mixed with a normal salt solution of equal quantity. At the Santiago Hospital, under the charge of Drs. Southall and Lindley, where benzoyl-acetyl peroxide was given the most exhaustive and extended trial, the results worked out as follows: The guaiacol carbonate and calomel treatment was used in fifty-four cases, and showed a percentage of recoveries of 14.18; against this, benzoyl-acetyl peroxide, mixed with guaiacol carbonate and calomel, had a total recovery of 41.94 per cent., and benzoyl-acetyl peroxide alone of 40.42 per cent. Four hundred and eight cases were treated with either benzoyl-acetyl peroxide or the same mixed with guaiacol carbonate and calomel, and of these 169 recovered; 593 received other treatment, and of these only 106 recovered.

With regard to benzoyl-acetyl peroxide in amœbic dysentery, Dr. Freer reports that its use has been attended with very beneficial effects.

Dr. R. P. Strong of the Biological Laboratory, Manila, thus writes with respect to the properties of the preparation: "Quinine used in enemata has hitherto usually given the best results in the treatment of amœbic dysentery. The advantages of benzoyl-acetyl peroxide over quinine, however, are apparent, for the latter, while quite capable of killing amœbæ, even in dilute solutions, also attacks the bacteria which are present in the intestines, and it has been found possible, by its use, to reduce greatly the number of microorganisms in the stools."

It may then be said that, upon the whole, the experiments undertaken in Manila with the view of testing the efficacy of benzoyl-acetyl peroxide in the treatment of cholera and dysentery have been attended with a considerable amount of success. The preparation has, probably, proved its value as an intestinal antiseptic in these diseases.

Preservatives in Food.—Dr. Pavy, replying to an inquiry of the *Lancet*, said that, because there was no tangible evidence of injury to health from the use of preservatives he did not consider that our knowledge is sufficient to say that the indiscriminate use of antiseptics will not produce injury. By the use of antiseptics it is the vendor and not the consumer who is benefited, as articles which are not fresh are made to appear so, and to continue this was an injustice to the consumer and the seller of the fresh article. He said that most articles, when properly made and handled, did not require the addition of an antiseptic; and when the antiseptic was added the article was not sold on its merits. He said that justice to all concerned required that the presence of antiseptics be plainly stamped on the article sold, so the buyer and consumer would not be deceived.

News of the Week

American Association for the Advancement of Science.—The fifty-second annual meeting of this association was held in Washington during the present week under the presidency of Dr. Ira Remsen. The opening session on Monday was held in the auditorium of Old St. Matthews Church, with the largest attendance of any convention since the formation of the society. The meeting was called to order by the retiring president, Prof. Asaph Hall, U. S. N., who introduced the president-elect, Dr. Ira Remsen. There were addresses of welcome by Dr. Charles D. Walcott, director of the United States Geological Survey, on behalf of the Washington Academy of Sciences and other scientific societies; Henry B. F. MacFarland, president of the Board of District Commissioners, on behalf of the city of Washington; the Hon. David J. Hill, Assistant Secretary of State, on behalf of the National Government, and Dr. Charles W. Needham, president of Columbian University, on behalf of the educationl institutions of Washington.

Plague in Mexico.—A disease of peculiar character appeared recently at Mazatlan, on the Pacific coast of Mexico, which was suspected to be bubonic plague. This suspicion has now been confirmed by the results of bacteriological investigation, and the presence of the plague in the city is officially admitted. The disease at first appeared to be of a mild type, but it has since assumed a more virulent form and almost a panic has arisen in the city. The towns in the interior of the country on the lines of travel from Mazatlan have declared a shotgun quarantine against the city, and the entrance of refugees has been forbidden. The majority of sufferers from the plague are women. Two cases have also been reported in the town of Ahome, in the State of Sinaloa, near the Sonora border.

Coroners and Coroners' Physicians.—Justice Leventritt recently vacated the writ of prohibition obtained by Coroners' Physician Albert T. Weston to restrain the Board of Coroners of this borough from removing him. Justice Leventritt holds that under the present charter the coroners of each borough can act independently. He also finds that the term of office of a coroners' physician is co-terminous with that of the coroner making the appointment, and that Dr. Weston's term evidently expired, as the coroners contend, on January 1, 1902, when the old board went out.

The Canton, Ohio, Medical Society held its third annual banquet at the new Hotel McKinley on Friday, January 9, covers being laid for a hundred guests. Dr. Daniel Milliken of Hamilton, ex-President of the Ohio State Society, made the chief address. Officers elected for the ensuing year are: *President*, A. V. Smith; *Vice-President*, F. E. Hart; *Recording Secretary*, Harry A. March; *Corresponding Secretary*, D. F. Banker; *Treasurer*, F. A. Dahinden; *Censors*, J. F. Fraunfelter, E. O. Portmann, and A. C. Brant. The Society is in an exceedingly prosperous condition, and has been granted an alcove room in the new Carnegie library building in process of construction.

The Lincoln Hospital.—With a new name and new buildings in a new location, the character of the institution founded in 1830, and familiarly known as the Colored Home and Hospital has undergone a noticeable change. The new hospital buildings are situated on One hundred and forty-first street, near the Southern Boulevard, and provide accommodations for over three hundred patients. The main building is in the shape of the letter H, and gives space for four wards on a floor, with light on three sides. Excellent provision is made for the care of consumptives in a two-story building detached from the main one. Another separate building contains a modern and well-appointed maternity service, while two other small ones house the isolating rooms and laboratories, the boiler rooms and the laundry. The change in the name of the hospital was forced upon the managers in a peculiar and unexpected way. When the hospital was opened in the borough of the Bronx the city desired it to establish an ambulance service in that district. This was done, and, as a result, it was not long before the proportion of colored people in the acute wards was no more than in other hospitals. A training school for colored nurses is a novel and successful feature of the hospital.

Society of College Gymnasium Directors.—The sixth annual meeting of this society was held last week in the New York Athletic Club building. The following officers were elected: *President*, Dr. Watson L. Savage, Columbia University; *Vice-Presidents*, Dr. Jay W. Seaver, Yale University, and Dr. W. A. Lambeth, University of Virginia; *Secretary* and *Treasurer*, Dr. James A. Babbitt, Haverford College; *Council*, the officers ex-officio, Dr. R. T. McKenzie, McGill University, and Dr. Paul C. Phillips, Amherst College; *Executive Committee*, Dr. J. E. Reycroft, University of Chicago; Dr. D. A. Sargent, Harvard University; and Dr. W. G. Anderson, Yale University. A special committee on the revision of all statistics and phases of physical examination was also appointed, consisting of Dr. Savage, Dr. Sargent, Mr. Marvel of Wesleyan University, Dr. Phillips, and Dr. Reycroft. The next meeting will be held at Princeton, N. J.

A Hospital for "Bloodless Surgery."—The "Lorenz Orthopedic Charity Hospital of New York City" has asked the State Board of Charities for approval of its certificate of incorporation. Its object is to establish a free hospital or dispensary for the treatment of persons afflicted with deformities, especially congenital dislocation of the hip, according to the Lorenz method. The incorporators are William S. Brewer, Charles F. Smith, Franklyn E. Sylvester, D. Baldwin Sanneman, and Benjamin F. Curtis of New York.

A Typhoid Epidemic from Infected Oysters.—An epidemic of typhoid fever appeared about the middle of December at Portsmouth, Southampton, and other towns on the southern coast of England. The disease was traced directly to oysters which had been fattened near the mouth of a sewer at Emsworth. The spread of the epidemic to many towns followed a mayoral banquet at Southampton, which was attended by many of the higher officials and clergy from neighboring towns, and at which the infected oysters were served.

Lemon-juice Inimical to the Typhoid Bacillus.—A cable despatch announced recently that Dr. Asa Ferguson of London had discovered that lemon-juice would destroy the typhoid bacillus. The Chicago Commissioner of Health at once began a series of experiments which showed that this claim was correct. The following experiment was made in the laboratory to test the value of lemon-juice in destroying the typhoid bacilli: One hundred and twenty c.c. of bouillon was inoculated with the bacillus typhosus. The flask was placed in the incubator at 90° for twelve hours. At the end of this period 4 c.c. of lemon-juice was added. At the end of four hours plates were inoculated from this flask. The plates at the end of twenty-four

hours showed no growth. Control plates showed abundant growth. The value of the discovery does not, however, appear to be very great, for if two teaspoonfuls of lemon-juice must be added to a glass of water four hours before the water can be drank with impunity, it will be simpler, and probably safer as well, to stick to the "tea-kettle" policy, or take only distilled water, as at present advised.

Philadelphia County Medical Society.—At a stated meeting, held December 23, Dr. Anna M. Reynolds read a paper entitled "Twin Pregnancy, Polyhydramnious and Eclampsia-Monstrosity." Drs. J. H. Lloyd and T. L. Coley read a paper entitled "Two Cases of Typhoid Fever with Inconclusive Symptoms; Perforation." Dr. A. P. Francine presented a communication on "Physical Signs and Symptoms of Gastroptosis."

Philadelphia Neurological Society.—At a stated meeting, held December 23, Dr. S. Weir Mitchell read a paper entitled "Notes on Obsessions and Reversals of Volitions." He referred to a number of cases in individuals, some of whom presented also symptoms of mental derangement, while others did not, and who were at times impelled to do the opposite or the reverse of the thing they intended to do, such as going down stairs instead of up, walking backward instead of forward, reversing the letters of spoken words, putting shoes on the hands and gloves on the feet, pulling the shirt on from below, and the drawers on from above, the utterance of expressions the opposite of what was thought or intended. He spoke also of what he designated despotic habits, representing figuratively a form of mantel tic, namely, acts of one sort or another, failure to do which gives rise to a sense of discomfort. Dr. Wm. Pickett exhibited two patients with paresis, one of circular type and the other with double personality. The first patient, who had a psychotic family history, after having passed the preliminary neurasthenoid stage and the following expansive stage, entered, after an interval of quiescence, upon a stage of profound melancholia, although inequality and immobility of pupils on exposure to light and absence of knee-jerks persisted. In the second case the patient was affected by the delusion that there was constantly upon his back a second person, who said and did a number of things attributed to the patient, and for whom the patient put aside regularly a certain portion of his own food. Dr. Pickett also reported a case of paresis with a remission that had lasted nearly four years. Dr. Alfred Gordon exhibited a case of amyotrophic lateral sclerosis in a boy of fifteen years who had had an attack of acute anterior poliomyelitis in infancy. The attack of infantile palsy had occurred when the child was one year old and had left weakness and wasting of both lower extremities, while the symptoms of amyotrophic sclerosis had begun to make their appearance at about the age of eight years in the sequence of some infectious disease. Seven years later weakness and wasting, with increase in reflex activity, appeared in the upper extremities and the shoulder girdle. The right humerus had been fractured twice from causes that ordinarily would be inadequate. Dr. Chas. W. Burr and Ralph S. Lavenson read a paper entitled "Report of a Case of Tumor of the Brain." The patient had been a woman with carcinoma of the breast, in whom spasm in the left upper extremity, persisting for long periods of time, recurred at varying intervals. On post-mortem examination, apparently a metastatic nodule was found in the ascending parietal frontal convolution of the right cerebral hemisphere. Dr. F. Savary Pearse presented a communication entitled "Double Consciousness or Amnesia; Etiological Factors, with Report of a Case." The patient was a young man who, following concussion in a trolley accident, wandered away from home a considerable distance, and for a period of three and one-fourth years was entirely unconscious of his previous existence, and subsequently entered upon a stage in which he lost all memory of that which had transpired during this period. There had been no convulsion and no other symptoms of epilepsy, and also no hysterical stigmata. Dr. T. H. Weisenburg reported a case of gumma of the brain with operation. The patient presented symptoms of hemiparesis with epileptiform convulsions. Temporary relief was afforded by the operation, but after a time symptoms of recurrence developed.

Spencer on Vegetarianism.—Herbert Spencer is poking fun at the vegetarians of England, and has taken them completely by surprise, inasmuch as they thought they could claim the philosopher as one of their own. Mr. Spencer does not apparently think highly of the mental state produced by a year of vegetable diet. He said recently: "I went over all I had written during the year I practised vegetarianism, and consigned it all to the fire." Since then he has been saying some facetious things about the "devotees of the truck garden," as he calls the vegetarians.

The Late Dr. Byrne.—The following resolution was passed at the meeting of the New York Obstetrical Society, held December 9, 1902:

Resolved, That by the death of Dr. John Byrne, our oldest Honorary Fellow, the members of this society have lost a beloved associate, whom we esteemed as an eminent surgeon, a wise counselor, and a faithful friend.

CHARLES JEWETT, M.D.
HENRY C. COE, M.D. } Committee.

Obituary Notes.—Dr. WILLIAM R. GROVE died at Columbia, Pa., on January 3, at the age of sixty-five years. He was a graduate of the University of Maryland School of Medicine in 1865.

Dr. JULIUS KOHL died at his home in Belleville, Ills., on January 2, of cancer of the stomach. He was a graduate of the St. Louis Medical College in 1859. He was an ex-member of the Illinois State Board of Health.

Dr. CARL SCHUMACHER, a homœopathic physician of Syracuse, died on January 2 from the results of a fall on the sidewalk about two weeks before. He was a graduate of a Cleveland college in 1883.

Dr. DAVID JACOBSON of Brooklyn died on December 31 in a hotel in this city. He was born October 4, 1864, and was graduated from the New York University Medical School in 1888.

Dr. DENNIS J. LOUGHLIN died at Philadelphia on December 27 at the age of fifty-five years. He was a graduate of Jefferson Medical College in 1881. During President Cleveland's first administration he served as appraiser of drugs, and during Cleveland's second term was appointed pension examiner, a position he held until his death.

An Ominous Combination of Names.—A few days ago a Miss Death was brought to the German Hospital to be operated upon for appendicitis. She was a daughter, she said, of an undertaker. The surgeon's name who was chosen to perform the operation was Dye. When the operation was over Miss Death was placed in charge of two nurses, Miss Payne is the day nurse; Miss Grone is the night nurse. The patient is recovering rapidly, and in a week or so Miss Death will bid good-by to Dr. Dye, Miss Payne, and Miss Grone.—*Philadelphia Public Ledger.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE LORD LIEUTENANT AND THE DOCTORS—ANOTHER OUTBREAK OF TYPHOID FEVER FROM CONTAMINATED OYSTERS—HÆMATEMESIS, MEDICAL DISCUSSION, SURGICAL—RECENT DEATHS.

London, December 19, 1902.

The Countess of Dudley made such steady progress, that on Monday the Earl fulfilled an engagement to open the new buildings of the Adelaide Hospital. His Excellency took the opportunity of expressing the deep debt of gratitude he felt to the medical profession, and declared that if, during his residence in Ireland, he was able to show that gratitude, in connection with hospitals or the profession, the appeal would not be made to him in vain.

The manner in which the Dublin leaders of the profession have maintained their dignity over this case, is an excellent example to some of the attendants on distinguished persons nearer home. There has been no fussiness, no interviewing, no communication of gossip to the press. The surgeons and physicians have quietly done their duty; issued only the necessary bulletins, and yesterday announced that one as the last, if the progress continues as heretofore.

Outbreaks of typhoid fever at Portsmouth and Southampton are reported to be due to sewage contamination of the oyster beds at Emsworth. Dr. England, formerly physician to the Royal Hampshire Hospital, has succumbed to the disease, and a number of distinguished persons, who attended a dinner at Winchester, when Emsworth oysters were served, are lying ill.

And yet the event could have been predicted. In 1895 Dr. Bulstrode, inspector to the Local Government Board, reported that the oyster bed in question could not escape pollution by sewage. It is said that some attempt to intercept the sewage was then made, but it seems to have been no one's duty to see that this was properly done, and it was not. So now another outbreak has occurred, and the Local Government Board has sent Dr. Bulstrode again to make another inspection and report.

Two evenings have been devoted, by the medical society, to the discussion of hæmatemesis—the first to the medical aspects of the disease, the second to the question of surgical treatment.

The first discussion was opened by Dr. Bertrand Dawson, in a paper on the pathology, prognosis, and medical treatment. He said it was not possible in any given case to determine the source of the bleeding, which might be focal, from one vessel, or diffused, from several. In portal obstruction the source was most commonly the œsophageal veins. In forty-two cases of cirrhosis of the liver, in which these veins were examined, they were dilated in thirty-five, and in sixteen of these the apertures were seen. In the case of young anæmic women fatal oozing might occur from superficial erosions, and these might precede ulceration. With regard to so-called vicarious menstruation, there was a wide-spread tendency to hemorrhages from mucous surfaces during the menstrual period. As to the medical treatment, it was only rarely necessary to feed per rectum. Morphine, ¼ gr., should be injected hypodermically. Chloride of calcium could be given per rectum. Ergot, hypodermically, was not recommended. Adrenalin was better. When a very great quantity of blood was lost, normal saline solution, injected under the skin, had been useful. These measures succeed in 90 per cent. of the cases of hæmatemesis, and should, therefore, always be tried before resort to surgery, but in very acute cases, almost certainly due to gastric ulcer, an operation might be undertaken.

In the course of the discussion, Professor Osler's "anæmia splenica" was referred to, and one case, in which excision of the spleen was followed by fatal hæmatemesis, perhaps produced by venous engorgement of the cardiac end of the stomach, through the ligation of the splenic vein.

Rest and opium were held to be the most important points. The late Sir Wm. Jenner had great faith in gallic acid. Ergotin was not considered of much use. Doctor Yeo found perchloride of iron and nitrate of silver beneficial—the latter especially when erosion was suspected. Adrenalin he thought too apt to raise general arterial tension. Gelatin, subcutaneously, had, in some cases, produced ill results. Food was often pressed too soon, patients could do without any for several days.

Dr. Hale White disputed the statement that the mortality of gastric ulcer was five times more frequent in women than in men, and believed it more common in men.

In women from twenty to thirty-five years of age, dyspepsia, anæmia, and hæmatemesis might be present without any ulceration. Perhaps such cases were a form of chlorosis. He advised ½-dr. doses of iron perchloride with as much glycerin.

Dr. Rolleston referred to the minute erosion described by Murchison, Dieulafoy, and Lindsay Stevens—the "pore-like erosion" of gastric arteries. This was, perhaps, the condition referred to by Doctor White. It differed clinically from gastric ulcer, by the absence of tenderness, but set up profuse and often fatal hemorrhages. In giving rest to the stomach by rectal feeding, water must not be permitted by the mouth; it might set up peristalsis.

The second discussion, that on surgical treatment, was opened by Mr. Mayo Robson, who entered rather fully on the different classes of cases met with, and related ten cases as illustrations. Recognizing the frequency with which medical treatment is successful, he thought that went to show how often capillary oozing accounts for the bleeding. At the same time he would not forget how rapidly fatal hemorrhage from large-sized arteries might be. He would always have medical treatment fully tried before surgery, but when it failed he would not stand by and watch a patient die who might be saved by operation. Of the various operations available, he preferred gastroenterostomy, which can be done expeditiously, without severe shock, and which drains the stomach into the jejunum, relieving hyperacidity of the stomach, and giving it physiological rest. As a rule this operation arrests the bleeding, and cures the disease, which gives rise to it. If there be no sign of ulceration found on the stomach wall, he is content with gastroenterostomy, but if there be any evidence of a chronic ulcer where it can be reached safely, excision of the ulcer should precede gastroenterostomy. If tumor of the pylorus appear, pylorectomy may be necessary. If the ulcer adhere to or erode the spleen, nothing but simple gastroenterostomy should be attempted.

Several surgeons contributed remarks on the paper, but none of them went to invalidate Mr. Robson's conclusions, which, in fact, were generally accepted.

Dr. Samuel Fenwick, consulting physician to the London Hospital, died on the 11th inst., aged eighty-one years. He was born in Northumberland, and for some years practised in that county. He received the M.D. degree of Durham in 1859, being lecturer on pathology at the medical school. He had previously graduated at St. Andrews. Some forty years ago he came to London and was elected on the staff of the London Hospital and the City Hospital for Chest Diseases. At the London Hospital he taught pathology and later medicine. He was elected F.R.C.P. in 1870. His little manual of diagnosis must be known to you; it had a very large circulation. But his *magnum opus* was that on diseases of the stomach.

The deaths are also announced of Dr. Thos. Shapter of Exeter, many years physician to the hospital and a leader in the west of England, in his ninety-fourth year. Dr. John Lowe, physician extraordinary to the King; he was called to attend the Prince of Wales in 1871 for what was thought a trifling indisposition, but suspected typhoid fever, and history tells he was right. Mr. E. D. Hacon, F.R.C.S., aged eighty-four years. Dr. John Lloyd, formerly professor at Queens College, Birmingham, aged seventy-six years. Dr. John Young, Professor of Natural History in Glasgow University, and curator of its Hunterian Museum.

PHOTOTHERAPHY AND PHOTOGRAPHING THROUGH THE BODY.

To the Editor of the Medical Record:

Sir: My attention has been called to a letter by Dr. Hopkins of Brooklyn concerning my article in your issue of November 1, in which the writer erroneously states that the reflector designed by me and made use of here condenses but little or no light.

The violet colored light condensed by it is as strong as can be borne by the patient on account of the accompanying heat. It is entirely impossible to separate all the heat from the light from any source. In constructing any device for the concentration of light upon the body this fact cannot be lost sight of. Otherwise we might turn almost any volume of light upon the patient. The writer is also confused in regard to the construction of the apparatus used by me and that by Dr. Finsen. The one is a reflector, the other a lens.

While writing, permit me to at least make the attempt to keep the Medical Record straight in regard to photographing through the human body. The first announcement of this procedure was published in the Medical Record on October 13, 1900, when I detailed the steps taken by myself and photographer, G. L. Hostetler of this city. In April, 1902, Gottheil and Franklin of New York published in the Medical Record a paper in which they traversed in every particular the steps taken by us two years before, and in

which they claim the work as original. During 1902 Mount Bleyer of New York published an article in the *Journal of Tuberculosis* detailing the same thing, in which he likewise claimed priority. Recently Kaiser of Vienna has done the same thing.

The arrangement of the picture on glass over the sensitized plate for the purpose of reproducing the picture by means of light which had first traversed the thickness of the body, was original with Mr. Hostetler, the writer having in mind only the blackening of a sensitized plate by means of such light. Mr. Hostetler then suggested this arrangement of the plates for the production of the picture, and it is at least a strange coincidence that four other writers thought of the same thing almost two years later.

J. W. KIME, M.D.

FORT DODGE, IA., December 27, 1902.

SYPHILIS IN THE BARBER SHOP.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: Dr. A. Jacobi's letter (page 986 of your issue of December 20, 1902), concerning my article on "Syphilis in the Barber Shop" (MEDICAL RECORD, December 13, 1902), is certainly of qualified interest, it being simply a quotation from Proksch's recent book of the "Study of the History of Medicine." It is, however, a relic of medieval history, and is an illustration of the wonderful erudition of the indefatigable Proksch; but the quotation is utterly irrelevant to the facts and suggestions brought out by my little paper. In that I bring up a live and pertinent issue, and call attention to the need of more restrictions and prophylaxis among barbers in barber shops. On the other hand, Proksch's excerpt deals with the ignorance of medieval practitioners of minor surgery, variously styled "surgeons barbers," "barbers," "leechers," "cuppers," and "sangrados." There are no such practitioners to-day!

It may be interesting to the readers of the MEDICAL RECORD to know that there are many cases reported in medical literature within the past thirty or more years of syphilitic initial lesions on the chin, cheek, neck, lips, and angle of jaws, which originated in a razor cut, and that in many instances, on examination and study, the infection by the barber was rendered conclusive—while in many others it was very probable, and suspicions were warranted in others.

The following is a list of the writers of the chief papers on the subject of razor syphilis: Aubert, 1878; Broick, 1888; Carre, 1866; Cripps, 1892; Flibe, 1889; Fedchenko, 1889; Fluscher, 1886; Fournier, 1885; Giovannini, 1889; Gluck, 1881; Goldenberg, 1890; Idelson, 1888; Koltchewski, 1881; Mauriac, 1880; Nekolsky, 1891; Tarnowsky, 1891; Taylor, 1893; Tchudnowsky, 1889, and Van Harlingen, 1885.

A. FANONI, M.D.

NEW YORK.

THE AMERICAN SCHOOL OF MEDICINE, BEYROUT, SYRIA.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: In May of last year I visited Beyrout and saw a great deal of the medical department of the Syrian Protestant College. I can heartily endorse all that was said by Professor Schauffler in your issue of December 27. The Faculty of the school are men of eminence, and the whole spirit of the school is of the very best character. I can commend it in the highest terms. If the plans that are in contemplation for its enlargement are carried out, it will be but a short time before it will supply most of the countries of the East with thoroughly equipped medical men.

W. W. KEEN, M.D.

PHILADELPHIA, January 5, 1903.

Physiological Researches on the Effects of Section of the Cervical Sympathetic.—Moussu and Charrin draw the following conclusions from their experiments: (1) Section of the sympathetic produces in the patient an undeniable, but very slight, modification of the physiognomy. (2) This modification of the external appearance does not cause constant and important trophic troubles. Without wishing to make a close comparison between what has been noted in the animals experimented upon, and that which occurs in man, it stands to reason that the changes will be more marked in the human face, which is more complex. Nevertheless, as the disorders are of little consequence, the writer believes that if in certain pathological conditions, section of the sympathetic will lead to amelioration of the trouble, fear of trophic disorders should not constitute, perchance, a sufficient reason for abstaining from the operation.—*Le Bulletin Médical*, December 10, 1902.

An Antiserum for Morphine Poisoning.—Leo Hirschlaff has obtained an anti-morphine serum by treating rabbits with daily increasing doses of morphine until very large doses were borne with impunity. The serum obtained from animals thus treated was able to protect new animals completely from many times the fatal dose of morphine. Ample control experiments were also conducted, so that the results obtained can in no way be doubted. Only one case of acute morphine poisoning in the human being has been treated by this serum. The result obtained was excellent, although additional treatment, such as atropine and caffeine, was given, so that the actual efficiency of the serum was not thoroughly tested. The serum has been used in five cases of chronic morphine poisoning with very encouraging results. All of these cases were habitués, and in them, under the influence of the serum, the morphine could be withdrawn with great rapidity. The usual dose of the serum was 5 c.c., but it is probable that 10 c.c. in acute cases is a more suitable amount. Its real value can only be ascertained by a more extended use.—*Berliner klinische Wochenschrift, December 15, 1902.*

Urine of Cancer Patients.—J. Sabrazès states that one conceives *a priori* that the modifications of the humors of the organism in case of cancer ought to vary with the nature of the neoplasm, and with its location. The examination of the blood and urine, from this point of view, justifies this opinion. According to Blumenthal, indicanuria of a very high degree militates in favor of carcinoma of the stomach, and of ulcerated cancer, when there exists albuminuria and a positive diazo-reaction. The appearance of an intense glycosuria, during the evolution of a neoplasm, indicates a pancreatic localization, as the writer has recently noted in the course of a gastric neoplasm generalized in other abdominal viscera, or it may mark the development of a tumor in the region of the fourth ventricle. Lactic acid urinary secretion augurs in favor of cancer of the liver; increase of the amount of uric acid, in favor of a tumor of an organ rich in nuclein—liver, pancreas, thyroid body, ganglia—and in favor of one of the affections so closely related, in the opinion of the writer, to neoplasms, myeloleucocythemia, and lymphocythemia.—*Gazette Hebdomadaire des Sciences Médicales*, December 7, 1902.

Suppurative Meningitis from the Colibacillus.—Nobécourt and Du Pasquier report this case of a child of seven months, who was brought to the hospital for an acute gastrointestinal infection, with green diarrhœa and slight fever. Then appeared convulsions, contractions, disorders of respiration and circulation, which established the diagnosis of meningitis. Lumbar puncture revealed an increase of cerebrospinal liquid. Then the symptoms improved, and the fever had disappeared four days after the admission to the hospital. This was only temporary, for the temperature rose, and phenomena of intestinal infection showed themselves anew. On the fifth day of this recrudescence, meningitic symptoms reappeared, and this time lumbar puncture confirmed the diagnosis of suppurative meningitis, due to the colibacillus. The condition became very grave, but recovery terminated the illness, thirty days after admission to the hospital, and twenty days after the diagnosis had been clearly established. In regard to the symptoms, this meningitis presented nothing in particular. Its beginning was sudden. It was by lumbar puncture alone that diagnosis of the microbic nature of the meningitis was clearly established. Recovery from this form of meningitis is very exceptional. —*Gazette Hebdomadaire de Médecine et de Chirurgie*, December 7, 1902.

The Employment of Massage in Tabes.—M. G. Constensoux concludes: (1) The employment of massage in cases of tabes ought to be specialized and adapted to the indications of each particular case. (2) According to the movements employed, and the applications which are made, massage is useful in certain cases, but may also be harmful. (3) It ought, then, to be practised either by a physician who is an expert in the treatment of this disease, or by a masseur who is absolutely obedient to the instructions which he receives. (4) The indications for massage in tabes are as a general tonic; as a proper means of combating certain troubles of sensation; in case of certain complications. (5) Massage of the skin is useful in troubles of sensation, and as a general tonic for exciting nutritive changes. (6) Massage of the muscles is without effect on ataxia; it is fatiguing to patients when it is energetically performed; it should be used only in paralysis or true atrophy. (7) Passive motion is contraindicated in the case of articulations already too mobile, and of hypotonic muscles. (8) Whatever may be the conditions, the movements of massage ought always to be gentle, and the treatments short in cases of tabes. There are patients who should avoid fatigue, against which they are badly defended by their physical condition.—*La Presse Médicale*, December 6, 1902.

Book Reviews.

Recherches Cliniques et Thérapeutiques sur l'Epilepsie, l'Hystérie et l'Idiotie. Par Bourneville. Vol. XXI. Paris: Bureaux aux Progrès Médical, 1901.

The present volume is the twenty-first of a series of researches upon epilepsy, hysteria, and idiocy published under the direction of Bourneville. It contains in the first part a history of the work done in the year 1900, and in the second part some clinical and pathological studies. The first part is of special interest to administrators of such hospitals as that which Dr. Bourneville directs, but it contains also a great many interesting statistics regarding the pedagogical methods employed in the treatment of idiots. Among the more purely scientific articles is one upon the question of alcoholism in the production of idiocy and epilepsy. Bourneville analyzes 2,554 cases. He finds that conception probably occurred during drunkenness in eighty-six patients, and that 41.1 per cent. of the parents of idiots were alcoholic. (*Verb. sup*). In another chapter Bourneville establishes the fact that thymus disappears rather more rapidly in epileptic idiots than in other forms.

The book contains a number of other interesting articles bearing upon the pathology and etiology of idiocy. Altogether these volumes of Bourneville seem to us to increase in importance and interest as the years go by.

Taschenbuch der Massage, für Studirende und Ärzte. Von Dr. Erich Ekgren. Mit einem Vorwort von Geh. Med.-Rath Prof. Dr. H. Senator. Mit elf Abbildungen. Berlin: S. Karger, 1903.

This concise little volume of 90 pages teems with information of the subject it treats. Before discussing massage of the various parts and organs of the body, the writer speaks of the physiology and technique of massage. After the indications for massage of the various parts are given, the position of the patient and the technique of the special operation are described. The contraindications are then mentioned. A list of the newest literature on the subject and a very good index are appended.

De L'Intervention Chirurgicale dans les Néphrites Médicales. Par M. le Dr. Alfred Pousson, Professeur Agrégé, chargé du cours des maladies des voies urinaires à la Faculté de médecine de Bordeaux, Chirurgien des hôpitaux. Paris: A. Maloine, 1902.

Pousson states that his interventions in medical nephritis have been in cases of (*a*) acute toxi-infectious nephritis, and in cases of (*b*) subacute or chronic nephritis, *i. e.* Bright's disease. He reports these cases in all their details, giving careful notes. He also gives a résumé of the cases which he has been able to collect from the literature, and considers the legitimacy of intervention, the choice of operation, and its mode of action.

Directions for Laboratory Work in Physiological Chemistry. For the Use of Students in the University and Bellevue Hospital Medical College. By Holmes C. Jackson, Ph.D., Instructor in Physiological Chemistry. New York: John Wiley & Sons; London: Chapman & Hall, Limited, 1902.

This book is intended especially as a guide to students in Physiological Chemistry. Blank pages are inserted throughout the volume for the student's notes. The various subjects are briefly but clearly treated. Among these are: General proteids, fats, carbohydrates, bone, saliva, gastric, and pancreatic digestion, bile, blood, milk, urine, quantitative determinations, pathological constituents, and sediments.

Obstinate Hiccough. By L. F. B. Knuthsen, M.D. Edin. London: J. & A. Churchill; Philadelphia: P. Blakiston's Son & Co., 1902.

The author has not only reported one case of obstinate hiccough occurring in his own practice, but has collected over 150 other cases. The book is divided into six sections, four of which contain abstracts of reported cases which have appeared in British and foreign medical journals, as well as in textbooks and various reviews. The fifth section treats of the anatomy, physiology, and pathology of the affection, while the sixth considers the treatment. The author is of the opinion that the most scholarly and classical article that has appeared on the subject is the one published by Dr. W. Langford Symes in 1893. He adopts that writer's classification of hiccough into four types, viz.: (1) The inflammatory; (2) the irritative; (3) the specific, and (4) the neurotic. In the first, the hiccough is attributed to a congested state of the stomach and bowel; in the second it arises from distention of the stomach or irritation, produced by worms, dyspepsia, dentition, pressure on nerve trunks, and the passing of catheters and bougies; in the third type there is thought to be an underlying constitutional condition, such as malaria or gout. A number of authorities are of the opinion that the neurotic type is a modified form of epilepsy. The treatment of hiccough is necessarily disappointing, but it has been made in this book as rational as possible by founding it upon the classification already given. In addition, there is presented, in tabular form, the drugs and methods which have proved successful in the reported cases. This study shows the gouty form to be very intractable, and one of the most fatal.

The Story of a Living Temple. By Frederick M. Rossiter, B.S., M.D., and Mary Henry Rossiter, A.M. Chicago, New York, and Toronto: Fleming H. Revell Co., 1902.

The avowed object of this book is to arouse a deeper interest in the study of the human body by presenting practical physiology and hygiene in a form which is at once popular and fascinating. In this the authors have succeeded very well. The "living temple" is, of course, the human body. This analogy is carefully maintained throughout, and becomes at times quite fanciful, as in a portion of the description of the "antechambers" of the temple, viz., "To meet the blood the air must pass through a hall, a vestibule, a music room, and a corridor." The descriptions of the organs of hearing, and of the processes of digestion and absorption are especially good. Under the head of "good building materials" are some sensible remarks on dietetics, but there is evidently a strong leaning toward vegetarianism, and the scientific mind is not pleasantly impressed by the repeated references to alcohol, tea, coffee, and tobacco as "the thieves and murderers" of the temple.

A Manual of Dissection and Practical Anatomy Founded on Gray and Gerrish. By William T. Eckley, M.D., Professor of Anatomy in the Medical and Dental Departments of the University of Illinois, etc., and Corinne B. Eckley, Demonstrator of Anatomy in the Medical and Dental Departments of the University of Illinois, etc. Illustrated with 220 engravings, 116 of which are colored. Philadelphia and New York: Lea Brothers & Co., 1902.

This manual has been compiled by selections from two standard works on anatomy, the authors having selected what appears to them most useful for a work of this kind. The illustrations have been carefully reproduced, and enough descriptive text accompanies them to serve the purpose. We think that there is undoubtedly a place for this book, which takes the place of the larger work of reference, and which, at the same time, is a useful laboratory guide. It possesses the advantages of a quiz-compend, without the disadvantages dependent on incompleteness, which is seen in such works.

Diseases of the Pancreas and Their Surgical Treatment. By A. W. Mayo Robson, F.R.C.S., Senior Surgeon, Leeds General Infirmary, Emeritus Professor of Surgery, Yorkshire College, Victoria University, etc., and B. G. A Moynihan, M.S. (Lond.), F.R.C.S., Assistant Surgeon Leeds Infirmary; Consulting Surgeon to the Skipton Hospital, etc. Illustrated. Philadelphia and London: W. B. Saunders & Company, 1903.

The authors of this volume have previously published the results of their experiences in other departments of abdominal surgery than that which is now under consideration, and their reputation for accuracy and progressiveness has been established. Until the past few years, the diseases of the pancreas have been wrapped in more or less obscurity, both on account of insufficient pathological information and also on account of the indefiniteness and irregularity of the clinical pictures with which we are confronted. An attempt has been made in this book to systematize our present information and to add to it from personal experience and from material collected from recent medical literature. Much painstaking effort has evidently been expended in the way of bibliographical references, and the result leaves little to be desired. All pathological conditions of the organ are described, and their significance fully discussed, with many clinical reports and references introduced into the text, but most attention is devoted to inflammatory conditions, that very interesting condition, acute pancreatitis, receiving a large share. We are impressed with the remarkable nature of the latter condition, the difficulties of diagnosis, and the unsatisfactory nature of our means of treatment, which are practically those of acute peritonitis. Many clinical references are given, and some interesting pathological deductions are made. Other subjects treated *in extenso* are subacute pancreatitis, cystic formations, and new growths of various kinds, with special attention to carcinoma.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Jan. 1, 1903.

Foot-and-Mouth Disease.—Langdon Frothingham describes epizoötic aphtha as an acute, infectious, exanthematous disease peculiar to cloven-footed animals, both wild and domestic. It has often been observed in man, especially when exposure has been great, as in persons caring for sick animals, inmates of a cloister constantly drinking infected milk, in children feeding upon raw milk from diseased cows, etc. On the second day after infection rather severe constitutional symptoms appear, with fever, headache, nausea, and ptyalism, and soon thereafter eruptions in the mouth and upon the cheeks. The disease is seldom fatal in man. The cause of foot-and-mouth disease is assumed to be a bacterium, but the true nature of the contagion still remains unknown. In spite of many difficulties in the way, Loeffler is still continuing investigations, with the view of discovering an immunizing serum. With the cow he has not as yet been successful, but with sheep and swine better results have been obtained.

Note on Multiple Primary Tumors.—Paul G. Woolley calls attention to the fact that the common conception of a primary focus of growth in the case of malignant tumors is far from having an absolutely demonstrated foundation; that when we are apparently dealing with a single primary focus, we often have (as Peterson has shown) multiple foci; that there are not infrequent cases in which it would seem as probable, or more probable, that what we are dealing with is not extension through a tissue or organ, or system, but the independent development of new growths, of like histological characters, malignant as well as benign, at separated points—and this presumably under the influence of a common affection at the different points—and that there are very many cases on record in which there has been the simultaneous presence and growth of neoplasms of very different orders. The author reports a case of his own, and gives a list of collected cases which bear out his view. He begs observers to watch for cases of multiple primary growths, and record with them careful studies of the general conditions, as well as of the special ones surrounding the patients. Such records in cases of tumors in paired organs, such as the breasts, adrenals, ovaries, etc., would be of the greatest interest and value in determining whether metastasis or biological change is the more obvious factor in the production of such cases.

Chloride of Ethyl as a General Anæsthetic.—Charles Greene Cumston holds that this anæsthetic may be given to subjects of any age, principally at the two extremes of life. In examinations requiring a general anæsthetic there is nothing that can compare with it, and for short operations, such as arthrotomy, the opening of an abscess, deep cauterizations, curettement of the uterus, the reduction of certain dislocations and fractures, etc., it is ideal. Throat specialists also will find it of great value. On account of the facility with which it is given and its harmlessness, an experienced anæsthetist is not required, and it may be given by any careful physician. These are the principal advantages which it presents for operations of short duration, not lasting over four or five minutes. When used as a preliminary to the administration of ether, it avoids the period of excitement, and on account of its pleasant odor and non-stifling effect the most nervous patient will take it with ease. The amount of ether used afterward may be safely put at one-third to one-half less than would have been required had the anæsthesia been entirely with ether. The transition from one anæsthetic to the other is quite insensible. Operative shock has been greatly diminished in the major operations done by the author, when chloride of ethyl has been used as a preliminary anæsthetic, and nausea has been absent in almost all of them when consciousness has returned.

Journal of the American Medical Association, Jan. 3, 1903.

Uncinariasis or Ankylostomiasis.—A fatal case of this nature is described by J. A. Capps, who gives a full account of the life history of the parasite, and a synopsis of previously reported cases. The symptoms of the malady fall into two general groups, viz., those of pastrointestinal irritation, and those arising from anæmia of varying intensity. In making a diagnosis of a doubtful case, we are to note the occupation of the patient (workers in dirt, clay, mines, canals, etc., camp life, farmers, and, in general, those exposed to insanitary conditions), the condition of the blood (resembling pernicious anæmia), and finally the possible presence of the hook-worms in the fæces. This last is the positive test. The malady is curable if recognized early and treated promptly. The bowels should be cleared the evening before administering the anthelmintic. Thymol in a 2-gram dose, repeated in two hours, and followed by a saline is effective, as a rule. Santonin and male fern are not so satisfactory. Prevention can be best accomplished by: (1) Drainage and drying of swampy lands. (2) Where numbers of men are working in tunnels, ditches or canals, by examination of the fæces of workmen, and the exclusion of infected individuals. (3) Proper disposal of dejecta in suspected localities by burning or by disinfectants. (4) Enforcement of cleanliness in washing the hands before taking food. (5) A pure water supply.

A Contribution to the Subject of Radiotherapy and Phototherapy in Carcinoma, Tuberculosis, and Other Diseases of the Skin.—J. N. Hyde and O. S. Ormsby present, in a paper elaborately illustrated, their experience with radiotherapy and phototherapy in carcinoma, tuberculosis, psoriasis, hypertrichosis, alopecia areata, ringworm, acne rosacea, sycosis, keloid scars, chronic eczema, and mycosis fungoides. Their experience leads them to believe that in tuberculosis of the skin these methods of treatment are superior to any others now known. In lupus erythematosus, phototherapy has in their hands given very satisfactory results, far better than those they had obtained by any other method. In superficial carcinoma, involving considerable areas, radiotherapy is undoubtedly preferable to all other known methods of treatment. Superficial lesions more circumscribed, are equally amenable to treatment with the *x*-rays, though, in many instances, small tumors can be removed more promptly by complete erasion or incision. For many of these circumscribed growths they advocate removal either with the knife or curette, followed by a series of treatments with the *x*-rays. In operable carcinoma of the skin, which includes deeper tissues, they advocate complete extirpation, followed by *x*-ray treatments. Where the growths are inoperable, radiotherapy offers a possible chance of recovery, or of lessening the discomfort of the patient. As a result, however, of their observations of their own and other cases, they believe that in exciting an inflammation in carcinoma one is, to some extent at least, encouraging an extension of the growth through a dissemination of the cancer-cells to normal (or inflamed) tissue, surrounding the growth, and of favoring metastases. They believe this possibility constitutes a danger in the treatment of carcinoma by the *x*-rays that has not been sufficiently recognized. It is not yet possible to draw definite conclusions, with reference to the comparative values of radiotherapy and phototherapy. The former is, for the most part, readier of application, and, apparently, has a wider field of usefulness than the latter. In lupus erythematosus, however, phototherapy has repeatedly given excellent results where the *x*-rays have failed altogether, or aggravated the condition. Judging from their own experience, and from the larger experience of Finsen, and others, in the treatment of tuberculosis of the skin, they believe that in this disease phototherapy gives in the end, results as rapid as those obtained with the *x*-rays, with better cosmetic effects, and without danger of deep burns.

Medical News, January 3, 1903.

Why Chloroform Should Be Used in Puerperal Eclampsia.—Douglas H. Stewart declares that sugar is an antiseptic. It is the general opinion that the alkaline reaction in decomposing urine is due to the production of carbonate of ammonia. One of the many elements in the toxæmia of puerperal eclampsia is the changing of urea into ammonium carbonate. This salt is the result of the principal change in that complex blood poisoning which gives rise to the characteristic convulsions. Chloroform produces a temporary glycosuria. If we admit the presence of sugar in the blood, it can be demonstrated in the test tube that it does prevent the changing of urea into ammonium carbonate. It would seem then that chloroform with its accompanying glycosuria is the test anæsthetic in puerperal convulsions, not that it will inhibit the development of all the poisons in the toxæmia, but it will limit the production of the chief one.

The Diuretic Action of Rectal Irrigation; the Specific Action of Normal Saline Solution in the Production of Diuresis.—Robert Coleman Kemp calls attention to the fact that normal, or rather deci-normal, saline solution, has a specific effect on the kidney cells, in promoting diuresis, and this occurs, whether the solution is administered by infusion, by hypodermoclysis, or by enteroclysis. It occurs, even when such small quantities are employed, that the attached mercurial manometer demonstrates no increase in arterial tension. It takes place even when the renal nerves are sundered. Normal saline solution will diminish acute renal congestion. The writer has often seen profuse diuresis and the gradual disappearance of albumin, casts, and blood, the increase of urine commencing in twenty minutes (the interval of absorption).

The double current irrigation is employed. Rubber sheeting protects the bed, and the bedpan is not used. The water is drained by a carry-off tube into a pail. The outflow tube must be pinched, so that the fluid will pass up into the bowel. From three to twelve gallons are used at a sitting. The irrigations may be given every two to three hours, if necessary, in severe cases. As to temperature, the writer advocates continual enteroclysis at 110° F., gradually increasing to 120° F. He concludes that with frequent small venesections, combined with properly administered irrigations, the scale may be turned in the patient's favor in half an hour. He suggests that an infusion of normal saline solution at 120° F., given at the site of the venesection, might prove of the greatest value.

New York Medical Journal, January 3, 1903.

The Diagnostic Value of Abdominal Rigidity.—J. A. Blake says that abdominal rigidity is a constant symptom in all irritations and inflammations of the peritoneum, and is, therefore, a valuable sign in the diagnosis of the presence of foreign materials in the peritoneal cavity, even before inflammation has ensued. It is a fairly accurate index to the severity and extent of a peritoneal implication, and is, therefore, valuable in observing the course and estimating the severity of a peritonitis. It is a more reliable sign than pain or tenderness in the diagnosis of perforation occurring in typhoid fever. On the other hand, we must remember that the determination of rigidity in the upper part of the abdomen is not always easy, and that it may be present in inflammation of the pleura, the peritoneum being normal.

Bronchial Phthisis.—A. Abrams refers to the common definition of this malady as a tuberculous lymphadenitis of the tracheobronchial glands, but believes that there is a type of the disease not so much characterized by pressure symptoms as presenting a clinical picture similar to that of ordinary pulmonary tuberculosis. The gland process may end variously. They may (1) heal spontaneously; that is to say, the tuberculous process may remain dormant for years; (2) may undergo suppuration, probably the result of mixed infection with pyogenic organisms; (3) may perforate the vessels and lead to systemic infection; (4) may suppurate and perforate the œsophagus or bronchus. When they perforate the bronchus, the symptomatic picture may be essentially that of pulmonary tuberculosis, and it is to this picture that the twenty-five cases collected by the writer refer. The main symptoms may be summarized as follows: (1) Mucopurulent sputum containing tubercle bacilli; (2) dyspnœa; (3) hæmoptysis; (4) pyrexia; (5) paroxysmal, spasmodic cough; (6) percussion signs; (7) auscultatory signs; (8) pressure signs, and (9) Röntgen ray evidence. The only remedy mentioned by the author (outside of the usual therapy) is inunctions of one drachm daily of sapo viridis rubbed in daily in different portions of the body.

The Present Status of Treatment of Hypertrophy of the Prostate.—N. P. Dandridge urges that we should not be carried away by the operative furor of the present time, but we should remember that the older methods still possess a large field of usefulness. There are, indeed, many cases in which surgery alone will relieve the obstructed urinary flow and cure the cystitis. In a certain number of cases complete relief will follow simple perineal incision with drainage for some weeks. It is in the large remainder that perineal prostatectomy promises a large field of usefulness. It must not be postponed too late or a large percentage of mortality will certainly ensue. It must be looked upon as a grave surgical procedure involving a considerable loss of blood, a notable laceration of tissue, and requiring a somewhat prolonged anæsthesia, all conditions badly borne by this class of persons. That it is possible effective experience already shows; whether, however, permanent immunity will be secured from a progressive cystitis and further involvement of the kidneys remains to be seen, and whether many of those operated on between sixty and seventy will reach the age of eighty is something yet to be determined. The operation of complete perineal prostatectomy is still of too recent date to allow of positive deductions as to the permanency of the results it offers.

American Medicine, January 3, 1903.

The Etiology of Uterine and Pelvic Disease.—Clarence L. Wheaton recognizes indiscretions at the menstrual period as a prolific source of uterine disease in young girls who have reached puberty. Another cause of these troubles is imprudence while the uterus is in process of involution. Absolute rest during the process of involution would seem indicated. In applying a bandage to the abdomen, the uterus must not be forced down into the pelvis. Tears of the perineum must be properly attended to. Gonorrhœa is a fertile cause of endometritis and of tubal disease. The crimes of the abortionist are a prolific source of uterine and pelvic disease.

Some of the Surgical Uses of Clove Oil.—W. A. Briggs advocates the application of clove oil to the hands and arms after they have been washed with soap and water, preparatory to operating. The rubber gloves are put on without removing the oil from the skin. After cleansing the operative field with soap and water, a mixture of equal parts of clove oil and lanolin is applied, and later the pure oil. This application is removed by ether. The writer considers clove oil a positive, non-irritant, and continuous antiseptic, and finds it most useful in the treatment of infected wounds. He often packs abscess cavities with gauze saturated with the pure clove oil. He uses this oil as a hand disinfectant in obstetric cases. He also uses it as a dressing for the umbilical cord. The oil is practically non-toxic. Locally, it is distinctly analgesic and powerfully antiseptic.

Two Examples of Parasitic Hæmaturia.—L. Napoleon Boston reports these cases. The first patient was a man sixty-one years old. On rising one morning he noticed that his urine resembled blood. There was no discomfort. There were a few parasites found. Dr. Stiles of Washington, who examined several of the parasites, reported that he was unable to make a specific or even a generic determination. The size of the worm seemed to disagree with the embryos of filaria bancrofti. One trichocephalus egg was found in one of the specimens. The second case was one of hæmaturia, resulting from the development of an echinococcic cyst, whose products were eliminated through the urine. The urine was blood-stained and showed a heavy sediment, composed, for the most part, of shreds of flocculent membrane. There were hooklets and scolices of the tænia echinococcus and many blood-casts present.

Philadelphia Medical Journal, January 3, 1903.

A Case of Traumatic Rupture of the Bladder; Recovery.—Edward A. Schumann describes the case of a man, aged forty-one years, with a history of absolute retention of urine for thirty-six hours, and a vague history of having been run over. Upon the injection of 100 c.c. of boric acid solution into the bladder, none returned through the catheter, and a diagnosis of traumatic rupture of the bladder was made. Operation revealed an area of necrosis in the anterior vesical wall with a rent in its center. The bladder was drained by a glass tube introduced through the rent. The wound was packed and permanent drainage maintained by means of a siphon drain, which kept the bladder always empty. Ten weeks after the operation the patient was voiding the major part of the urine normally, only a few drops escaping through the sinus in the abdominal wall. He has gained in weight and strength.

The Perineum.—James D. Love believes that practically all unrepaired perineal injuries are attended sooner or later by a certain definite train of symptoms. The perineal injury is intimately related to uterine subinvolution, metritis, endometritis, uterine retrodisplacement, and prolapse. Perineal injury can be avoided in a large percentage of cases if the etiology of the lesions is carefully borne in mind and all needful precautions observed. The most frequent etiological factor is the rapid delivery of the child's head with forceps. Another, is faulty position on the part of the mother. The writer delivers all primiparæ, at least, in the left lateral prone position. It is now admitted that every case of perineal laceration demands immediate repair when this is possible. The writer does not employ the vaginal douche in these cases. He binds the knees of the patient together and enforces the dorsal position. He believes that Kelly's modification of Emmet's operation will almost invariably furnish the patient with a perineum restored to its former function.

A Local Electric Light Bath.—C. C. F. Nieschang states that the electric light possesses properties identical with those of the sun's rays. In the arc-light the luminous and chemical rays predominate, but in the incandescent light the heat-rays are in the ascendency. The incandescent light has also a superior heating quality. It is very effective in the relief of pain, painful joint affections, neuralgia, etc. It has a decided advantage over the superheated or hot-air apparatus, as the rays penetrate the tissues deeply and are readily transformed into heat in the deeper layers. The therapeutic effect is due to the peculiar activity and influence of the thermal and actinic rays on the tissue metabolism. The writer describes a simple instrument which he uses, consisting of an insulated cone, lined with abestos sheeting. The edges of the cone are protected by a rubber cushion. It has a handle, connecting cord, plug, and lamp. It is portable. It can be used instead of poultices for abscesses, boils, carbuncles, etc. By wringing

out flannel in hot water and applying it to the parts over which the apparatus is placed its power is increased.

The Lancet, December 20, 1902.

Volvulus of the Small Intestine.—A case of this rare condition is reported by A. H. Burgess, whose patient was a boy of eight years, who was suddenly seized with violent abdominal pain and symptoms of intestinal obstruction, and died in sixteen hours after the onset of symptoms. Autopsy revealed the fact that the whole of the jejunum and ileum, together with the cæcum and commencement of the ascending colon, constituted a volvulus, the pedicle of which was formed by the intertwining of the beginning of the jejunum with the middle of the ascending colon. The small gut, cæcum, and lower portion of the ascending colon possessed a common mesentery, which, while of considerable depth as measured from its spinal to its mesenteric attachments, was of very limited vertical extent, so that the commencement of the jejunum and the middle of the ascending colon were closely approximated.

The Treatment of Diphtheria by the Intravenous Administration of Anti-diphtheritic Serum.—D. L. Cairns was led to try this method of antitoxin administration in that type of the disease characterized by the extension of the morbid deposit to the bronchioles with its large mortality rate. He gives the detailed histories of seven cases, all recovering. The intravenous dose ranged from 20,000 to 35,000 units. No untoward results beyond the usual serum rash and some pyrexia were observed. Very noticeable were: (1) The rapid disappearance of the general toxæmia; (2) the rapid disappearance of glandular enlargement, and (3) the marked diminution of the restlessness in the pneumonic cases. He would lay down as the general indications for this mode of therapy the following: (1) Malignant diphtheria, *i. e.* with nasal or skin hemorrhages, great glandular enlargement, marked cellular infiltration and extreme blanching of the skin; (2) any marked involvement, of the lungs, either when the case is first seen or subsequently; (3) a moribund condition of the patient, and (4) a profound toxæmia.

Congenital Hypertrophic Stenosis of the Pylorus and Its Treatment by Pyloroplasty.—E. Cantley and C. T. Dent gave a brief synopsis of seven personal cases of this condition and analyzed them together with a larger number of cases previously reported. Their main ideas are: (1) That the condition is probably far more common than is generally believed; (2) that it is still not generally recognized, for the symptoms may easily misunderstood or overlooked; and (3) that it may be successfully treated by pyloroplasty. The causation of the condition is still uncertain. Some refer it to a primary hyperplasia of the muscular tissue, an overgrowth due to a fault in development; others believe that the hypertrophy is secondary and results from over-exertion of the muscle, this being due to functional disturbance of the nervous mechanism of the stomach and pylorus. If the condition be due to pyloric spasm, in all cases the affection should be amenable to treatment short of operation; and the fact that medical treatment in marked cases has hitherto proved futile should not deter us from seeking for more efficient remedies than have hitherto been found. As in the view of the authors the condition is more probably due to a muscular hypertrophy which is not the result of spasm, they hold that while surgical measures are imperatively demanded in the strongly marked cases, they may also be with advantage adopted even in slight degrees of the affection. Undue delay, especially in cases that are not of the severest type, is likely to lead to dilatation of the stomach; and when the stomach is much dilated the results of operation of any kind are far less likely to be good. The food may be able to get out of the stomach, but it will not be properly assimilated.

The Lancet, December 27, 1902.

Operation for Chronic Ulcer of the Stomach.—C. W. Mansell Moullin discusses the general status of this operation, with its indications and technical features. His article is of interest, as giving his personal experience. Taking acute and chronic cases together, he has operated by either excision or ligature, thirteen times (cases in which perforation had occurred being excluded). In many of them the loss of blood had already been extreme. In six transfusion had to be performed on the table, or immediately after. Two of these patients, both of whom were in an absolutely desperate condition at the time of the operation, died: the rest recovered without a bad symptom, and were cured. He cannot help thinking that if these two had been operated upon before they had lost so much blood, they would have stood as good a chance of recovery as the others, and he feels convinced that if only ulcers of the stomach were operated upon as soon as it was recognized, that they had become chronic, there would be many fewer deaths from hæmatemesis and perforation, and that such troubles as pyloric stenosis, hour-glass contraction, pain, and dyspepsia from adhesions, perigastric and subphrenic abscesses, and dilatation of the stomach would become far more rare than they are now

The Prevention of Typhoid Fever in Armies.—H. E. Leigh Canney reviews our knowledge concerning the nature and modes of transmission of typhoid fever, and draws certain lessons from various recent wars all over the world. His main proposition relates to the use of "protected" water, by which he refers, in a general way, to water purified either chemically, by filtration or by boiling. His conclusions are as follows: (1) That unless all the water avenues to an army or camp have been protected, it cannot be assumed that the incidence of typhoid fever is due to air-borne agencies. (2) That it is not possible to affirm that the water avenues to an army are closed, unless the sterilization and distribution of the water are carried out by specially trained men. (3) That the evidence of air-borne typhoid fever is not clearly established in recorded Indian military experience. (4) That in South Africa and Egypt the evidence is opposed to this theory. (5) That the weight of evidence from India, Egypt, and South Africa is immensely in favor of the paramount importance of the water avenues, especially in the onset of epidemics, and that the spread of the disease by the subsidiary avenues, flies, dust, and contact, only becomes a factor of importance under conditions of the grossest neglect of sanitation. (6) The evidence from Egypt proves that if the water avenues are protected all other avenues are powerless to originate and to spread *epidemics* of typhoid fever in large bodies of men.

Reflexes; Their Relation to Diagnosis in Rheumatoid Arthritis.—In a study of the asymmetrical cases of rheumatoid arthritis, H. L. Jones finds that the deep reflexes on the affected side are much more active than on the other. The superficial reflexes, on the other hand, show much less uniformity in their behavior. They may be exaggerated or be very sluggish. The scapular reflex, for instance, may, on the stroking of the skin, respond vigorously, or the reverse, but the tendon reflexes, *i. e.* biceps, triceps, etc., are always accentuated. The uniform increase in the deep reflexes sharply contrasts itself with the variability of the superficial, and in an attempt at explanation the author states can only say that, although when disease is confined to the knee-joint, the plantar reflex is usually of high grade; on the other hand, sluggishness of the plantar reflex only occurs when the ankle-joint is either coincidently or independently the seat of disease. Again, usually in these cases there are coldness and blueness of the feet, with profuse plantar sweating, and the joint mischief is actively progressive. On the other hand, should many months intervene between the affection of the knee and ankle, the mischief in the latter joint may have undergone a partial or complete resolution, the swelling and pain and plantar sweating, etc., have disappeared, and the skin, unnaturally dry and harsh in many of these chronic forms, responds vigorously to tickling. The exaggeration of the plantar reflexes, when present, may reach a high grade, and, in some cases, shows a tendency to spread to the opposite limb, whose tensor vaginæ femoris will be seen to contract vigorously, but the author was not able to evoke a bilateral reflex by stimulating the sole of an unaffected limb. He has, in a few cases, seen a definite extensor reaction in response to plantar stimulation (Babinski's sign). The author believes that there is strong evidence of the truth of the infective theory of the disease, but finds no specific morbid agent. Toxæmia from any source of autointoxication may, through its action on the cord segments, produce what is called rheumatoid arthritis. Imperfect convalescence, also, after many diseases, some of them avowedly infective, may provide the soil on which the rheumatoid affection is nurtured.

British Medical Journal, December 20, 1902

A Case of Spontaneous Disappearance of a Recurrent Mammary Carcinoma.—Reginald J. Willson describes this patient, who was a woman, aged forty-eight years, and single. In March, 1895, she was operated on for cancer of the left breast. Four years ago, and again two years ago, she had recurrences removed. About the middle of July, 1901, she was examined, but with difficulty, on account of extreme pain. There were numerous red hard nodules all around the scar. At the end of July she became distinctly melancholic and refused further injections of morphine. Although up to this time her menses had been regular, they stopped at this time and have never returned. By November the nodules had quite disappeared. In the following June she was removed to the asylum, as she was becoming violent. She eats ravenously almost continuously, but remains very thin. Since the abnormal mental condition has supervened pain has ceased. The

menopause and cessation of pain were synchronous, the melancholia and disappearance of cancer nodules following almost immediately.

Unrecognized Influenza.—J. W. Washbourn and J. W. H. Eyre declare that influenza often escapes recognition, not only in the mild cases but even in the fatal ones. In their study of bronchopneumonia, they have examined the lungs from twelve cases, from four of which they have isolated and identified the B. influenzæ. In four others they have observed bacilli which were morphologically identical with the B. influenzæ, but which were not subjected to the tests necessary to establish their absolute identity. It is of interest to note that in two of the cases the intraperitoneal injection of material containing the B. influenzæ was followed by death in about forty-eight hours from septicæmia, and the influenza bacillus was obtained direct from the heart blood, in one case associated with staphylococcus albus, from which it was easily separated; in the other in a state of purity. Its presence was also demonstrated microscopically in smear preparations from the spleen pulp. On the other hand, intraperitoneal inoculation of even large doses of early generations of the bacillus influenzæ subcultivated upon blood agar failed to induce general infection and death.

Serum Reaction of Bacillus Pestis in Plague.—R. Row deduces the following facts from his experiments in this work: (1) Serum of plague convalescents is remarkable for its bactericidal property to bacillus pestis. This property has been observed in convalescents of over six weeks, and has been maintained, though to a less extent, in two cases of plague patients who had plague twelve and eighteen months ago respectively, and whose blood has just been examined again. The growth is absent; involution forms are constantly found. (2) The serum of patients in the very early stages of the disease is certainly inhibitory to the growth of bacillus pestis. The bacilli are few and far between, found only on "hunting," and involution forms are constantly found. (3) The serum of blood from normal individuals gives very good growths, generally speaking. There are some individuals who give a scantier growth than others, but not one instance has been found in which the blood has completely destroyed the growth. The practical value of these observations is of doubtful nature from a clinical point of view, for the features of the disease develop with such rapidity that no doubt of the nature of the disease is left, while the observation takes at least twenty hours to give a decided opinion. But its application seems to give ample scope to work out various problems connected with the subject.

British Medical Journal, December 27, 1902.

Case of Hyperpyrexia after Influenza.—F. Harman Brown attended a woman of twenty-six years with an attack of influenza. She was progressing favorably, but about a week later her temperature began to rise. A soft blowing systolic murmur developed. About two weeks after the beginning of the illness she became much worse. Coma developed, with stertorous breathing and contracted pupils. The axillary temperature was 110° F. She was pulseless at the wrist and the lips were blue. Cold packs were applied, but the patient died within an hour. Ten minutes after death the temperature was 110° F.

On the Growth of Bacteria in the Intestine.—J. Lorrain Smith and J. Tennant have made interesting investigations in this subject. They have shown clearly that one of the first places in which a disturbance of the regulation of bacterial growth takes place is the region of the ileocæcal junction. The power of inhibiting bacterial growth having become impaired, the bacteria which occur normally in the large intestine will become still more abundant, and approximately similar changes will take place in the small intestine. In the region of the ileocæcal valve the change will occur to a greater extent than in the higher parts of the small intestine. This conclusion follows from a study of the relatively sterile area in the small intestine seen in cases of dogs infected with parasites. In the human subject the region of the ileocæcal valve is very liable to attacks of inflammation in the shape of appendicitis and typhlitis in their various forms, and it is probable that these diseases afford an illustration of the mode of bacterial increase just described. Further illustrations are the lesions of typhoid fever and tuberculosis of the intestine. Probably bacterial invasion of a specific kind follows in these cases the same law as the simple disturbance of regulation due to such non-specific causes as the writers have investigated.

Two Cases of Obscure Abdominal Pain; Operations; Results.—Eric Pritchard describes these cases. The first was a woman of fifty-three years, who had a very long and anomalous illness. Up to the time of operation, all of the medical men who examined the case thought that they were dealing with one of obstructive jaundice, either simple or complicated. In spite of the most careful examination, however, no calculus had ever been discovered in the stools. The operation showed that there was nothing to suggest that the gall-bladder or bile ducts had contained a number of calculi corresponding to the frequent attacks which had been regarded as biliary colic. Anodynes of the nature of phenacetine had a more complete control of the pain and temperature than had hypodermic injections of morphine. Although within a few weeks of the time of the operation all the symptoms indisputably pointed to an obstructive jaundice, nevertheless, after the urine and fæces had become perfectly normal, the main features of the case showed very little alteration. The remarkable subsidence of symptoms which followed immediately on the operation suggested that a functional nervous disturbance was at the root of the matter. But it is difficult to see how a functional disturbance, without some organic basis, could account for all the symptoms of this illness and a high temperature lasting nearly four months. The second case was that of a woman nearly sixty years of age. She complained of pain in the right epigastric region. At operation, a mass of fairly dense fibrous adhesions was found, connecting the upper part of the duodenum with the right border of the stomach. The duodenum at its junction with the stomach was kinked at rather an acute angle. The adhesions were released. The patient made an excellent recovery, and for about two months was almost completely free from pain. But about four months after operation the pain became again practically as severe as before. Later, improvement began to take place.

Münchener medicinische Wochenschrift, December 9, 1902.

Operative Treatment of Perforations of the Gall-bladder.—L. Baldassari and A. Gardini think that perforations of the gall-bladder are best remedied by the transplantation of a serosa-muscular flap, taken from the abdominal wall, in the vicinity of the laparotomy incision. Various experimenters have used the omentum for transplantation purposes, and have obtained, apparently, very fair results. The chief objection to this method is its lack of durability, on account of the thinness and delicacy of the omentum. Such a serosa-muscular flap, as above recommended, is much thicker and firmer than the omentum, and its use insures the permanency of the results obtained. The observations of the authors were carried on exclusively upon dogs, and the most rigid antisepsis was observed during the operations.

Diagnostic Value of the Leucocyte Count in Typhoid Fever and Surgical Suppurative Processes.—A. Kühn believes that the hypoleucocytosis (leucopenia) of typhoid fever is one of the most valuable signs in the early diagnosis of this disease. A critical examination of thirty-eight cases showed that it was present in varying degree, in all but three cases, and that it occurred before the appearance of other typical symptoms, such as the Widal-reaction, Diazo-reaction, roseola, enlarged spleen, etc. It should be remembered, however, that low leucocyte counts are obtained in suppurative processes and miliary tuberculosis, so that certain caution should be observed in interpreting low counts, whenever suspicion of the existence of either of these latter diseases is present. An examination of thirty-three acute suppurative processes shows that in such a hyperleucocytosis is always present. The figures increase in direct ratio as the process advances, and if localization takes place the number of leucocytes immediately falls. The grade of the hyperleucocytosis depends, in a certain measure, upon the species of the infecting microorganism, and the resistency of the infected individual.

Munchener medicinische Wochenschrift, December 16, 1902.

Mast Cells versus Clasmatocytes. Ludwig Schreibe believes that Ranvier's clasmatocytes and Ehrlich's mast cells are identical. Ranvier in fixing his preparations used Flemming's mixture, the osmic acid of which, as Schreiber has shown, destroys the basophilic granules of the mast cells. In this manner Ranvier demonstrated the presence of his so-called clasmatocytes which Schreiber regards as none other than mast cells in which the basophilic granules have been damaged by osmic acid. Other observers who have observed cells similar to clasmatocytes have invariably used fixatives which contained osmic acid; thus Maximow in the demonstration of his so-called "polyblasts." It is certain that the presence of typical mast cells can never be demonstrated if the fixing mixtures contain osmic acid in any appreciable amount.

Society Reports.

WESTERN SURGICAL AND GYNECOLOGICAL SOCIETY.

Proceedings of the Twelfth Annual Meeting, Held at St. Joseph, Mo., December 29, and 30, 1902.

FIRST DAY—MORNING SESSION.

The association met in the Commercial Club rooms, under the Presidency of Dr James E. Moore of Minneapolis, Minn.

Address of Welcome.—This was delivered by Jacob Geiger of St. Joseph, Mo., which was responded to by the President.

Evolution of the Treatment of Cancer of the Rectum.—Dr. C. H. Mayo of Rochester, Minn., read a paper on this subject, in which he said that certain definite results were desired in operations for cancer of the rectum, namely, permanent cure, low operative mortality, and a controllable anus, or its best substitute. These results were modified by location, stage of progress, and by the age and condition of the patient. Previous to 1870 operative treatment was almost limited to palliation and lumbar colostomy. From 1870 to 1880 there was a marked advance in all surgery. Drainage methods were developed. Kocher exposed the rectum by the removal of the coccyx, and several perineal operations were advocated. From 1880 to 1890 the development of the germ theory revolutionized surgery, and this period was marked by antisepsis and drainage. More extensive perineal and vaginal operations were advocated, and Kraske made his great advance by resecting the sacrum. The modern surgical treatment was the block removal of the rectum, glands, and gland tissue from below, in some cases, but more often by a combined abdominal and perineal method. Through an abdominal incision a low section of the sigmoid was made, this portion of the colon being saved as a fecal container, and the cut ends of the bowels inverted and closed by a circular suture, rendering the remainder of the operation aseptic. The rectum was separated laterally and below by a peritoneal incision, and pushed down with the glands and fat by blunt dissection, the separation being carried as low as possible beneath the bladder, the remainder of its removal being completed through the perineum. The sigmoid was freed sufficiently to bring the cut end out of an inguinal McBurney muscle separation opening, the skin incision of which was one and one-half inches to one side, and to which the end of the sigmoid was sutured. The bowel was also sutured within the abdomen, to prevent prolapse, and a pad compression of the skin over the sigmoid loop gave a fairly controllable anus.

To sum up the main objections of the past, the author said we had: (1) Ineffectual removal with local recurrence, so common in the perineal type. (2) The extensive mutilating character of the Kraske, before operative conditions were known. (3) The frequent failure of all methods of union of proximal and distal portions of the bowel, which, when united with the destruction of the levator ani and internal sphincter, and anus saved, represented but one-third of the controlling apparatus of the bowel. (4) The frequent formation of stricture, either cicatricial or cancerous, after operation, necessitating inguinal colostomy. (5) The loss of the fecal container in straightening the sigmoid. That sentiment, and not chance, had proven the main reason for continuing to place an uncontrollable anus in an inaccessible situation. The gain in the combined operation had been in a selection of the operation to the case, radical removal *en masse*, with all glands, fat, and connective tissue, or colostomy for palliation; retention of the sigmoid as a fecal container; the peculiar formation of the anus, giving a fair control in an accessible situation.

Carcinoma Uteri.—Dr. H. C. Crowell of Kansas City, Mo., in a paper on this subject stated that unless very early discovered he believed that nothing was gained by hysterectomy for carcinoma of the cervix. Later operations might avail in carcinoma of the body of the uterus. The diagnosis should be confirmed by the microscope in the hands of a competent pathologist. The uterus must be freely movable, capable of being dragged down to the vulva. If not, it was quite probable that the disease had involved the uterosacral ligaments and adjacent tissue, making an operation of doubtful utility. If the disease was clearly made out by touch, appearance, and clinical history, it was rarely possible to secure a radical cure by hysterectomy, if the fatal termination was not accelerated. In cases well advanced, his individual experience led him to believe that more days or months, as the case might be, were added to the life of the patient than by any attempt at extirpation, by cutting and scraping away the necrotic tissue down to solid tissue, burning that surface with the thermocautery; and treating subsequently by touching the surface occasionally with 4-per-cent. formalin. By this treatment disintegration was retarded, hemorrhage and discharges were checked, enabling the patient to recuperate sometimes to a remarkable degree. Suffering was lessened, and the patient was relieved of the shock and dangers attending more radical procedures. The essayist urged more frequent early examinations of parous women, who should be advised of the expediency of such examinations as a routine safeguard after the age of thirty-six years. These two papers were discussed together.

Dr. M. L. Harris of Chicago pointed out the necessity of making a laparotomy previous to the operation in all cases in which the disease extended high, and the surgeon was not perfectly sure from his examinations that it was limited to the lower part of the bowel. His remarks had reference to the paper of Dr. Mayo. This preliminary laparotomy should be resorted to for three purposes: (1) For examination, in order to determine whether or not the case was operable. (2) To facilitate operation, provided one was necessary. The surgeon could decide if it was a case for complete operation, by the combined method referred to by the essayist. (3) To perform a colostomy if the case was inoperable. He thought colostomy was a very valuable operative procedure in many cases.

Dr. Henry T. Byford of Chicago thought the author of the second paper (Dr. Crowell) was too pessimistic. Dr. Byford narrated the case of a woman upon whom he had operated more than ten years ago for cancer, which had involved the entire cervix. The woman was still alive, and had not had a recurrence of the disease. He mentioned a number of cases of carcinoma of the cervix that had recovered following operation.

Dr. H. D. Niles of Salt Lake City, Utah, said he recently had a case in which he was in doubt as to whether the stricture of the bowel was syphilitic or malignant. He resorted to such measures as were available, and was still in doubt. He thought in such a case it would be wise to do a colostomy, and at the same time explore parts of the bowel. In this case an excellent result was obtained, so far as the sphincter was concerned. The patient had excellent control of the bowels. The gridiron incision, and the advisability of doing a colostomy, when in doubt, were the points in the paper of Dr. Mayo that had impressed him forcibly.

Dr. A. C. Bernays of St. Louis, Mo., stated that he had had the opportunity of seeing Dr. Mayo perform the combined operation he had described. The case was one of hard carcinoma, confined to the last portion of the rectum, about one inch above the sphincter. The operation, as executed by Drs. William J. Mayo and C. H. Mayo, was a beautiful piece of surgery, and anyone who had the opportunity of seeing this operation performed would hereafter resort to it in preference to any other.

Dr. D. S. Fairchild of Clinton, Iowa, stated that after having had some experience in operating for cancer of the rectum by the sacral route, and having had but one per-

manent recovery, he was interested in the combined operation that had been described by the essayist. He was thoroughly convinced that surgeons, after seeing this method of operating, would conclude that it was the procedure which would be adopted hereafter.

Disarticulation of the Hip for Sarcoma of the Femur.—Dr. A. E. Halstead of Chicago read a paper on this subject and reported a case, after which he made extended remarks on the diagnosis and prognosis of sarcoma of the femur.

Dr. B. B. Davis of Omaha, Neb., called attention to elevation of temperature in cases of sarcoma of the femur. Several years ago he had a case of sarcoma of the femur, although his first diagnosis was osteomyelitis of chronic form rather than sarcoma, simply because of the elevation of temperature at the time, but he soon found out his mistake. In consulting standard textbooks, he said no mention was made in regard to elevation of temperature in these cases. It was a symptom which should be remembered.

Dr. John P. Lord of Omaha, Neb., mentioned a case of carcinoma of the neck of the femur. Six or eight months previously, a stationary engineer, forty-five years of age, while pursuing his occupation, sustained a fracture of the neck of the femur from a slight violence. There was a history of alleged rheumatic pains, or sciatica, prior to this time. After the injury the patient was taken to his home, was attended by other physicians, who saw him a number of times, and he was treated for this fracture, so that when Dr. Lord saw him it was too late to do the patient any good, on account of marked cachexia. While in a fleshy individual he thought it would be impossible to differentiate this condition by ordinary manipulative methods, yet, with the aid of the *x*-ray, in cases of fracture sustained from comparatively slight violence, the surgeon might be led to suspect the condition and secure the advantage of an *x*-ray examination to detect the early existence of the disease.

Dr. William Jepson of Sioux City, Iowa, mentioned six cases of sarcoma of the femur, two of which developed at the upper end of the femur. These two cases were not subjected to operative intervention. In four cases the disease involved the lower end of the femur, one of which began directly in the tibia, involving the knee-joint, and then the femur. The other three were of the periosteal type. Three of the four cases were subjected to amputation at the junction of the upper with the middle third. The other one was subjected to primary hip-joint amputation. Of the three subjected to amputation through the thigh two died. In other words, two of the three were subjected to secondary disarticulation of the femur at the hip-joint. One of these two died, also one not subjected to this operation. Out of six cases there were only two living.

Dr. Halstead, in closing the discussion, said he had seen two cases of spontaneous fracture of the humerus with central sarcoma. Pathological fracture was the first evidence. In the case reported of central giant-cell sarcoma, Coley's toxins were used for six months continuously, yet the tumor grew as fast as it did before their use. Patient was also treated by the *x*-ray for six months, without any benefit. In all of his cases of sarcoma the use of Coley's toxins had not been followed by success.

Oblique Inguinal Hernia.—Dr. A. E. Benjamin of Minneapolis, Minn., read a paper with this title. He spoke of the treatment of hernia by the early practitioners, saying it was painful, unsatisfactory, and harmful. The present method of operating for hernia, however, was a notable example of the evolution of surgery. Surgeons had reached a point in hernial operations where a permanent cure was quite certain, still there were too many methods and a larger percentage of relapses than surgeons should have. Some of the causes of imperfect results were pointed out. An operation that was not altogether new, but worthy of consideration, was described by him as follows: "The patient is prepared by having the parts shaved the morning of the operation. In doing so, infected areas or vessels are avoided, which may result, when the shaving is done the previous evening or before the parts have been thoroughly cleansed. The time intervening between the evening and morning of the operation favors a greater multiplication of microorganisms. The bowels are emptied, and subsequently kept free from gas accumulation, which lessens the internal pressure. An ordinary incision for a Bassini operation is made. The aponeurosis of the external oblique is slit up to a point opposite the internal ring. The fibers of the internal oblique and transversalis muscles are divided by blunt dissection, thus opening the inguinal canal. The internal oblique and transversalis muscles are found closely connected. They are not separated, but the aponeurosis of the external oblique is carefully and thoroughly removed from the internal oblique. The lower portion is dissected down to Poupart's ligament, and the transversalis separated from the peritoneum. Such careful dissection and positive identification of structures are an important aid in securing direct apposition and firm union. It corrects all defects of nature in this region. The cord is now raised and silkworm-gut sutures introduced, passing through the skin, Poupart's ligament, internal oblique and transversalis. The loop is made on the lower side of the transversalis. The needle, re-entering the transversalis and internal oblique, passes through the skin to the outer and lower side of the cut near the point of entrance. From three to five sutures are similarly introduced. These sutures pull the internal oblique and transversalis below the shelving edge of Poupart's ligament, and are observed to make a firm barrier against any internal force. The sutures are then tied over rolls of sterilized gauze. The spermatic cord rests upon the internal oblique. The external oblique is then closed over the cord. Interrupted figure-of-eight sutures are introduced, bringing the external oblique in apposition with Poupart's ligament. This also approximates the skin, and the sutures are tied over a roll of sterilized gauze. The sutures are usually left two weeks."

The author drew the following conclusions from this operation: (1) There are no sutures for the tissues to absorb. (2) There is no additional culture media in which infectious microorganisms may grow and cause deep abscesses. (3) There are no buried, non-absorbable sutures left to irritate the tissues and cause further trouble. (4) There is no necrosis from tight sutures, therefore few, if any, stitch abscesses. (5) The gauze rolls act as elastic cushions, which prevent scars from the sutures. (6) The operation completely closes the breach, and makes a firm wall. (7) All sutures, after serving their purpose, are removed, leaving only the natural supports.

FIRST DAY—AFTERNOON SESSION.

Rupture of Gall-bladder or Duct from Vomiting, with Rupture of the Appendix in the Same Patient.—Dr. W. W. Grant of Denver, Col., reported this case. He also reported two recent cases of appendicitis because of the interest connected with drainage and phagocytosis. In connection with these cases, he stated that he was satisfied of having saved lives after peritoneal extravasation by the liberal use of gauze for drainage. In abdominal operations drainage imperilled the integrity of the abdominal wall, thereby predisposing to hernia. It should consequently be dispensed with as soon as possible. But in the enthusiasm for new theories and facts, in a justifiable belief in the efficacy of hyperleucocytosis, he believed it was not wise to discard hastily surgical procedures which had stood the test of abundant experience.

Acute Yellow Atrophy of the Liver.—Dr. Grant closed his paper by reporting a case of acute yellow atrophy of the liver. Whether the condition was primarily a general infectious disease of a rare and unusual nature, or primarily a local infectious disease of the liver, was not known. The suggestion of an intestinal origin had no dis-

tinct foundation. The resemblance to phosphorus poisoning was striking, although differing in important particulars. While the urine of both affections might contain leucin and tyrocin, they were more constant in the former disease. Evidently the disease was rapidly diffused through the circulation, and he stated that future investigations would probably disclose a bacterial origin and nature.

Chronic Pancreatitis and Pancreatic Cyst.—In a paper on this subject, Dr. B. B. Davis of Omaha, Neb. reported two cases, one of pancreatic cyst, the other of chronic pancreatitis, both of which had previously been subjected to exploratory abdominal section, and the diagnosis of malignant disease of the pancreas made. In discussing the etiology of pancreatitis, the author stated that infection was considered the determining factor in most cases, the infection being secondary to gallstones, cholecystitis, gastritis, duodenitis, and zymotic diseases, particularly typhoid fever and influenza. It was thought probable that syphilis, alcoholism, and general arteriosclerosis might also cause a small percentage of the cases. With reference to the diagnosis, great dependence must be placed on the clinical symptoms. Glycosuria, fatty stools, and muscle fibers in the stools, which, theoretically, ought to be diagnostic factors in pancreatic disease, practically were usually found absent. In cases in which glycosuria was present, destruction of the islands of Langerhans had been found to exist. In all cases in which infection was the causative factor, prolonged drainage of the gall-bladder was recommended.

Dr. M. L. Harris emphasized the frequency with which stomach troubles preceded chronic pancreatitis. It was possible that stomach troubles, cases of ulcer of the duodenum, were undoubtedly instances of chronic pancreatitis, and might be the result of infection.

Gunshot Wounds of the Stomach.—A paper with this title was read by Dr. J. W. Andrews of Mankato, Minn. The author reported a case of gunshot wound of the stomach in a boy, eleven years of age, upon whom he had operated. The little patient rallied from the shock and did well for the first three days after the operation, when he began to fail, and died on the eighth day. A post-mortem examination showed that death was due to septic peritonitis. In commenting on this and other cases of gunshot wounds of the stomach, the speaker stated that, since surgeons of international reputation did not agree as to an immediate operation, he preferred to accept that which might seem less conservative, namely, an immediate operation in all cases in which it was reasonably certain that the stomach had been perforated.

Fowler's Position in Abdominal Surgery.—Dr. Van Buren Knott of Sioux City, Ia., contributed a paper with this title. Since this position had been brought to his notice, he had employed it in the treatment of cases of septic peritonitis. He reported five recoveries from diffuse septic peritonitis. These successes were not consecutive, however, no two of them having occurred without an intervening failure. Brief histories of the five successful cases were given, as these were the only instances of diffuse septic peritonitis that had been operated upon successfully by the author. The Fowler position was maintained for twenty-four hours, unless some special reason for continuing it was present. The head of the bed should be raised from eighteen to twenty inches from the floor. He urged those present, who had not employed the Fowler position, to do so, for he believed that it could do no harm, but, in many cases, would prove of much value.

Old Irreducible Dislocations of the Shoulder Joint.—Dr. A. F. Jonas of Omaha, Neb., referred at length to the literature of such cases, and reported seven that had occurred in his own practice. His method of dealing with these dislocations consisted chiefly of (1) manipulation, using the forearm as a lever, rotating outward and inward, abduction and adduction, never forgetting for a moment a possible accident to the axillary vessels and nerves, and the possibility of fracturing the humerus. (2) If this plan failed, the capsule was incised, and all cicatricial tissue was extirpated. All muscular attachments that offered restraint were severed, the axillary vessels were protected with a broad, flat retractor, and the head of the bone was brought into place by means of an elevator, assisted by manipulation and traction. To avoid infecting the wound in this last manœuver, it was advisable to firmly wrap the entire arm and hand with wet sublimate towels. Dry towels were liable to slip and become displaced, making it possible for the operator's hand to become infected. If the head could not be replaced, then (3) the head of the humerus should be resected, an operation to be avoided, when possible, on account of the resultant flail-like condition of the arm, and yet must be done (*a*) when the humeral head and neck became too extensively stripped of their attachments, experience having shown that necrosis might occur in 16 per cent. of the cases; (*b*) when osseous union had occurred between the head and the ribs; (*c*) when, after a division of all restraining soft parts, the head rested against the point of the acromion process.

Case of End-to-End Anastomosis of the Popliteal Artery for Gunshot Injury.—Dr. Alexander Hugh Ferguson of Chicago reported this case. He gave a history of the injury, described the physical findings, and the operation which he performed.

Treatment of Injuries of the Pelvic Floor Occurring During Parturition.—Dr. William E. Ground of West Superior, Wis., read a paper with this title. His conclusions were that almost every woman, during her confinement, suffered injuries from which she did not recover unless she was subjected to a secondary operation for repair of lacerations of the pelvic floor; that immediate suture of apparent lacerations did not restore pelvic support in the vast majority of cases; that from one to two months after labor the woman should be subjected to a thorough examination, and any relaxation corrected before it had time to impair her health.

Lung Surgery; Historical and Experimental.—Dr. B. Merrill Ricketts of Cincinnati, Ohio, presented an elaborate contribution on this subject, which was illustrated by lantern slides. We give the author's conclusions in his own words: (1) Severing one or more of the larger pulmonary blood vessels results in instant death. (2) If death does not result in a few minutes, bleeding will be slow and gradual. (3) If bleeding is slow and gradual, it may require hours or days to cause fatal exhaustion. (4) If death does not occur until after the end of the second day following severe bleeding, infection is the cause. (5) All, or a part, of the escaped blood may pass through the opening in the chest into the bronchus or alimentary tract. (6) The blood may escape into the pleural cavity or cavities, pericardial or peritoneal cavity, or all, and thereby become concealed.

(1) **Pneumonotomy.**—More definite knowledge of conditions and symptomatology is necessary that surgery of the lung may be perfected and made more aggressive in general. (2) Abnormalities, congenital or acquired, must always be considered in dealing surgically with the lungs. (3) Atalectasis and apneumatosis should be cared for by relieving the compression by removing the cause. (4) The surgical principles can be applied to the lung as to other organs of the living body. (5) The bony chest may be opened for exploration of the lung with as little danger as opening the abdomen, cranium, articulating capsule, kidney, liver, pancreas, spleen, stomach, gut, or hepatic duct. (6) Hermetically closing the chest is irrational, unscientific, and dangerous. (7) Closing the chest wound by any means does not prevent the escape of blood from injured pulmonary vessels into the pleural cavity. (8) All wounds of the chest wall, whether penetrating or non-penetrating, should be treated aseptically, and with reference to drainage. (9) No instrument or needle should be made to enter the lung tissue for exploration, or

the removal of fluid, unless the bony chest has previously been opened. (10) Foreign bodies in the bronchia or parenchyma of the lung may be detected with a fine exploratory needle through an open chest, with the lung contracted. (11) Foreign bodies in the lung and bronchia, when causing serious symptoms, should be removed. (12) Some small foreign bodies become encysted and remain harmless. (13) The position of a foreign body in the lung changes with expansion and contraction of the lung. (14) Hemorrhage, when due to pulmonary tuberculosis, should not be allowed to become fatal without opening the bony chest, and the application of pressure, by forceps, gauze, or otherwise. (15) Bleeding of the lung from any cause will, in many cases, cease when the lung is allowed to contract upon itself, with an open chest. (16) Blood clots within the pleural cavity should be removed at the time they are discovered, whether infected or not. (17) Blood clots in the pleural cavity may become organized with or without adhesions of the parietal and visceral pleura, or they may become infected and cause more serious consequences. (18) Hæmoptysis may be absent in the most severe lacerations of the lung. (19) If bleeding from larger pulmonary vessels results, forceps should be applied; if not, gauze should be securely packed in the cavity. (20) Drainage of pulmonary cysts of any character can be effected with the same success as in any other organ. (21) Incision for drainage should be done with or without the presence of adhesions. If without adhesions, the opening in the chest should be at the lowest point of the pleural cavity for drainage by gravity. (22) Many incisions of the lung may and should be made with and without even local anæsthesia. (23) It is probable that but a few will necessitate the use of general anæsthesia. (24) Abscess of any character and of any location in the lung should be found and opened. (25) Gangrene of the lung demands most radical surgical measures, such as opening the chest, drainage, and the removal of all necrotic tissue. (26) Polypi of bronchia seldom necessitate removal, but they may cause conditions which may require surgical intervention.

Pneumonorrhaphy.—(1) Silk, silkworm gut, and animal tendons are the most desirable materials for lung surgery. (2) Absorbable sutures and ligatures, as a rule, are not to be relied upon as to strength and durability. (3) Silk and silkworm gut may become encysted in the lung and remain harmless. (4) The tug, and a combination of the tug and tobacco-pouch sutures constitute the most desirable ones for use in the lung. (5) Ligatures and sutures may be dislodged by sudden expansion of the lung due to sudden closure of the opening in the chest wall. (6) The blood vessels, bronchia, and lung tissue should be ligated separately, great care being used not to include too much tissue of any kind in one ligature. (7) Needles to be employed in lung tissue should be round, with a rounded point. They should never have a sharp point, or sharp edges. (8) Not all ruptures, punctures, or lacerations of the lung require sutures, or any surgical intervention whatever. (9) Many lacerations of the lung without fracture of the bony chest can and should be treated by suture, compression with gauze or forceps. (10) Puncture of the lung from any cause, such as stab and gunshot, resulting in hemorrhage, should be treated by opening the chest and applying ligature or compression. (11) Rupture of the the lung should be treated as a laceration.

Pneumonectomy.—(1) A portion or all of one lobe, or the entire right or left lung, may be removed without causing death. (2) For complete or partial lacerated portions of the lung, when severe, pneumonectomy is necessary, and should be done. (3) Gangrene of the lung requires, in many cases, the removal of all necrotic tissue. (4) Hernia of the lung, when sudden and of but few hours' duration, should, as a rule, be amputated, and the stump fixed in the chest wall, as there is no sac. (5) Hernia of the lung coming on gradually has a sac, and should be returned to the pleural cavity, if possible, without amputation.

Pneumonopexy.—(1) This is the safest and most rapid way of dealing with the stump of lung tissue in the majority of cases, necessitating excision for any cause. (2) Adhesions of the parietal and visceral pleura have, without exception, taken place, whether there have been lacerated or incised wounds, with or without suture. (3) The degree of adhesion corresponds with the degree of injury. (4) Cysts of the lung of any character can best be drained through viscero-parietal adhesions. In the absence of adhesions, the walls of the cysts may be sutured to the edges of the opening in the chest wall, drainage to be at once accomplished or at some subsequent time.

SECOND DAY—MORNING SESSION.

The Pathology that Remains after the Non-surgical Treatment of Peritonitis.—Dr. H. D. Niles of Salt Lake City, Utah, read a paper on this subject in which he stated that 95 per cent. of all the survivors of the non-surgical treatment of peritonitis were left with infection without the peritoneal cavity, and adhesions within this cavity. Well-known anatomical peculiarities of the gall-bladder, appendix, and Fallopian tubes favored the reception and imprisonment of infection from the alimentary canal and endometrium, and its extension to the peritoneum. It was about one of these organs that the surgeon usually found the pathology, unless it had been mechanically removed. The greatest amount of infection came from a sudden rupture of an appendiceal or tubal abscess, or a perforation of the stomach, intestine, or the gall-bladder. The most virulent infection was either appendiceal or from a pyosalpinx following a puerperal endometritis. The mildest was from a cholangitis or a gonorrhœal salpingitis. The author's experience led him to believe that about 40 per cent. of the possessors of infection and adhesions suffered from recurrent attacks of acute and subacute peritonitis, and less than 1 per cent. from mechanical obstruction of the bowels. It was to the remaining 59 per cent. that he invited particular attention, for, while it was customary to point to these cases as sufficient proof of the efficacy of the drug treatment of peritonitis, he believed that all fair-minded, thoughtful observers were learning to regard the pathology these patients carried within their abdomens as responsible for much distress and many deaths that were formerly attributed to other causes, or for which no well-defined cause could be found.

Surgical Treatment of Tuberculous Peritonitis.—The author of this paper, Dr. D. S. Fairchild of Clinton, Ia., drew the following conclusions: (1) If an intraabdominal focus of tuberculosis is diagnosed or is suspected, an abdominal section should be made with the view of more efficient treatment. (2) If a chronic tuberculosis of the peritoneum, with ascites, is diagnosed, or believed to exist, a laparotomy is indicated as soon as it is found that medical and hygienic treatment has failed. (3) In fibrous tuberculosis of the peritoneum the same course should be pursued, and if cheesy degeneration has not commenced, or progressed too far, a certain percentage of recoveries will follow. (4) In acute tuberculous peritonitis, with ascites, and high temperature, laparotomy is useless. (5) In extensive adhesive tuberculosis of the peritoneum, with matting of the intestines, laparotomy is useless, and the attempt to separate the adhesions is dangerous in its immediate results.

Injury to Nerves Following Fractures.—Dr. A. L. Wright of Carroll, Ia., read a paper on this subject, in which he reported a case of fracture of the humerus through the middle third, with injury to the musculospiral nerve, or, rather, the incorporation of this nerve between the ends of the bone, or to its being caught and pressed upon by the callus thrown out during the reparative process. He stated that the literature was replete with cases reported in which various nerves, especially the ulnar and median nerves, had been severed by a stab

or the falling of glass. The case presented by him had the typical clinical picture of injury to a nerve found at the end of a siege with a fractured bone, and taught a very valuable lesson regarding the prognosis and treatment.

Treatment of Nævi.—Dr. John P. Lord of Omaha, Neb., followed with a paper on this subject. He discussed the varieties of nævus, their etiology and pathology, and reported several interesting cases. He stated that the hot-water treatment of cavernous angiomas, as suggested by Wyeth, was under trial, and would doubtless have a place in the treatment of selected cases. The treatment of port-wine marks by electrolysis was too tedious and painful for large areas. The results were not perfect, in that they were seldom complete, and left some scarring. The *x*-ray promised better, and hot air would seem to have possibilities. Electrolysis occupied first place in hairy nevi, and would probably continue to do so unless the *x*-ray would produce permanent atrophy of the hair follicles. The operation of excision of very large tumors would probably never be supplanted by anything less radical; and hitherto inoperable tumors were rapidly yielding to the control of the operators of the new century.

Hypernephroma.—Dr. M. L. Harris of Chicago presented a paper with this title. He said that it was only during the last few years that our knowledge of tumors of the suprarenal capsule had made any material progress Previous to this time tumors were variously described as adenomata, sarcomata, carcinomata, mixed sarcoma and carcinoma, endotheliomata, etc. The essayist referred to the literature of this subject and to cases previously reported, and after giving the details of a very interesting and instructive case, presented the following conclusions: (1) The hypernephromata are tumors of adrenal tissue, and therefore probably neither sarcomatous nor carcinomatous. (2) Such tumors may or may not form metastases. When they do, they are distinctly malignant. (3) When they are within the kidney capsule, or have perforated it by extension, the kidney should be removed. (4) When they originate in the adrenal tissue proper, they are usually separated from the kidney tissue by a connective tissue capsule, and however much the kidney may be flattened or fixed to the tumor, a line of cleavage may usually be found which will permit of the kidney being separated from the tumor and saved to the patient.

Dr. C. W. Oviatt of Oshkosh, Wis , reported a case of hypernephroma, which came under his observation about four years ago, but at that time a diagnosis was made of sarcoma of the kidney.

Dr. Van Buren Knott described a case of hypernephroma in a woman, thirty-eight years of age. This case came under his observation about eighteen months ago. A diagnosis had been made by mistake of semi-solid tumor of the ovary

Dr. A. C. Bernays of St. Louis, Mo., reported six cases of hypernephroma.

SECOND DAY—AFTERNOON SESSION.

Two Cases of Acute Intestinal Obstruction Following Contusion of the Abdominal Walls.—This paper was read by Dr. J. E. Summers, Jr., of Omaha, Neb. In the first case there was traumatic paresis of the lower part of the small intestine following kicks upon the abdomen. The patient was a man, twenty-six years of age, and of good physical development. The second case was one of retroperitoneal hemorrhage following a contusion of the abdomen, resulting in a hæmatoma, which compressed the descending and transverse portions of the duodenum from behind so as to cause intestinal obstruction. The patient was a rugged young man, twenty years of age, and a farmer by occupation.

A New Method of Shortening the Round Ligaments Intraperitoneally for Retroversion of the Uterus.—Dr. Henry T. Byford of Chicago read a paper on this subject and described this new method, as follows: "It consists in folding the ligaments anteriorly, according to Dudley, but in stitching the loop to the abdominal parietes, about opposite or behind and a trifle above the internal inguinal ring The ligament is grasped with hæmostatic forceps, and pulled out of the abdominal incision until it is drawn as far out of the inguinal ring as possible, without doing violence to the tissues. Then a medium-sized catgut suture is passed through the center of the ligament about a quarter of an inch from the uterine end, and the same suture is passed through the ligament about half an inch from the internal inguinal ring. The suture is then drawn tight and tied like an ordinary ligature, except that it includes only half of the ligament in its grasp. The inner edges of the loop thus formed should now be touched with a chemical irritant, such as Monsell's solution or 1-5,000 mercuric bichloride, in order to destroy the endothelium and secure firm adhesions. The irritant is then wiped off and the edges sewn together by fine catgut, which entirely closes in and covers up the irritated peritoneal surfaces. The end of this fold is then touched with the chemical irritant, and stitched forward beside the bladder, about opposite and a little above the level of the external inguinal ring. This, of course, will be only a peritoneal attachment, and should be rather high, because the peritoneum is held in place here rather loosely. Thus there are practically two round ligaments on either side, one going from the uterus partly through the first catgut ligature to the attachment behind the external inguinal ring, and the other from the uterus to the ligature, and from there to the internal inguinal ring, etc. The uterine half or quarter inch, or inch, according to the place where the ligament is transfixed, is common to both of the newly-formed round ligaments."

In case there was a tendency to uterine prolapse, the author sutured the whole side of the fold of the ligament to the peritoneum beside the bladder, or even sutured the portions of the round ligaments external to the folds to the parietal peritoneum in front. When there was decided prolapse, he also stitched the infundibulo-pelvic ligament forward, the fundus uteri itself, and even took folds in the sacrouterine ligaments. When there was cystocele, he separated the remains of the urachus with a narrow strip of peritoneum, and after loosely twisting the flap thus obtained, and drawing up the bladder, attached the flap into the abdominal wound.

Dermoid Cysts of the Intestinal Tract.—Dr. William Jepson of Sioux City, Iowa, presented a paper on this subject and reported a case. The cyst occupied the anterior internal wall of the colon about three-quarters of an inch above the ileocæcal valve. It was covered by peritoneum through which the cyst wall was plainly seen. The cyst was removed by making an elliptical incision through the serosa and dissecting out the growth. Recovery was uneventful. In explanation of the development of congenital cysts in the intestinal tract, the author stated that the following theories had been advanced: (1) Imperfect obliteration of the omphalomesenterie duct. (2) Torsion of a portion of the intestinal wall by the products of a previous peritonitis, etc. (3) By sequestration or implantation of epiblastic or hypoblastic structure leading to the later development of an ento- or ecto-dermoid. The point of interest which these cysts had for surgeons were (*a*) that in a large per cent. of the cases the cysts, although innocent in themselves, ultimately led to a fatal issue, either through obstruction of the intestinal lumen, or because of their contents becoming infected from the intestinal canal, terminating in peritonitis. (*b*) If their removal was undertaken before such complications had resulted, a favorable termination could be looked for.

Appendicitis—Operation and Indication.—Dr. A. C. Bernays of St. Louis, Mo., contributed a paper with this title, in which he laid stress on the fact that we knew nothing definite relative to the pathological process which war-

ranted delay in operating. We did not know enough before opening the abdomen to warrant us in following an expectant plan. He believed many lives were lost because the physician was lulled into hopeful security by an amelioration of symptoms. This amelioration could not be depended upon to last, as it might change, without a moment's notice, into a sad picture of collapse and sepsis, and the favorable time for operation was missed.

In so-called intermediate cases a waiting policy was justified because the system was immunizing and fortifying itself against the toxins. An operation after the body had been immunized, which meant that the pus had been made less virulent, was less dangerous. Dr. Bernays thought that an operation was likely to be less dangerous on the seventh or eighth day than on the third or fourth, but made a strenuous plea for operation on the first or second day of the attack, and claimed that 98 per cent. of all cases operated on at that early period would be saved. Operations done on the first or second day of the attack were as safe as internal operations. The most brilliant and satisfactory results followed prompt operations in cases of severe appendiceal peritonitis.

Hyperplasia of the Uterus.—Dr. C. G. Geiger of St. Joseph, Mo., read a paper on this subject. He stated that the frequent occurrence of enlargement of the uterus had been a great stimulus to the study of its underlying pathological conditions. The most frequent causes of hyperæmia were puerperal subinvolution of the uterus, which might be caused by too early getting up after childbirth, small or large lacerations of the cervix, and uterine trouble. Anything which interfered with normal involution predisposed to this condition. He mentioned three distinct stages of hyperplasia—hyperæmia, hypertrophy, and sclerosis.

It was impossible to determine at the bedside exactly when the state of subinvolution began to emerge into that of hyperplasia, as it was a slow and insidious development. The two affections in clinical appearance resembled each other, and apart from the history differentiation was difficult. Chronic hyperæmia and hyperplasia might involve any portion of the uterus, neck or body, or certain portions thereof. For manifest reasons, the neck of the uterus was the favorite focus of disease.

The treatment of the various conditions of enlargement was so dependent on their causation that each individual case demanded a separate investigation. He said the ideal way of approaching this subject was in the direction of prevention, which, in a great many cases, the attending physician was able to do. But gynecologists must meet the disease already developed and devise methods which, if not curative, were palliative. Iodine and caustics in the hands of the essayist had not been of much service. In neurotic patients nothing was better than a change of climate and scenery. In some cases a change in the surroundings accomplished much good. To sum up the treatment briefly, the patient should be given rest, the cause removed, the diseased organ depleted, and the patient's general health improved.

Some Questions in Abdominal Surgery.—Dr. J. N. Warren of Sioux City, Iowa, read a paper on this subject.

Officers for the Ensuing Year.—The following officers were elected: *President*, Dr. Alexander Hugh Ferguson, Chicago, Ill.; *First Vice-President*, Dr. C. H. Wallace, St. Joseph, Mo.; *Second Vice-President*, Dr. C. W. Oviatt, Oshkosh, Wis.; *Secretary* and *Treasurer*, Dr. George H. Simmons, Chicago, Ill.; *Members of the Executive Council:* Dr. James E. Moore, Minneapolis, Minn., *Chairman;* Dr. A. F. Jonas, Omaha, Neb.; Dr. O. B. Campbell, St. Joseph, Mo.; Dr. C. H. Mayo, Rochester, Minn.; and Dr. J. R. Hollowbush, Rock Island, Ill.

Denver, Colorado, was selected as the place for holding the next annual meeting; time, December 28 and 29, 1903.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, Held December 22, 1902.

Charles N. Dowd, M.D., President.

Some Common Skiagraphic Errors; Cause, Dangers, and Prevention of the Same.—Dr. Lewis G. Cole read this paper. He called attention in cases of Colles' fracture, for example, to the necessity of carefully noting the relations of the bony parts. To do this properly the surgeon should draw a line parallel with the outer edge of the ulna, and another at a right angle to this, at the articular surface of the head of the ulna. He should then observe what relation the base of the radius bore to the head of the ulna. Normally, the styloid process of the radius extended from a half to three-quarters of an inch below this line. The causes of error in skiagraphy were: (1) Varying the distance of the tube from the plate; (2) varying its direction from the plate; (3) varying the distance of the tube from the body; (4) varying the direction of the tube in relation to the body; (5) varying the distance of the body from the plate; (6) varying the relation of one bone to the other; (7) varying the relation of the part skiagraphed to the body as a whole, and (8) varying the angle at which the light strikes the plate by tilting the plate. By means of a series of diagrams the author illustrated the distortions produced in skiagraphs by these variations in the adjustment of the apparatus, and of the part to be skiagraphed. Three of the diagrams showed that, by a change in the position of the *x*-ray tube, the resulting skiagraph could be made to indicate either an overlapping or a separation of the fragments. The author said it was not safe to compare a skiagraph with an anatomical plate showing the normal appearance of the part in question; nor was it safe to compare a skiagraph of a limb of one person with a skiagraph of the same limb of another person. The only safe method was to compare the skiagraph of one limb with a skiagraph of the corresponding limb of the same person. Dr. Cole then showed a skiagraph of his own arm, taken in such a way as to make it appear that his arm was the seat of a Colles' fracture, though such was not the case.

The Detection of Renal and Vesical Calculi by Means of the X-Ray.—Dr. Henry P. Moseley was the author of this paper. He said that on July 11, 1896, the first case of diagnosis of a renal calculus by the Röntgen ray had been published. In that case the diagnosis was subsequently confirmed by operation. Before attempting to examine a person for renal calculus by the *x*-ray the bowels should be most thoroughly emptied by a cathartic, and by enemata, and the patient should be forbidden to take more than very light food for the twenty-four hours preceding the examination. This would help to exclude shadows formed by fruit stones, and would reduce to a minimum shadows of air-bubbles in the bowel. A plate measuring 11 by 14 inches would usually be large enough. The *x*-ray tube should be placed directly over the umbilicus at a distance of 18 inches from the plate, and two radiographs should be taken at an interval of several days. Renal calculi composed of oxalates or of phosphates gave the best shadows. In attempting to diagnosticate vesical calculi by the *x*-ray, the patient should be placed upon the belly and the bladder should be empty. The fluoroscope was not suitable for this kind of work, for the shadows are very delicate, and it should be remembered that in order to do good work with the fluoroscope the examiner should remain in a dark room for ten minutes before making the examination. A number of interesting skiagraphs were exhibited by Dr. Moseley.

The Limitations of the X-Ray in the Treatment of Cancer.—Dr. William B. Coley read this paper. He said that during the past year he had seen seventy-five malignant tumors treated by the *x*-ray. Of this number twenty-seven were sarcomata, and twenty were cases of

cancer of the breast. Five round-cell sarcomata were entirely cured. In sixteen of the cancers of the breast the disease was recurrent and inoperable. Frequently recurrent nodules disappeared entirely in a few weeks of treatment by the *x*-ray, but they very soon reappeared. This showed that while the *x*-ray exerted a marked influence on malignant disease, there was a tendency to speedy recurrence. Thus far there had not been a single case of cancer that had remained well sufficiently long to consider it a cure. He believed the interest of both science and of our patients would be best served by limiting the *x*-ray treatment to inoperable cases. This treatment was only in the experimental stage. He was free to admit that two-thirds of the cases of cancer, surgically treated, recur after a longer or shorter time, and these cases should afford, for the present, sufficient opportunity for testing the value of the *x*-ray treatment. The laity had already jumped to the conclusion that in the *x*-ray was to be found a successful substitute for surgical operation. He had personally treated twenty cases of recurrent cancer of the breast with the *x*-ray, yet, in not a single instance had any large recurrent tumor completely disappeared, although in some instances the treatment had been kept up for eight months. If the so-called cures after *x*-ray treatment were subjected to the same standards as those treated by surgical operation, there would not be many cures; on the other hand, while some had reported as high as 50 per cent. of "cures" from the *x*-ray, it was probable that if the cases surgically treated were judged by the same standard, they would show at least 75 per cent. of "cures."

Demonstration of Tubercle and Other Bone Lesions from X-Ray Negatives.—Dr. Louis A. Weigel of Rochester gave this demonstration, and made some remarks on the use of the *x*-ray in the diagnosis of bone tuberculosis. He said that an *x*-ray plate, to be of any value for any purpose whatever, whether for fractures, renal calculi, or bone disease, should be an exceptionally good one, because any other kind of plate was worse than useless, being absolutely misleading. It was not particularly difficult to make a good *x*-ray plate. Those which he would show had not been retouched or intensified. A large series of excellent skiagraphs were then exhibited and commented upon.

Permeability and Composition of Calculi.—Dr. A. B. Johnson spoke in commendation of the efforts made by Dr. Cole to point out clearly the causes of errors in radiography. This was a subject of the utmost importance in medicolegal work. He had himself taken upward of 200 radiographs of persons supposed to have renal calculi, and of this number stones had been found in about thirty, and in almost all of those operated upon the diagnosis had been found correct. He did not think it possible in the case of a very stout person to make a radiograph which would clearly show a renal calculus. Many of his failures had been due to faulty technique in the preparation of the negatives, while others had been due to the use of improper *x*-ray tubes. It was necessary to use excellent *x*-ray tubes, and tubes which had been but little used. All of the stones detected by this means contained some other ingredient besides uric acid. This had led him to make a series of experiments, to determine the permeability of kidney stones of varying composition. He had collected a large number of such stones, and, on having them analyzed, had found that very few of them were wholly composed of uric acid. He found the latter to be so permeable that he would not be willing to express an opinion regarding the shadows cast by them under the *x*-ray. On the other hand, if there were only 10 per cent. of calcium phosphate, the shadow would be quite distinct, almost as much so as if the stone were wholly made up of calcium phosphate. In one case he had been able to detect, in a man weighing 170 pounds, the presence of a stone in the ureter weighing only 1¼ grains. It was composed of oxalate of lime.

X-Ray Fails to Prevent Dissemination of Cancer.—His own experience with the *x*-ray treatment of malignant disease had been very similar to that of Dr. Coley. He had apparently cured a few cases of sarcoma, but none of carcinoma, and all of his cases had been inoperable ones, because he did not believe in subjecting other cases of malignant disease to this comparatively new and untried treatment. Some of his cases had developed carcinoma of the liver under treatment, and also nodules in the vicinity of the original growth, and that, too, when no screen had been used. One patient came to him with a few minute nodules of carcinoma of the skin, which had developed after an amputation of the breast for carcinoma. No screen was used, yet the patient developed carcinoma of the liver and of the parotid gland, and eventually died from the disease. Hence, so far as the dissemination of the disease was concerned, his own experience did not indicate that the *x*-rays had any influence in preventing this, although the local lesions evidently improved. These cases were favorable ones, because they were all private patients, who had plenty of money and time, and were willing to submit to any amount of treatment. He did not think any one to-day should recommend *x*-ray treatment of malignant disease in preference to operation, except when the disease was inoperable. He could hardly find words to thank Dr. Weigel for his wonderful demonstration of skiagraphs of bone disease. He did not think there was another equally good collection of skiagraphs in this country. He agreed fully with Dr. Weigel that it was folly to attempt to make a diagnosis of bone disease, except from *x*-ray negatives of the first quality.

Dr. H. Lilienthal observed that *x*-ray work was essentially a specialty, and hence the surgeon should not do such an operation as an amputation without first satisfying himself that the *x*-ray negative furnished had been produced by an expert in that field, and that his interpretation of the plate corresponded with the clinical record of the case. With regard to cancer, he would say that an operable case was one in which a cure could be effected with fair certainty by operation, or in which the disease could be so modified as to prolong the patient's life considerably, or in which the patient could be relieved of painful or loathsome conditions. In such cases he believed the *x*-ray should come after, and not before, the operation. In a clearly inoperable case the *x*-ray should be used. For example, in an infiltrating carcinoma of the jaw, involving the soft parts and the glands of the neck, there could be no doubt that the patient was doomed, and that operation would not only produce horrible disfigurement, but might shorten life. As it was not justifiable to do a radical operation in such a case, the *x*-ray should be called to the aid of the surgeon. He also wished to thank Dr. Weigel for his excellent demonstration, and to ask him if it were possible to get better definition in the examination of the *x*-ray negative for suspected gallstones by using with Dr. Weigel's box blue, red, or green light instead of a white electric light.

Dr. Weigel said that from what he had seen of the work in the field of gallstone skiagraphy, he felt that the skiagraphs could have been better made by a different technique. A tube which would perhaps give the best definition in bone would not always give the best definition in the soft parts; yet he did not believe it was wise to use a "low" tube. What was wanted was an *x*-ray tube which would give penetration. The object should be to obtain a first-class negative, and if this were attained, it did not make very much difference whether it was illuminated by a white, a red, a green, or a blue light. He was inclined to think, however, that the white light, with his box, would give the best definition, but it should be remembered that often the light shadows would not be visible, unless the observer took a position which would allow of looking obliquely through the photographic film. The ordinary method of examining an *x*-ray negative, by

holding it up to a window, was crude and unsatisfactory, and one would be surprised to find how much could be seen by making use of his box.

X-Ray Fails in Deep Cancer.—Dr. Franz Torek said that he agreed with the previous speakers that *x*-ray treatment should not be used in operable malignant growths. He had begun this treatment of malignant disease with some enthusiasm, owing to a number of very beautiful results in superficial epithelioma of the skin. He had, however, come to the conclusion that the more deeply-seated tumors could not be cured, with any degree of certainty, by the *x*-ray, and that this treatment should be limited to inoperable tumors, with perhaps, the one exception of the superficial epitheliomata of the skin. In the last-mentioned field there was still justification for trying the *x*-ray treatment, even in cases which might be successfully attacked by the knife. Of course, the *x*-ray treatment should be employed in cases of malignant disease after the use of the knife. His experience, so far, comprised the *x*-ray treatment of thirty-five cases of malignant disease.

Dr. Eden V. Delphey spoke of a method of examining cases of supposed fracture with the fluoroscope, and having obtained the desired position, substituting the photographic plate and making an *x*-ray negative. It was essential to select a tube giving a proper degree of penetration. The size of the target was also of importance. The speaker pleaded for greater exactitude in *x*-ray work, particularly in the matter of "dosage."

Dr. Delphey then presented a young woman who had been to a great many physicians without relief. After a careful and systematic examination of all the organs with negative result, she was subjected to an *x*-ray examination, and this revealed in the neighborhood of the fourth dorsal vertebra an aneurysm of the descending arch of the aorta. There was no tracheal tug or any of the usual symptoms of such aneurysm. An *x*-ray photograph would not show the condition, but it was plainly revealed by fluoroscopic examination. The case was presented to show the value of this special mode of examination under certain conditions, and the need for varying the technique to adapt it to the individual case.

Report of Committee on Coroners' Office.—This committee reported in favor of the abolition of this office and the separation of the medical and judicial duties of that office, after the manner now in vogue in Massachusetts. After some discussion, on motion of Dr. Theodore K. Tuthill, it was voted to call a special meeting in the near future for the consideration of this subject.

Overcrowding of Street Cars.—A committee was appointed to draft suitable resolutions on this subject, expressing a willingness to co-operate with the Merchants' Association, said resolutions to be submitted to the society for its approval.

The Treatment of Arteriosclerosis by Subcutaneous Injections of Inorganic Serum.—Dr. Trunecek has prepared a solution to which he gives the name of "inorganic serum," which is a mixture of the sulphate, chloride, phosphate, and carbonate of sodium, sulphate of potassium, and distilled water, which he injects subcutaneously in cases of arteriosclerosis. The degree of the urinary acidity, as well as the desquamation of the integument, are the chief signs on which we must rely to commence, suspend, or recommence the treatment. The alkaline salts render soluble the phosphate of lime which has been deposited upon the arterial walls, increase the activity of organic combustion, restore the intercellular exchange to approximately their normal standard, and consequently regulate the functions of the various systems, especially those of the heart and the blood vessels.—*Medical Press and Circular*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending January 3, 1903.

	Cases.	Deaths.
Measles	118	8
Diphtheria and croup	322	45
Scarlet fever	150	10
Smallpox	4	..
Varicella	80	1
Tuberculosis	190	142
Typhoid fever	68	17
Cerebrospinal meningitis	3	..

Means of Obtaining a Bacteriological Diagnosis of Plague.—Mr. Frank Tidswell of Sydney, writing on this subject says, "We never attempted to incise a bubo, save in the hospital, on account of suppuration; the fluid for diagnostic examination being always obtained by puncture, and aspiration with the needles and syringe, after preliminary cleansing of the skin. Any fluid obtained was conveyed to the laboratory in the barrel of the syringe, and there taken from it to inoculate culture tubes and a guinea-pig, and to make cover-glass preparations. Sputum was taken in the sterilized wide-mouthed bottle, and at the laboratory treated in the same way as bubo fluid. With blood the culture tubes were inoculated, and cover-glass smears prepared at the bedside of the patient. Puncture of a bubo did not always yield fluid for examination. In the early stages success depended on puncture of the swollen gland itself, which had to be defined and studied between the thumb and finger of the left hand, whilst performing the small operation. In the later stages this was less important, as the exudation round the gland contained abundance of plague bacilli. The amount of fluid obtained was rarely more than a few drops, and in some instances, when none appeared in the barrel of the syringe, one could still obtain enough from the channel of the needle. It was also possible, in some cases, to express a drop or two of fluid out through the needle track, by gently squeezing the bubo; and with the small quantity so obtained to make cultures and smear preparations, as in the case of blood. The fluid obtained at these examinations was seldom purulent, but usually a greyish-colored mixture of lymph and blood, containing innumerable plague bacilli. Our experience was similar to that of other observers, in that bacilli were relatively scanty in pus from suppurating buboes. Specimens of blood rarely showed plague bacilli, save when taken from patients who died within twenty-four or forty-eight hours afterward, and even in these the microorganisms were usually few, and discovered only after long search. The cultures from blood were more useful, so far as recovery of bacilli was concerned, but the patient was generally dead by the time one could examine and pronounce upon the growth. It afforded confirmatory, rather than diagnostic assistance, and this applies, also, to guinea-pigs inoculated from the small clots often found on the culture tubes inoculated with the blood. I have nothing special to remark with regard to sputum, as very few samples came under my notice."

The Importance of Hyaline Casts in the Diagnosis and Prognosis of Renal Diseases.—A. R. Defendorf states that purely hyaline casts have been found in large percentages in individuals who are apparently healthy, and without other evidence of kidney disorder. These percentages increase with the advance of age. This in the absence of post-mortem observations, has led to a more or less general belief that hyaline casts in the urine of individuals past fifty are without significance. A series of forty-eight autopsies, in which urine examinations had been made some time previous to death, shows that casts were present

in forty-one cases, and chronic nephritis in forty-seven, permitting the inference that hyaline casts in these cases were distinctly an indication of an organic disease of the kidneys. The five disease conditions in which hyaline casts exist alone or with finely granular casts are: The atrophic stage of chronic parenchymatous nephritis chronic interstitial nephritis, chronic diffuse nephritis, senile interstitial nephritis and chronic passive congestion of the kidneys. The prognosis of these conditions, with the exception of passive congestion, depends as much upon the general clinical condition of the patient, especially in reference to cardiac and vascular disease, as upon the character of the kidney lesion.—*Yale Medical Journal.*

Polyhydramnios; Its Differential Diagnosis and Treatment, with the Report of Cases.—Edward P. Davis says that by this term is meant more than two pints of amniotic liquid at full term. As much as seven gallons has been seen in the human species. Many conditions accompany polyhydramnios. The placenta is often large, dropsical and infiltrated, Jungbluth's vessels often enlarged, the amnion and chorion may be thickened with extensive fissures in the epithelial layer of the amnion, and fatty degeneration of the cells. The diagnosis is made by first diagnosticating pregnancy, then by observing that in polyhydramnios we can usually obtain evidence of faint uterine contraction and can often insert the finger through the cervix and detect a presenting part. Estopic gestation must be kept in mind, as polyhydramnios may complicate it. In ovarian cyst the illness is longer, the swelling at first unilateral. The intermittent hardening of the tumor is absent, and the uterus can be found but little enlarged. In ascites the dulness changes when the position of the patient is altered. Treatment by drugs is without value. When distension increases rapidly and the patient's health is impaired, under thorough antiseptic precautions the cervix should be dilated sufficiently to admit the finger. Fluid should be allowed to escape very gradually until the presenting part descends firmly against the cervix. Firm pressure must be made over the abdomen, and the patient must be watched, as labor is often precipitate, and the fœtus may assume unfavorable positions.—*Annals of Gynecology and Pediatry.*

Abortive Treatment of Felon.—Joseph Rilus Eastman states that in nearly all cases a felon may be aborted by the application of pure alcohol under exclusion of the air. As soon as the diagnosis is made, the involved phalanx should be covered with a thin layer of sterile absorbent cotton saturated with alcohol. Over this a thin rubber finger stall should be applied. The finger stall should be rolled upon itself from the open end toward the apex and applied over the cotton by unrolling. In the simple form of felon caused by the introduction of staphylococci into the rete malpighii, restitution of the tissues occurs very promptly under the alcohol treatment. In deep cellulitis with inflammatory infiltration and abscess, pain and tenderness usually subside within seventy-two hours. It may be said in criticism of this treatment that a means for escape of pus should be provided early by a free incision. In severe septic cases the tissues should, of course, be promptly and deeply incised, in order that spreading may be forestalled or checked, but in simple cases incision may not only be unnecessary but reprehensible.—*The Medical and Surgical Monitor.*

Treatment of Cerebral Rheumatism by Cold Baths.—M. Shellenburg reports the case of a man suffering from this affection, who had a temperature of 104° with rapid pulse and respiration. Delirium came on very suddenly, was transitory in its nature, disappearing when the temperature fell 2 degrees. The application of the ice bag to the head and sponging of the body not proving of permanent benefit, baths were ordered, with the result that the temperature dropped and the delirium disappeared. The patient eventually recovered. There has been some objection to the use of the bath on the ground that the other conditions would not permit of such a therapeutic measure, but we must remember that in hyperpyrexia and cerebral complications there is a high degree of mortality, and it is possible that by resorting to the bath the fatal issue may be avoided.—*Albany Medical Annals.*

The Diet of the Asthmatic.—George N. Jack thus concludes his study of the subject. If on a differential count the blood shows a high percentage of small lymphocytes, milk should be diminished or withheld. An abnormal increase in the polymorphonuclear neutrophilic cells indicates an intestinal toxæmia and putrefaction which suggests the withholding of meat food. A pronounced iodophilia indicates an amyloid or starchy degeneration of blood, and suggests the withholding of foods rich in starch. A thin, watery blood with a deficient plasma and a red corpuscle, poor in hæmoglobin and deficient in biomagnetism, as shown by the lack of rouleaux formation and the scattering of the red blood-corpuscles about the field, indicates the giving of fresh bloody meat, raw eggs, and green vegetables, rich in chlorophyll and protoplasm —*Buffalo Medical Journal.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending January 3, 1903:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
California, San Francisco	Dec. 14–21	7	..
Cororado, Denver	Dec. 6–20	11	..
Illinois, Chicago	Dec. 20–27	3	..
Indiana, Evansville	Dec. 20–27	1	..
Indianapolis	Dec. 20–27	37	4
Kokomo	Dec. 20–27	1	..
South Bend	Dec. 20–27	1	..
Kentucky, Lexington	Dec. 20–27	1	..
Maine, Portland	Dec. 20–27	..	1
Massachusetts, Boston	Dec. 20–27	13	6
Somerville	Dec. 20–27	1	..
Michigan, Detroit	Dec. 13–27	93	1
Grand Rapids	Dec. 20–27	8	..
Mississippi, Natchez	Dec. 23	10	..
Missouri, St. Louis	Dec. 14–21	26	..
Nebraska, Omaha	Dec. 20–27	9	..
New Hampshire, Manchester	Dec. 20–27	7	..
Nashua	Dec. 20–27	8	..
New Jersey, Camden	Dec. 20–27	1	..
Jersey City	Dec. 21–28	1	..
New York, Binghamton	Dec. 20–27	1	..
Buffalo	Dec. 13–20	2	..
Ohio, Cincinnati	Dec. 19–26	15	..
Cleveland	Dec. 20–27	7	4
Toledo	Dec. 6–27	24	2
Warren	Dec. 6–27	5	1
Pennsylvania, Altoona	Dec. 20–27	1	..
Erie	Dec. 20–27	3	..
Philadelphia	Dec. 20–27	25	3
Pittsburg	Dec. 20–27	23	3
Warren, borough and county	Dec. 10–17	5	..
South Carolina, Charleston	Dec. 13–27	4	..
South Dakota, Sioux Falls	Dec. 20–27	1	..
Tennessee, Memphis	Dec. 20–27	4	..
Utah, Salt Lake City	Dec. 11–27	20	..
Washington, Tacoma	Dec. 15–21	..	3
Wisconsin, Green Bay	Dec. 21–28	1	..
Milwaukee	Dec. 20–27	5	..

SMALLPOX—FOREIGN.

Austria, Prague	Nov. 29–Dec. 6	24	..
Belgium, Brussels	Nov. 29–Dec. 6	..	1
Ghent	Nov. 22–29	..	3
Canada, Winnipeg	Dec. 13–20	1	..
Great Britain, Leeds	Dec. 6–13	6	1
Liverpool	Dec. 6–13	34	1
Manchester	Nov. 29–Dec. 6	3	..
Sheffield	Nov. 29–Dec. 6	5	..
India, Bombay	Nov. 25–Dec. 2	..	2
Karachi	Nov. 23–30	1	..
Italy, Palermo	Nov. 29–Dec. 6	6	2
Malta	Nov. 23–30	1	..
Mexico, City of Mexico	Dec. 7–14	2	3
Russia, Moscow	Nov. 22–29	..	2
Odessa	Nov. 29–Dec. 6	5	..
St. Petersburg	Nov. 29–Dec. 6	13	2
Straits Settlements, Singapore	Nov. 1–13	..	5

YELLOW FEVER.

Colombia, Panama	Dec. 8–22	9	2
Ecuador, Guayaquil	Dec. 6–13	..	10
Mexico, Vera Cruz	Dec. 13–20	14	3

PLAGUE.

India, Bombay	Nov. 25–Dec. 2	..	120
Calcutta	Nov. 22–29	..	12
Karachi	Nov. 22–30	11	10
Madras	Nov. 22–28	..	1

CHOLERA.

India, Calcutta	Nov. 22–29	..	42
Japan, Osaka and Hiogo	Nov. 8–23	3	2
Straits Settlements, Singapore	Nov. 1–15	..	22

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Original Articles.

SOME QUESTIONS IN HEREDITY.*

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NEW YORK.

AT the very outset I wish to emphasize the fact that in this paper I have limited myself to certain phases of heredity. The subject is such an extensive one, and can be approached from so many different standpoints, that it would be difficult for one to encompass it entirely. I have, therefore, limited myself largely to that phase of heredity which has a bearing upon our every-day clinical work. I have made no attempt to discuss the subject from the standpoint of the biologists, nor have I touched upon the question of longevity or that of susceptibility to certain kinds of foods or drugs.

Every practitioner of medicine is brought face to face almost daily with questions of heredity, and such questions present always very complicated problems. I think it may be admitted at once that heredity often has a very marked bearing upon disease, both acute and chronic, not only in the susceptibility to the development of such disease, but it has also a bearing upon the questions of tolerance and prognosis.

Since the publication of Koch's paper upon the isolation of the tubercle bacillus, and one might say since the publications of Pasteur at a little earlier period, our ideas upon the influence of heredity have been very decidedly modified. We must recognize at once that many diseases, formerly supposed to be directly transmissible, are now believed to be the results of direct infection. It is possible, and, indeed, not at all unlikely, that still more diseases will be found to be dependent upon infection directly, although hereditary proclivities may have more or less influence.

One thinks at once in connection with heredity of the very marked modification of the views on tuberculosis. Pathologists assert, and seemingly with absolute justification for their assertion, that tuberculosis is not directly an inherited disease, but that it is always the result of infection. We all recognize that the most we can say, certainly about *pulmonary* tuberculosis, so far as heredity is concerned, is that the lessened resistance to the attacks of the tubercle bacillus may be inherited. Vulnerability, as it is called, exists perhaps in the tissues. It is not so clear, however, that tuberculosis affecting some other organs of the body is necessarily a direct infection. Take, for example, tuberculosis of the glands, of the skin, of the bones, of the joints, even of other tissues, and it would seem that the last word on the subject has not yet been spoken. Admittedly, the infectious origin in conditions other than pulmonary tuberculosis is not always as easily explained as in the pulmonary variety. The cells of the lungs are less resistant, and the soil seems to be a specially fruitful one for the growth of the tubercle bacillus. But even in pulmonary tuberculosis puzzling questions oftentimes arise.

*Read at a meeting of the New York Practitioners' Society, December 5, 1902.

Congenital tuberculosis is exceedingly rare; a child may be born with the distinct evidence of tuberculosis, but usually one can trace in such cases an infection from the mother while the child was *in utero*, or possibly, in very rare instances, an infection from the genital organs of the father during the life *in utero*. A puzzling question arises in connection with the development of one form or another of tuberculosis; for example. of the gland, joint or bone, in which the parents have shown no evidence of the disease, and yet a grandparent has had tuberculosis in some form.

Another obscure point in connection with tuberculosis is the spontaneous recovery which takes place in a pretty considerable number of cases, in whatever situation the lesion may be, although more readily in some situations than in others. Is such spontaneous recovery due to an inherited tolerance, or is it always due to special circumstances in each individual case, independently of any inherited tolerance? It is often observed in families that certain diseases develop at corresponding periods in the life of parent and offspring. This not infrequently extends through several generations. Tuberculosis is a notable example of this.

The wide-spread prevalence of tuberculosis adds to the difficulty in arriving at definite conclusions, in regard to the part which heredity plays. It is rarely that one can give a history of freedom from the disease in one or other ancestor, either near-by or remote.

Perhaps the next disease one would think of in connection with heredity is gout. This affection has been recognized for many years as one exhibiting hereditary tendencies. It is generally believed that the gouty habit may be hereditary, and that this habit has been brought about by errors in diet, both in eating and in drinking, through many generations. In a large proportion of the instances in which gout can be looked upon as hereditary, the immediate ancestor does not seem to have been alone responsible. Perhaps of all diseases with which we have to deal, the "gouty habit" is the most conspicuous, as having been brought about by a number of generations of such errors. The question is very much complicated by the fact that oftentimes those who inherit the tendency to gout add to it by their habits of life. How often it happens that individuals commit what we consider to be grave errors in diet likely to lead to gout, and yet gout does not develop; on the other hand, the slightest indiscretion in some individuals develops an attack. I do not refer only to gout affecting the joints, but to gout in all of its many and various manifestations. It is recognized that oftentimes gout appears in individuals who have inherited the gouty habit, although their own habits of life are most correct. On the other hand, we do see instances in which the immediate ancestor may transmit the gouty tendency, for not infrequently it happens that the younger members in a family will develop the disease and the older ones escape, because the habits of the immediate ancestor at the time of the birth of these younger ones were such as to lead to the

development of the disease. One must not forget, in connection with gout, as with most other diseases, that environment, and the habits of life, other than those of mere eating and drinking, as well as climatic conditions, must all be taken into consideration.

Is rheumatism an inherited disease? Certainly the clinician would answer the question that in a pretty considerable proportion of cases the tendency may be transmitted. It may not necessarily crop out in the form in which it has shown itself in an ancestor, but, in one form or another, rheumatism, or its tendency, must be admitted to be often an inherited condition. I admit that the term rheumatism, as used by the laity, is exceedingly indefinite—a mere muscular pain, a lumbago, a pain in the shoulder; in fact, a pain anywhere is regarded by the laity as rheumatism; but if we question closely we shall find that not infrequently one parent, and perhaps both parents, have been the victims of rheumatism. The recent observations on the infectious origin of acute articular rheumatism, if proven to be correct, would suggest only a transmitted vulnerability, and place it in the same class with many other diseases of transmitted tendencies.

The apprehension that many feel who have lost an ancestor, particularly an immediate one, from cancer, that they will develop the disease, would seem to have some foundation in fact. In many cases of carcinoma an immediate or more remote ancestor has been a victim of the same disease. Those who deny the heredity of cancer would have difficulty in explaining the occurrence of cases in succeeding generations.

The question of heredity in carcinoma has an added interest, from the statistics collected by Dr. Billings. He showed that the longevity in the State of Maine, in proportion to the population, is greater than in any other State in the Union. He likewise showed that carcinoma is more prevalent in that State, relatively to the population, than in any other State, and that very many of these cases of carcinoma occurred after seventy years of age. In these cases it would be difficult to show the influence of heredity. It is interesting to note that carcinoma is supposed to be favored by civilization, comfort, and intellectual progress, and this has been offered as an explanation of why carcinoma is on the increase.

Bronchial asthma is another disease in which one so frequently obtains a history of a parent or grandparent having been similarly affected. It is another example of the development of the same disease in both parent and offspring, at about the same period of life. I am familiar with instances in which bronchial asthma has affected one or another member of the family through four generations.

We are often asked the question by patients, "Is cardiac disease inherited?" It is not always easy to give a satisfactory answer to this question, because of the fact that so often the query is made by one who is a victim of cardiac disease, and who knows that one or more of his immediate or remote ancestors suffered from the same disease. It certainly must be recognized that in some families there is a distinct tendency to the development of cardiac disease, either of the endocardial or degenerative form—myocarditis and fatty degeneration. So far as its direct transmissibility is concerned, all one can say is that the underlying conditions which lead to the development of cardiac disease may be transmitted.

We may, perhaps, say the same thing with regard to renal disease. We recognize the fact that there is a tendency in successive generations to the development of renal disease, and yet we cannot say that renal disease is a transmissible affection. We can only fall back upon an inherited tendency. In many families the general pathological character of disease which may affect various members seems to be an heirloom, and cardiac and renal diseases are no exceptions.

Arteriosclerosis is another condition which, in recent years, has been looked upon, in a certain proportion of cases, as showing a distinct hereditary tendency. In the vast majority of instances the conditions which stand in an etiological relation are acquired. When arteriosclerosis develops under forty-five years of age, in a large proportion of cases an hereditary tendency can be traced. Indeed, it is not unusual to be able to trace this tendency through several generations.

In this connection we might refer to a condition of the blood vessels which is looked upon, in many instances, at least, as hereditary. I refer to hæmophilia. In almost all cases of "bleeders" it is probable that, besides a favorable condition of the blood, there is a peculiar condition of the walls of the veins. In many such instances, it is possible often to trace the history of such an occurrence in one or more ancestors. Almost all "bleeders" are males, although the mother may have transmitted the tendency, she having received it through a male ancestor. Losser gives the history of the Mendel family: In the first generation of four males, three were "bleeders." In the second generation of thirteen children of two mothers, six males were "bleeders"; seven females were exempt. In the third generation there was but one "bleeder," and he the son of a mother who was a "non-bleeder." This tendency, like that in many other diseases, may be partially or completely eradicated by marriage with those who are exempt. Breeders of animals and growers of plants have often demonstrated by the study of unfavorable tendencies, and by proper breeding, the possibility of eradicating, or at least partially eradicating, such unfavorable tendencies.

A very interesting, but a very intricate subject, is the relation of heredity to disturbances and diseases of the nervous system. I think all will recognize the neuropathic constitution as hereditarily transmissible. Hysteria, tic douleureux, hemicrania, and other forms of neuralgia, are recognized as existing in successive generations, and even some of the grave forms of nerve disease—for example, epilepsy, idiocy, and various mental aberrations are considered to be influenced by heredity. These diseases may not be transmitted in the form in which they occur in the parent, but that heredity has a direct bearing is recognized by all observers. How often do we hear a patient suffering from hemicrania, for example, make the statement, "It is constitutional; my mother, or father or a grandparent had it; it is in the family." The neuropathic tendency may not always show itself in the offspring, as it is in the parent, and may manifest itself differently in different members of the family. Thus, it may take the form of a hemicrania in one member, of hysteria in another, of epilepsy in a third, and so on. The precise expression of the neuropathic constitution may vary greatly from mere eccentricity to insanity. Mental derangement, more than any other disease, is an inherited peculiarity, often occurring in a far-back generation, lying dormant, perhaps, through several generations, and then manifesting itself under unusual external agencies, such agencies being merely the means of bringing the tendencies to life

Is the alcoholic habit directly inherited? Is the craving itself transmitted, or are we to explain the cases of supposed inherited craving on the ground of

deficient mental control, or by the fact that in such cases alcohol is an undue stimulant? The periodical drinker is often believed to have inherited his unfortunate habit—shall we call it—and certainly many individuals who are addicted to the use of alcohol make the excuse that they have inherited, at least the desire for the stimulation from it. The probabilities are that it is a deficient mental control, but this itself may be inherited, and may manifest itself in the desire for the effects of other stimulants than alcohol.

Digestive disturbances are often regarded as inheritances. In our clinical experience we not infrequently are told by a patient that he has "inherited a weak stomach" or "sensitive bowels." There is, apparently, an inherited tendency to digestive disturbances in some individuals, both gastric and intestinal; at all events, there are frequently the same manifestations of digestive derangement in the offspring as have occurred in the parent.

The question of tolerance, when once disease has developed, whether acute or chronic, seems to me to be more or less influenced by heredity. How often it happens, in our observation of an individual who is ill with an acute disease, that if we are to judge by our ordinary standards, the disease will result fatally, and yet how very gravely ill some patients will become and still recover. I cannot look upon it as any other than an influence of the hereditary power of tolerance of acute disease which exists in some persons—indeed, in many persons. Take two of the ordinary diseases as types: pneumonia as a type of the short-duration disease, and typhoid fever as a type of the long-duration disease. How desperately ill a person may become with either one of these diseases and yet recover, while in others, with seemingly as good powers of resistance, the disease terminates fatally. I admit that there are many points to be taken into consideration in connection with such cases, such as the modifications of the progress of the disease by disease in other organs than those affected. We call this inherited tolerance vitality, or we say the patients who recover have good constitutions, and yet I fancy we often mean by these terms an inherited tolerance to acute disease. Again, it not infrequently happens that patients will tolerate for a long time the advancing ravages of chronic disease, although by all the laws of prognosis they should quickly succumb. The surgeons often observe an extreme tolerance in patients with very serious injuries, and not only so, but witness a marked tolerance of certain serious conditions which eventually prove fatal. Take, for example, inoperable carcinoma, or a case in which operation has been refused; how much more prolonged is the tolerance of it in some patients than in others, and that, too, without considering the involvement of surrounding vital organs. Even when moribund, the process of dying occupies a much greater time in some persons than in others. Again, we call this vitality, but I am disposed to look upon it as an indication of inherited tolerance. The prognosis as to time should take into consideration this question of inherited tolerance. Again, in valvular disease of the heart, and in degenerative cardiac disease, without valvular involvement, it is often the experience of everyone of us that it is impossible to make a satisfactory prognosis as to the length of time the patient will live. If we attempt to make a standard, we find in the end that we are obliged to take into consideration the individual himself. Even when grave involvement of other organs, secondarily to heart disease, has occurred, how often it happens that some patients will tolerate these conditions for a much longer period than others. Is it not because of an inherited tolerance to serious organic disease?

Racial peculiarities as to heredity have long been recognized. I will mention only one or two instances, and these in connection with susceptibility. The colored race, in most instances, seems to have very little susceptibility to the microorganism of yellow fever, but a very high degree of susceptibility to that of tuberculosis and pneumonia, especially if removed from the natural tropical climate to a temperate zone. The Jewish race seems to possess a very high degree of resistance against the tubercle bacillus, but is very susceptible to the causes of neuroses, diabetes, and affections of the skin. The tolerance and want of tolerance seem to be inherited qualities.

8 West Forty-seventh Street.

METHODS OF QUARANTINE AGAINST YELLOW FEVER ADOPTED IN HAVANA, CUBA, DURING THE YEAR 1901.*

By W. C. GORGAS, M.D.,
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In this article I do not propose to discuss the general methods of sanitation used against yellow fever in Havana, as regards mosquito killing, but simply those methods which were used there in relation to quarantine.

Havana is situated in a deep, land-locked harbor, on the north coast of Cuba, just within the tropics. It is a city of 275,000 inhabitants, and has an extensive commerce with all parts of the world.

Yellow fever has been endemic in this population since the year 1762, not occurring, as it does among us, epidemically, but being always present. Every year and every month some deaths occur from this cause. In the mortality tables of Havana it is always present, being one of the principal diseases causing death in that locality. It occurs there as pneumonia or typhoid fever does with us, and in every case of fever occurring in one subject to the disease the possibility of yellow fever has to be considered by the practitioner. The profession for the past generation has pretty generally accepted the fact that yellow fever is not directly transmissible from person to person; but it was generally believed that the disease was due to some microorganism which escaped from the body, and underwent some further development outside the body, and then became capable of causing the disease in a fresh subject. In other words, that a non-immune person might very safely nurse a person with yellow fever, provided the sick man were placed in a new, non-infected locality. But if the patient remained in the locality in which he contracted the disease, then the non-immune nurse might very probably contract it also. It was believed that he did not contract it from a sick person, but from the infected surroundings from which the sick person originally contracted it. It was also known that when a sick person was taken to a non-infected locality, within a longer or shorter period this locality itself would become infected and give the disease to non-immunes living there. It was also considered as proved that the microorganism could be conveyed as a fomes, from an infected to a non-infected locality, in clothing and articles which had become contaminated by the sick person, and spread the disease.

Upon this theory it is evident that, if the microorganism can be kept out of a locality in which it

*Read at the Conference of State and Provincial Boards of Health of North America, held at New Haven, Conn.

does not exist, yellow fever can be controlled in that locality.

With the object of excluding the infection of yellow fever, quarantines have been very generally resorted to, and have generally been enforced by keeping out people sick with yellow fever, and by holding all non-immunes coming from an infected point five days from the time of their last exposure to infection. The period of five days was fixed upon as being, with a very few exceptions, the limit of the stage of incubation.

To prevent the introduction of infection which existed outside of the human body, various systems of disinfection of ships and fabrics have been resorted to. On the whole, these measures have been fairly successful; for though, in spite of quarantine, yellow fever has been time and time again introduced into our Southern cities, yet since the establishment of quarantines the frequency of its introduction has been greatly decreased.

Havana had been so generally infected with yellow fever that very little thought or attention had been given to preventing the infection being introduced there from the outside. This was the condition during 1899 and 1900. With cases occurring in every part of the city, and in every month, just as tuberculosis and bronchitis occur to-day in New Haven, there is very little use in going to large expense in trying to keep infection from being introduced from the outside. But, knowing that it was a communicable disease, very vigorous attention was given to quarantine of the individual cases within the city. As soon as we took charge in 1899 orders were issued requiring that yellow fever be reported to the health authorities by the physicians seeing the cases. Every effort was made to see that this was carried out.

As soon as the case was reported, if not sent to the hospital, it was strictly quarantined. Trusted guards in the employ of the Sanitary Department, in eight-hour shifts, were placed over the rooms quarantined, and nobody was allowed to pass, except the physicians in attendance. After the case came into the charge of the Sanitary Department nobody was allowed to leave the quarantined area for any cause whatever, and no one, except the physician, was allowed to enter it. On the termination of the case all fabrics of every kind which might act as fomites were taken to a central station, at Las Animas hospital, and were sterilized in a large steam sterilizer with steam, or, with formalin, as was thought best.

The quarantined area was then carefully scrubbed with a bichloride solution, 1 to 1,000, and sprayed everywhere by a force pump with the same solution, and then the rooms were closed and sealed, and disinfection with formalin, at the rate of 1 liter to 1,000 cubic feet of air space, was made, and the rest of the house well scrubbed and cleaned with soap and water, and afterward sprayed down with a bichloride solution of the same strength.

Early in 1901 the members of the Army Board put forward the theory, which they had demonstrated, and which Dr. Finlay had for the past twenty years maintained, that the mosquito was the means by which yellow fever was conveyed from patient to patient, and the only means, and that the disease was not conveyed by fabrics and articles soiled by the yellow-fever patient. As a result of the acceptance of this theory by the Sanitary Department the latter had to make changes in the quarantine regulations. If the disease could be transmitted from a sick person only by a mosquito, there would be no occasion to give any care to the bedding, fabrics, etc., soiled by the sick person, or coming from the infected locality.

In accordance with this view, the quarantine regulations of the city were modified. When a case was reported as yellow fever, the quarantined area was at once screened at public expense, with the idea of keeping infected mosquitos in, and of keeping out all mosquitos that had not been infected. A guard, as formerly, was placed over the quarantined area to see that the screen door was kept closed. A limited number of immunes, six or eight, were allowed to be designated by the physicians in charge, who could have access to the quarantined area.

When the case terminated, all the mosquitos were killed by fumigation with pyrethrum powder, but no attention was given to clothing, fabrics, etc. This lightened the irksomeness of the quarantine, and was a distinct advantage in getting cases reported.

This, to my mind, is a very important element in all measures of this kind, namely, to give as little inconvenience as possible. It is so important in all quarantinable diseases, and particularly in yellow fever, to have all cases reported, so that they can be properly attended to, that we gave this phase of the subject much consideration there. It is better in enforcing quarantine regulations to enforce a less effective measure, which causes less inconvenience, than to push a quarantine regulation which causes a great deal of inconvenience. And I very much doubt whether in a community of any size, even with power and unlimited means, harsh measures can be enforced with any certainty. If it is an attempt to keep people in or out, if the measures are too rigid and the necessity for the person's going in or out is sufficiently great, someone will find the means of getting through. In Havana, in fumigating for yellow fever, we used pyrethrum powder, for the reason that it was not objectionable to the people whose premises were being fumigated. It is a poor mosquitocide, and does not kill the mosquito with any certainty. In every fumigation a considerable number will be found merely intoxicated, and will revive if given access to fresh air. Sulphur, tobacco, and other substances are very much more deadly to the mosquito, but we feared that if we caused the people too much inconvenience by our measures it would result in cases being concealed, and the concealment of cases would certainly defeat the success of our work. Believing that the infection was carried only by the mosquito, and that microorganisms which escaped from the body of the sick person in any way, and were preserved in the clothing and fabrics around the room, could do no harm, we left these things alone. At the termination of the case the mosquitos in the house and in adjoining houses were killed; the screening was taken down and the guards were withdrawn. This was the plan of quarantine put into effect with regard to cases occurring in the city.

But other sources of infection had to be considered. The 200,000 Spanish troops, all non-immunes, who had been sent to all parts of the island for the three or four years previous to our occupation, had infected all parts of Cuba. In normal times the towns in the interior of Cuba are not subject to yellow fever, as a general thing. It is confined principally to the sea-coast towns, and quite generally persons from the interior are looked upon as non-immune and considered subject to yellow fever. Towns however, in railroad communication with Havana, even when situated off the coast and well in the interior, have been quite generally subject to yellow fever. Every few years yellow fever would be introduced from Havana and a local epidemic occur. Around Havana, within a radius of twenty

miles, are quite a number of considerable towns, which are practically suburbs of the city. Quite a large proportion of the population does business in the city, coming to town in the morning and returning in the afternoon. In these towns yellow fever was kept up by yearly importation from Havana. In 1901 our mosquito work reversed these conditions. By June we had gotten Havana free from yellow fever, while these little towns around and other parts of the island were having it as usual, and the question was at once forced upon us as to what measures we should take to keep the city free from reinfection. On the water side, with regard to infection from outside the island, the city was protected by a quarantine enforced by the Marine Hospital Service. The regulations and measures adopted by them were the same as those still in force, looking to fomites as the means of the propagation of the disease. On the land side, the city did not interrupt communication. We were acting under the belief that the mosquito was the only carrier of the disease. We, therefore, did not raise any questions with regard to the importation of fabrics or merchandize of any kind, but merely wished to keep those sick of yellow fever out of the city, and to keep persons who had contracted the disease from developing it in the city. Every railroad leading from Havana had one or more infected towns upon it, and as several of the towns were only from twelve to twenty miles off, connected with Havana by excellent dirt roads, it would have required a cordon of guards completely encircling the city on its land side to have insured non-intercourse, and would have, besides, completely paralyzed business.

We, therefore, after much thought and discussion of the subject, determined to adopt a system of inspection similar to the English system for Great Britain with regard to cholera. The object of our measures was to stop anyone actually sick with yellow fever from coming into Havana and to observe all non-immunes coming from infected points until the period of incubation was past. In this way we hoped not to have anybody in Havana sick of yellow fever for more than twenty-four hours without the fact being known, and, by promptly isolating the case and killing the mosquitos in the neighborhood, to prevent any injury being done.

With this object, a medical inspector was employed in each of the infected towns, whose duty it was to notify us by telegram of any non-immune coming to Havana. For this purpose we always employed a physician of the infected town, as he would be more likely to know the people personally, and have a general idea of who were immune and who not. Most of the infected towns were small towns; the largest, Santiago de las Vegas, has a population of 5,000 inhabitants, and of these 5,000 only 475 are non-immune. So that it was fairly easy work for a medical man, resident in the town, with three or four guards, to keep us informed of the non-immunes who came to the city, although communication was very frequent and close. We also had medical inspectors coming in on every train into Havana, and on all the roads leading out of infected towns. But these inspectors interfered with ingress into Havana only enough to get the names and addresses of the non-immunes coming into the city. Baggage, bedding, and traffic were not interfered with in any way nor inspected. The inspectors and guards about the infected towns, as I said above, were always selected from old residents of these towns. The inspector on the trains, by inspection of tickets, could get a fair idea of whether or not passengers came from infected points some distance away, and, unless he could satisfy himself that they were immune, they were treated as non-immunes. These reports came in during the day by telegram to the central office, giving the names and addresses of the non-immunes visiting the city. A medical inspector was at once sent to the residence of the non-immune, who saw him and took his temperature once in every twenty-four hours while he remained in the city. It would, of course, have been a great saving of expense to the department to have had these non-immunes report to us at some central point for examination, but we had so much at stake, and it was so important to us to get hold of all infected persons that we wanted to make the system as easy as possible for the people concerned, so that there would be no object in taking trouble to avoid the inspection. People who gave wrong addresses were reported to the police authorities in Havana, and if not found in Havana by the police were certainly caught when they returned to their small communities. A few sharp punishments sufficed. It was very much easier to comply with the regulations than to go to any trouble to avoid them, so that very little attempt at non-compliance was made on the part of those concerned, and a very general compliance with the regulations was soon obtained.

During the winter this same system of inspection with regard to non-immunes coming from infected points by water was kept up. In the fall the Marine Hospital Service took off their quarantine, but as a very sharp epidemic was present in Vera Cruz all through the winter, and was on the increase during the spring, the military governor issued an order putting the same system into effect, as far as Havana was concerned, on the water side. And this was kept up until the Marine Hospital Service again established their quarantine in the spring.

From the time the system was adopted up to the end of the year we had reported 1,250 non-immunes coming from infected localities. Among this number twenty-seven were discovered to have yellow fever, or developed it within the period of incubation. This seems to me a very satisfactory showing for the system, and it could hardly have been put to a more severe test.

After the middle of May our work had freed Havana from yellow fever, and we went from the 8th of May to the 1st of July without a case. In July we had four cases; in August, eight cases, and in September, six cases. In August quite a number of cases came from one locality, this locality being apparently infected. As fever was rife in Santiago de las Vegas and other suburbs at this time, I am inclined to think that the infection came from Santiago de las Vegas; that from some imperfection in the system a very mild case was overlooked by the inspector. But, of course, it could be even more readily explained on the theory that the mosquitos were left over from the cases that occurred in May, or that it had been kept up by one or two mild, unobserved cases occurring in the city during June. The test, however, could hardly be more severe, under any circumstances.

At the same time that we were freeing a city of 275,000 inhabitants from yellow fever, which had been constantly endemic for 150 years, we kept infection from being brought from half a dozen infected outside towns, without interfering in the least with traffic of any kind, or with passenger travel in any way. The non-immune population of Havana itself, at this time, was probably larger than it had ever been at any previous date, somewhere in the neighborhood of forty thousand. As far as yellow fever is concerned, I believe that the same

system could be adopted in communities where it is not endemic, but which are liable to epidemics of the fever. I doubt if, upon the whole, cases of yellow fever would more often get in than they do under our system of quarantine. The temptation is great, if the necessity is sufficient, for a non-immune to try to avoid the present quarantine regulations of the United States, and one unknown case in a non-immune community would be more dangerous than fifty known cases. And if even a case or two under this system escaped observation and developed a focus in a community, I would feel considerable confidence in being able to stamp it out by killing the infected mosquitos. Of course, it is important to have a good system of reporting so as to get hold of the first case and not let the infection spread, and in this it is very essential to have the sentiment of the community behind the health authorities. And with a system of mild quarantine and inspection such as we had in Havana in 1901, the authorities are much more apt to have the assistance of the people than when the quarantine measures are rigid and cause both great inconvenience and financial loss. In Havana there is no more objection on the part of the people to reporting a case of yellow fever than one of typhoid fever. It was much less inconvenient to report cases than to run the risk of the fine and punishment, which would be involved in not reporting, if discovered.

While a maritime quarantine against yellow fever, such as is enforced at present by our Marine Hospital Service, might be more easily kept up than a land quarantine, yet even the maritime quarantine, enforced by all the power and wealth of our federal government, is, at times, not sufficient to keep out the disease, as evidenced by the considerable number of times it has occurred in our Southern cities since that quarantine has been enforced. I think that, under the system of inspection, as enforced in Havana during 1901, yellow fever would no more frequently get into the United States than it has during the past years of rigid quarantine. The relief to commerce under such a system would be enormous. With our present knowledge and experience, I would, therefore, advocate as a quarantine against yellow fever, both land and maritime, that infected vessels, or vessels coming from infected points, be carefully fumigated, so as to kill all mosquitos in every part of the vessel. This would apply to ships on water and all cars, etc., on land. That the passage of merchandize, baggage, etc., be interfered with in no way whatever. That passengers, when sick, be quarantined and isolated; that all other passengers be allowed to pass freely; that non-immunes from infected points be seen once a day by a medical inspector, and if at the end of five or six days they are well, that they be released from all surveillance.

Is the Tendency to Contract Contagious or Infectious Diseases Greater in the Prisoner than in the Free Man?—Theodore Cooke says that having found that the previous history of the prisoner tends to decrease the power of resisting disease, as also do the loss of liberty, of outside exercise, and of friends and relatives, and having seen that the prisoner's regular life and prison discipline tend to rehabilitate this resisting power, and having found that means are employed to exclude infectious diseases from the prisons, it may be concluded that the danger of contracting infectious disease is not as great in the prisoner as it is in the freeman. While the prisoner, if left unprotected, like the freeman, would fall an easy victim to infectious disease, protected as he is from contact with the world, his liability to attack is not as great as it is in the freeman.—*Maryland Medical Journal.*

THE SURGICAL TREATMENT OF PUERPERAL ECLAMPSIA AND THE PREVENTION OF CONVULSIONS.*

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PUERPERAL eclampsia has two causes: One intrarenal, due to diseased kidney. The other extrarenal, due to pressure upon renal veins, inferior vena cava, or ureters. Hindrance to their outlets increases the pressure within the kidneys, and "pressure urine" is not a true excretion, but a leakage containing a diminished amount of solids. This deficiency remains in the blood and becomes a circulating poison, composed of products which should have been cast out by organs at present inadequate to their work from interference with their drainage. This condition gives us the definition, viz., "puerperal eclampsia" is "a neurosis caused by the action of poisonous blood upon the nerve centers." Albumin is found in all forms; casts with organic cases and symptoms are a progress to convulsions, coma, and death.

An eclamptic woman's blood, with its decreased elimination, is progressively absorbing baneful waste from her body, her child's body, and from the meat she eats in the vain hope of "keeping up her strength." Her "strength becomes weakness" because all by-products remain in transitional states in the tissues of meat, and against all this absorption must be balanced the cleansing action of the monthly flow, which is here nil. The outlook is uncertain, as the maternal mortality is 30 per cent. and the fetal 50 per cent. Vigor and plethora mean peril. Weakness may be safe when strength has convulsions. Consumptives will sometimes undergo child-birth with an alarming amount of albumin. One case, in which four physicians, including myself, gave a fatal prognosis on urinary analysis alone, passed through an easy sixth labor, and after that lived some months. The autopsy showing pulmonary and renal tuberculosis. The latter causing the muddy-green, thick, and highly albuminous urine. The only noticeable point in her favor was that the abdomen was like a relaxed bag.

An early albuminuria foretells late hemorrhages, convulsions, and chronic nephritis. Should there be more than a faint trace before the third month, I think any obstetrician would be justified in terminating pregnancy. While willing to be corrected on this point, I wish to emphasize that albuminuria before the seventh month usually indicates post-partum danger, and in the last two months, trouble before or during labor. Sleeplessness or sleepiness are both of evil import. Vertigo, malaise, and the classics are purposely omitted. One woman that was blind for three days—and rather simple ever since—I have taken care of for almost seven years. The blindness soon passed away, but she had chronic Bright's disease before her pregnancy, and she has it yet. The other blind ones did well, and I am fast becoming of the opinion that only the untreated have amaurosis. At least, all that I have seen were more or less blind, and carrying dead children, when first visited.

In diet, have the patient avoid meat. Allow fish and chicken; but, with a free vegetable diet it will rarely be imperative to limit the food to milk alone. Impacted fæces will sometimes cause albuminuria, and one patient had convulsions. The impaction was spooned out and the bowel irrigated before the vagina would admit a finger, so great was the distension. After a complete house-cleaning, chloro-

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form control was stopped and the albumin rapidly and progressively diminished. Normal labor took place more than two months later. One case had chorea in childhood and in adult life petit mal to this extent: She would stand still and drop anything in her hands The patient herself realized a connection between the attacks and some condition of the rectum. Albumin was present, also constipation and a rigid sphincter. Before any measure could be established, spontaneous expulsion took place. Some time after this the sphincter was stretched. I used nitrous oxide, but I never will again—not for such a purpose.

However, the point in question is this: The attacks were much benefited and the second pregnancy was without any abnormal incident. Of course, I do admit the possibility that the second labor might have been normal in any case—but the general improvement in the patient's condition after sphincter stretching was so great that I feel confident that sphincter spasm was the main element in this case.

In early traces of albumin and in irritability the urethra should be dilated to 32° F. This will often increase urinary flow. Obstruction in the female urethra is common, though generally spasmodic. In one case of convulsions with no albuminuria, after an irritable caruncle was removed with cocaine, the convulsions gradually ceased, though it was not until the day after operation that the last fit occurred and comfortable urination brought a calm confidence. I do not know of any attempt suddenly to occlude the human urethra, but if demonstrations on the lower animals are desired there are the reports of Lord Anson's voyages. The Chinese sold pigs by weight to the British ship *Centurion*, and obstructed the urethra to make the animals heavier by the retention in the bladder. Two-thirds of the pigs died before the ship was out of sight of land and were thrown overboard. The Chinese picked up the carcasses and later fed on pork. The death of the tortured animals was rapid and certain.

Inasmuch as we are dealing with a poisonous blood whose poisons would escape if possible, the simplest plan is to make a safety opening in the circulation. Having been in consultation and having met with bitter opposition, from physicians in charge, I have gone over a wide range in reading on this subject, and find my position well supported and that venesection is a preventive. It is curative, even its opponents admit, since there are fifteen recorded cases and one death. Blood-letting was the sole treatment, and this after convulsions had actually taken place.

If forbidding meat and freeing urethra and rectum does not lessen albumin we should draw off ℥ iv of blood. Follow that with a leech on alternate days. This is a working minimum. As I write, Dr. Dawbarn's remark on apoplexy comes to mind, "Don't bleed, the patient is going to need that blood later on. Instead cord the extremities, causing anæmia of brain and heart." This marks a difference at once. The doctor was speaking of healthy blood—the blood of life. In eclampsia we have a toxæmia—the blood of death—and the patient and her child are not "going to need" any stronger solution of poisonous ptomains, which is what we may expect "later on." Consequently dilute with the normal salt solution in the bowel and diminish the dangerous accumulation in the blood vessels by letting some of it escape.

The pulse jumps in nephritic cases, is heavy and full in those due to pressure. Bleed till the tension comes down, and albumin, swollen feet, headache, and disturbances of sleep will be relieved. In a case small bleedings, begun on October 5, 1902, with albumin 50 per cent. by bulk, lessened the amount to 5 per cent. by October 10. (Forty-six ounces being taken in all.) Every symptom had improved, the benefit to the mother was frankly admitted, notwithstanding, and in face of all argument, the attending physician terminated the pregnancy. He was afraid the child might die. It did not, even though put to the breast immediately after delivery. This leads me to think that venesection probably cleared the mother's milk of its poison.

Frequent small blood-letting is not depressing, on the contrary it removes a depressing poison, and it stimulates the blood-making organs to such a degree that many physicians express surprise as the patient becomes less anæmic. Any old German "barber-bleeder" knows that his customers are regular in attendance on his ministrations. As one expressed it, "when people begin to be bled they form the habit of getting full of blood and then they can't stop."

Watery loss can be made up by rectal irrigation, and the Kemp irrigator served me so well in one bad case that hereafter there will always be an instrument in my kit. The action of enteroclysis and the prompt absorption, diuresis, and diaphoresis is an immense subject, and Dr. Kemp has kindly consented to be present and to discuss this portion of my paper, therefore I merely say that with diet, fresh air, exercise, frequent small venesections, a free urethra and rectal irrigations we may eliminate the causes, and I almost believe puerperal eclampsia need occur only in neglected cases.

In an emergency, if convulsions have already taken place, my method of inducing labor differs a little from the ordinary. First, there must be progress all the time. Dawdling is distressing to relatives and dangerous to patient and child. Labor is most wearing and uncertain. Ignore pains and they seem to aid you. Depend on them and they will balk you. Discard them entirely and go safely. Advance slowly, but advance positively. Accouchement forcé is dangerous, but laissez faire is disastrous. I have only seen three absolutely untreated cases—with three deaths. Untreated means that ergot was administered by a midwife, but no other treatment. I think entirely spontaneous cases might do better.

There will be some cutting pains, as a rule, and we can make everything decidedly easier by the anæsthetic properties of carbonic-acid gas. A vaginal capsule with grs. x sodæ bicarb. and grs. v acid tartaric is convenient. This, in the cul-de-sac, seems to soften the cervix and relieve dilating pains better and quicker than chloral given internally. If the patient is to walk about, a wad of cotton with a thread attached will hold it in place, but should not be packed in tightly, nor with any idea of confining the gas, which begins to form in a few minutes. This simple appliance will be appreciated by physician and patient, especially as eclampsia cases are usually timid primiparæ. If then premature labor is imperative, introduce your catheter, then the capsule. Repeat capsule every two hours or oftener, follow it one hour after insertion with a heaping teaspoonful of sod. bicarb. and an even teaspoonful of lysol to the quart of water at 106° for a douche. When the cervix is large enough use the rubber bag dilator, if necessary to hasten dilatation; hang artery forceps or a light weight to the stem. A light constant pull aids very much. When dilatation is complete, if the labor pains then present are not strong, rupture the membranes without delay. A lacerated cervix that you may not get is far better than a convulsion which is always just at hand. Use the forceps dynamically, *i.e.* apply them and leave them alone for a quarter to a half hour; you will sometimes find traction unneces-

sary. Perhaps one blade would be easier to introduce, but I always have used both. When the anæsthesia is obstetrical or less, or when no chloroform has been used, the stimulant effect of the mere presence of the forceps is often very remarkable. Within a month I was consulted in a case. The attending physicians dilated the cervix fully with Barnes' bag. They waited five days more for rupture of the membranes, the ordinary baffling pains giving false hopes of beginning expulsion. The amount of anxiety and "sitting up all night" can be imagined. The mother and child were submitted to the well-known risk of prolonged labor—luckily no convulsion occurred during the long wait, and the family had not the slightest idea of danger. In their opinion "nature was simply taking its course." The attendant soothed alarm by saying he "could not take the baby because it would not live if he did." The fact being, as you all know, the longer the uterus remains unemptied the greater the mortality of mother and child. This mother is passing albumin up to date. The child is doing fairly well.

Two peculiarities of puerperal eclampsia need explanation: (1) It is most common in male pregnancies, this is attributed to the larger size of the male head. (2) It is most common in first pregnancies, here "my own," and, so far as I know, my unsupported theory is that the reason is purely mechanical and a question of intensity of pressure. The anterior abdominal muscles, the rectus especially, are more unyielding and furnish a stronger brace, for the uterus to push against, than those same muscles can when they have been stretched, thinned, and ironed out, as it were, by repeated pregnancies. Expansion of the uterus, resisted by well-developed anterior abdominal walls, will cause a harder squeeze tc any structures nipped between that uterus and the unyielding posterior walls. The pregnant uterus in the mother of many children is more globular and its upper level is lower than in a primipara wher it is being molded into an elongated shape. Such molding and elongation may result in severe "pressure-renal" symptoms. In primigravida are found a total of the many cases that arise through pressure on veins and ureters plus the few from intrinsic kidney disease. In multigravida pressure is more or less abolished by the relaxed abdominal wall, and these are the cases to which the knee-chest position does so much good. Nearly every one present has been or will be asked the question "Why should such a strong healthy girl have the second most alarming complication in obstetrics?" The form may be changed, but not the idea, for the sequelæ seem to cover the specialties. Blindness, deafness, œdema-glottidis, dislocation of shoulder and insanity being a wide range. One man met the more serious question of how "a magnificent specimen of girl-athlete" died with her premature child between breakfast and luncheon, the convulsion that took place proving rapidly fatal. That never occurred to me, but I know the details. On that occasion it first came to me that no case of early albuminuria, in a robust woman, should be allowed to pass the fifth month of pregnancy, and years have only confirmed the opinion that if trouble is present before pressure begins, in a muscular primipara, there will be death when damaged kidneys are squeezed later on. The cases without albumin are about one in ten. So that while albumin is positive its absence is not positively negative. But there is always deficient elimination, and two facts are common—(1) 90 to 96 per cent. occur in primipara, and (2) 66 per cent. are male pregnancies. The elasticity of the normal rectus aldominis is notorious and, perhaps from a purely speculative standpoint, section of the pyramidales might be considered, inasmuch as these are tensors of the linea alba. Experiment is necessary here as well as in multiple partial cutting of the rectus. At present it is easier and safer to remove pressure by emptying the uterus. In the quadruped gravity offsets the elasticity of the rectus, and I have vainly endeavored to find some record of one single case of puerperal eclampsia in the horse or cow. They do have renal diseases, but I would be very grateful for the details of even one case of puerperal eclampsia. Eclamptics bear pain well, but not sudden or unexpected pain, and in all cases shock is dangerous, as convulsions may be started by a slight noise. Spontaneous embryonic miscarriage is apt to be "incomplete." Make a pad of iodoform gauze over cul-de-sac and cervix, then introduce a Gariel balloon pessary and inflate. This is easier than tamponnement, and the whole contents of the uterus will come away with unruptured membranes. Possibly a dilating bag would answer.

In conclusion, let me add that Alfred Wiltshire, physician-accoucheur at St. Mary's in London, hits the key-note of venesection when he says: "The age of the patient must be taken into consideration." It is my own opinion that pulse is the guide to quantity and age to advisability.

Considering, as I do, the wedge-like action of the expanding pregnant uterus, flabbiness or firmness of abdominal muscles seem the keys to the problem of life or death for the fœtus in the interest of an eclamptic mother, and carrying the theory of an elastic "rectus" to an extreme point, I wish to indicate that when that elasticity is lost by repeated internal pressure we have one of three things: (1) The necessity for an abdominal supporter; (2) a larger child, or (3) chronic polyhydramnios. The frequency of the last in multigravida about equalling the frequency of eclampsia in primigravida.

121 West Eighty-eighth Street

HYPERTROPHY OF THE LYMPHOID RING OF THE PHARYNX AND ITS SURGICAL TREATMENT.

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The subject presented for consideration is a broad one, inasmuch as it includes the hypertrophy of the lymphatics forming the structures known as the pharyngeal, faucial, and lingual tonsils. Although it is customary for teachers to subdivide these three conditions, it appears to the writer that they can be advantageously grouped for the moment, for general discussion, as they are histologically, pathologically, and clinically very similar.

These hypertrophies surround the region of the pharynx, with which you are familiar as the musculomembranous pouch situated back of the nasal cavities, mouth, and larnyx, extending from the base of the skull to a point opposite the sixth cervical vertebra, where it becomes continuous with the œsophagus. It is about five inches long, and is narrower below than above. It has four coats—an external fascia; a muscular layer, consisting of the three constrictors, together with the stylopharyngeal and palatopharyngeal muscles; a fibrous connective tissue layer, and a mucous membrane, extending to the base of the uvula, that is covered in its upper part with columnar ciliated epithelium, in its lower part with stratified epithelium. Mucous glands and lymphatic follicles are very abundant in the mucous membrane.

It remained for Waldeyer to bring to our attention

the close relation borne to each other by these lymphoid formations of the pharynx, and for Harrison Allen to describe satisfactorily their minute structure, which he did, in 1891, in the following manner: "The tonsil is an association of *diverticula* developed from the epithelial layer of the mucous membrane, in the walls of which are grouped *mucip-arous glands* and *lymph-follicles*. Resulting from this association, the tonsil is marked by the mouths of the diverticula, which open in a uniform manner upon the surface of the mass. The various tonsil groups differ from one another only in the arrangement of the diverticula. Thus in the lingual tonsils they are single, in the masses occupying the faucial spaces and the roof of the pharynx they are compound."

It should be borne in mind that in infancy and youth up to the age of fifteen years the normal mucous membrane of the pharynx is very rich in lymphatics. If these lymphatic structures have undergone hypertrophy they become of great importance from the effect they may have upon the general health and the special sense of hearing of those who are so affected. The faucial and pharyngeal tonsils are most frequently the seat of hypertrophy in childhood, and, because of the tendency of these structures to atrophy as adult life is reached, the family doctor is often guilty of advising against any operative interference, contending that the condition is one that will be outgrown. What is meant by the "outgrowing" of these conditions is that at times the lymphatic hypertrophies become absorbed, leaving behind only the increased fibrous tissue deposits, and as relief from some of the symptoms is obtained the inactive plan of treatment thereby appears to be justified.

The fallacy of the reasoning of those who advise time only as a remedy is proven by the fact that great and irreparable injury is being wrought to the general welfare and powers of hearing of the subject while waiting for this most indefinite result.

Hypertrophies of the lymphoid tissues of the pharynx are, as a rule, the results of catarrhal inflammations of the membranes, due to repeated attacks of colds in the head, or to inflammations of the pharynx accompanying scarlet fever, measles, or diphtheria. Several authorities claim that some of these hypertrophies are congenital, and there seems some foundation for the belief, as it is not an uncommon thing to find an infant one month old who cannot nurse at the breast on account of a hypertrophy of the pharyngeal tonsil; the writer has witnessed such a condition in a child three weeks of age.

Having considered lymphoid hypertrophies of the pharynx in a general way, we will proceed to take up the individual groups according to their location.

Hypertrophy of the Lymphoid Tissue of the Vault of the Pharynx.—Under this heading we will consider the well-known pathological condition, popularly called "adenoids of the vault," and more correctly described as a hypertrophy of the third, or pharyngeal, tonsil. There can be no question but what the term adenoids is a misnomer, is misleading and unscientific, as it indicates a tumor that has sprung from a gland, but long usage has made it acceptable as being descriptive of this lesion.

Thirty-four years ago an article, written by Wilhelm Meyer of Copenhagen, was published on the subject of adenoid growths of the nasopharynx, and it immediately challenged the attention of the medical world. It has frequently been stated by various authorities that the thesis was one of the most important ever contributed to this branch of medicine, as it was so thorough and accurate in its treatment of a new disease that little of value has been added to it by the hundreds of writers who have since discussed the subject.

In order to appreciate what constitutes a hypertrophy in the vault of the pharynx, it is necessary for us to determine the amount of lymphoid tissue present under normal conditions, which can be seen with the aid of the post-rhinoscopic mirror. Examination of the vault usually reveals a mucous membrane, studded with follicular openings and divided into four short, longitudinal folds, the outer ones of which are known as the lateral, and the central ones as the median folds of the pharyngeal tonsil. In contrast to this description of a healthy membrane we have the picture of one that is covered with grayish, stalactite-like projections, that may fill the entire postnasal space and even extend below the free margin of the velum palati. Hypertrophy of the pharyngeal tonsil is a condition that manifests itself principally in the first fifteen years of life, as during that period the lymphatic system is most active in its functions, and because the cavity of the nasopharynx has not reached its full development.

The diagnosis of a typical case of hypertrophy of the pharyngeal tonsil is a simple matter to one who has ever seen a child suffering from this disease, and who has studied its history. The guardian of the child will tell you that the little one has its mouth open and snores loudly at night, that it has great difficulty in breathing, and at times becomes bathed in perspiration in its efforts to obtain enough air while sleeping; that it has a cough; is subject to attacks of croup and nightmare; that there is a loss of appetite and a general lack of interest in the things that usually appeal to one of that age, and that the child is backward in its tasks at school.

On inspection of the child it will be observed that it is anæmic in appearance, a mouth-breather, has a vacant expression of face, a discharge from the nostrils, and may be stunted in growth and pigeon-breasted; in speaking, the voice has a muffled sound, and the hearing powers may be defective. When an attempt is made to examine the postnasal region with the mirror through the oropharynx, small patches of hypertrophied lymphoid tissue may be noticed on the posterior wall of the pharynx, and as the subject, if a small child, usually gags and contracts the velum, a mass of thick, viscid mucus will be seen to be forced down from behind the soft palate.

It is to be understood that the rather terrifying description just given does not apply to all cases, but such a combination does frequently exist. The ordinary case of adenoids will exhibit enough of these signs and symptoms to make one suspect their presence, which can be verified by a digital examination if a view with the rhinoscopic mirror is found to be impossible.

A digital examination of the nasopharynx should be conducted as follows: The child standing on the floor is closely pressed to the examiner's left side, and is instructed to open the mouth, when the examiner places his left index-finger across the left side of the patient's face in such a manner as to push the inner side of the cheek between the two rows of teeth. The index-finger of the examiner's right hand is then quickly passed up behind the soft palate and into the subject's pharyngeal vault, and swept around to ascertain the amount and location of the growths. If this method of examination is followed there is no danger of the explorer's finger being bitten, and an accurate knowledge of existing conditions will be gained without causing any real pain to the patient.

If the growths are present they may be recognized by contact of the finger with a soft velvety mass, filling up a part or the whole of the space, and bleeding easily on pressure. Adenoid vegetations

have been said aptly, but perhaps inelegantly, to feel like a bunch of worms.

There should be no two opinions regarding the method of treating hypertrophies of the pharyngeal vault. It is conceded by all high authorities that they should be thoroughly removed by surgical methods as soon as they are discovered to be a disturbing factor in a child's development. Having decided to operate in a given case, we are now face to face with the problem as to whether a local or a general anæsthetic should be employed, and as the writer has very decided views on this subject he will express them:

As a rule, it may be said that a general anæsthetic is required in all cases of removal of adenoids from the pharyngeal vault when the patient is under fifteen years of age. Rare exceptions may be made to this when the child has a small and well-defined group of tissue that can be located exactly with the mirror and when the operator feels certain that he can remove the whole mass with *one* introduction of the instrument. In such a case it is sometimes justifiable to do the operation under cocaine anæsthesia. There is one other occasion that can be recalled that should indicate an operation without a general anæsthetic, or, in fact, an anæsthetic of any sort, and that is in the case of an infant a few weeks old, who is unable to feed at the breast on account of adenoids blocking its nasal respiration. Such cases are frequently seen in the clinics, and relief is afforded by passing the forefinger up into the postnasal space and by means of the finger nail quickly breaking up the very soft and friable tissue found there. This method does not aim to be a complete and radical one, but it is intended to afford temporary alleviation until the child is sufficiently old to withstand the effects of an ether operation.

It will be seen, by glancing over the literature of the last ten years, that there is a steadily-increasing sentiment in this country in favor of the employment of general anæsthetics for operations of this nature. Articles by such well-known writers as Delavan, Knight, French, Wright, Chappell, and Hopkins lay great stress on this particular point, not alone for the sake of thoroughness in the operation, but in the interests of humanity and decency.

It is difficult to imagine a more brutal scene than that presented by a child struggling in the grasp of an assistant, with its face covered with blood, and the screams of pain and terror audible for a long way off, while the operator endeavors to regain an entrance into the vault with his forceps or curette. It may be said here that the success of an operation for the removal of adenoids depends largely on the thoroughness with which it is done, and we sincerely believe that a radical extirpation of these growths cannot be accomplished on a child who is frantic with pain and fear.

There is no greater mistake possible than to believe that a removal of a part of the offending mass will cause the rest of it to disappear by atrophy. Even with the most careful operators recurrences of adenoid growths do occur in about 1 per cent, of their cases, and this, too, in spite of the fact that the children have been under complete control at the time of operation, by the employment of chloroform or ether.

Some authorities claim, and without reason we believe, that if an operation has been thorough and the enlarged lymphatics have all been removed, that there can be no recurrence of the condition. This theory seems absurd when it is considered that groups of lymphatics other than those originally involved may become, later on, the seat of hypertrophic changes.

In a period extending over twelve years in the Manhattan Eye and Ear Hospital, during which from one to half a dozen cases of adenoids were operated upon daily under ether, making a total number of several thousand operations, the writer has never witnessed an accident due to the general anæsthetic. The objection most frequently urged against general anæsthesia in these cases is the possibility of asphyxiation from blood or vomited matter finding its way into the larynx, and this fear would seem, in the light of experience, to be unfounded.

The method of preparation and operation for cases of this kind is as follows: The parent is instructed to give the child a light breakfast at 8 o'clock on the morning of the day fixed for operation, and to see that it has nothing else to eat before bringing it to the hospital at 11 o'clock. Six hours having been allowed for the digestion of the morning meal, the child is placed upon the operating table, and ether is administered until primary anæsthesia is induced. As soon as the reflexes have been abolished, the head of the patient is lowered and a Denhard mouth gag is inserted far back between the jaws on the left side, and the operator, standing at the right side of the patient, carries a forefinger into the vault of the pharynx to locate the tissues to be removed.

When a forceps is used to ablate the growth the left forefinger is kept in the nasopharynx and used as guide until the mass has been seized by the instrument (to eliminate any danger of injury to the other parts), when it may be withdrawn and the severed tissues brought away. The forceps should be re-introduced as many times as may be necessary to thoroughly destroy all traces of the hypertrophied tissues, and it will frequenly be found useful to employ a curette in completing the operation.

As soon as the operator is satisfied that his labors are finished, the child should be rolled over face downward, and such blood as has accumulated in the pharynx and nasal chambers is allowed to escape; meanwhile the patient has probably regained consciousness. The hemorrhage is quite brisk for a few minutes, but, as a rule, it ceases spontaneously. The patient is then put to bed for twenty-four hours, and kept quiet and on a fluid or semi-fluid diet for a few days.

In a choice of the many patterns of instruments devised for this operation, the speaker has a decided preference for the Brandegee forceps (which is an improved model of the one given to us by Gradle of Chicago), and for the curettes designed by Gottstein, when an instrument of the latter type is required.

While the operation of adenotomy is a comparatively simple one, it at the same time demands a considerable degree of skill and experience in order to bring it to a satisfactory conclusion.

Unfortunately, there have been recorded in medical literature a number of cases, perhaps a dozen, of fatal hemorrhage following this operation. On investigation, afterward, nearly all of these cases were found to be hæmophiles. In cases of persistent primary or alarming secondary bleeding it is usual to try and control it by injecting through the nose, by means of a syringe, a full strength solution of hydrogen peroxide, and if this fails, the nasopharynx should be tamponed with gauze.

A postnasal tampon is made by folding and refolding several times a piece of sterilized gauze into a compact body, sufficiently large to fill the vault of the pharynx. Around this tampon is tightly looped a piece of strong aseptic twine, that is about twenty inches long and has previously had its free ends tied together. In order to place this tampon in position, it is required that something flexible, like a soft catheter or a wire loop, should be passed through one

nostril down into the oropharynx, where it is seized by a forceps and attached to the string of the tampon. Traction is then made through the nose, and the tampon is drawn up into close contact with the bleeding surface, with the assistance of the surgeon's digital manipulation through the mouth. The free end of the string should then be secured to the patient's face by means of adhesive plaster, and the tampon allowed to remain *in situ* for several days.

Postnasal tampons sometimes fail to accomplish what is expected of them because they are not made sufficiently large to fill the space completely.

Hypertrophy of the Faucial Tonsils.—This is a condition so frequently met with in the general practice of medicine that but little need be said about its gross appearances.

Hypertrophies of these structures take place during infancy and childhood, and are intimately associated with the overgrowth of the lymphatics of the pharyngeal vault. In fact, it is the exception to find permanently enlarged faucial tonsils that are not accompanied by some degree of hypertrophy of the pharyngeal tissues. The causes producing hypertrophy of the lymphatics of the vault are identical with those affecting the growth of the faucial tonsils, except that the latter are placed in a more exposed position, and are subjected to the additional irritation caused by contact with food during the act of deglutition,

On examination of the oropharynx of a subject who has hypertrophied tonsils we will observe ovoid masses occupying the spaces between the anterior and posterior pillars of the fauces, which are of firm, fibrous consistency, and on their exposed surfaces present about a dozen openings of the diverticula already mentioned as existing in the normal tonsil. These masses may consist of one or two, and very rarely three, bodies, known respectively as the faucial, velar, and foliate tonsils. The faucial lobe is the one which we generally have to treat, as it is the main one occupying most of this region, and lies just below the small velar one; the foliate tonsil, which is ill-defined and infrequent, lies between the faucial tonsil and the palatoglossal fold. These subdivisions of the tonsillar mass are of practical value only in directing the attention of the operator to the possibility of his work not having been complete after the removal of the principal growth.

The injuries caused to a child's health by hypertrophied tonsils are much the same as have been already enumerated in the condition of adenoids of the vault, and as large tonsils are rarely found in the young disassociated with adenoids, the symptomatology may be described as similar, with the addition of more or less frequent attacks of sore throat.

At this late day it seems almost unnecessary to enter a plea for the total extirpation of these diseased glands, but one does occasionally meet a misguided parent who advances obsolete arguments for their retention. While we are free to admit that the physiology of the tonsil is not understood, we do know that the functions of this organ cannot be performed after it has undergone extensive pathological changes, and that its presence does invite contagion, and is a constant source of irritation to the surrounding mucous membrane.

The methods employed for the removal of hypertrophied tonsils are ablation with the tonsillotome, ignipuncture, the galvano-cautery loop, and the cold-wire snare.

In children there is only one method worthy of consideration, and that is by the use of the tonsillotome while the patients are under the influence of a general anæsthetic.

A child should be prepared for the operation, as has already been described when adenoids are to be removed. The speaker recommends the Mackenzie tonsillotome as being the safest and best instrument for the operation, and when it is properly used it will be found that the tonsil has been entirely enucleated.

The patient being in the primary stage of ether narcosis with the head lowered, a Denhard gag is introduced into its mouth between the jaws on the left side, and the anæsthetist places the palmar surfaces of his hands firmly over the external neck to give support to the region to be operated upon. The operator, standing on the right side of the patient, carries the tonsillotome into the mouth with his right hand in much the same way as he would introduce a tongue-depressor, with the flat surface down, until the opening in the instrument is opposite the left tonsil, when it is turned at right angles, and the mass will be felt by the operator's left forefinger, used as a guide, to be within the grasp of the instrument. The operator's left forefinger is then slipped back on the shaft of the instrument and used to exert lateral pressure, and the blade of the guillotine is then sent home by the thumb of the operator's right hand. The severed tonsil is then quickly brought out and disengaged from the instrument, and the latter is immediately re-introduced, but by the operator's left hand this time, when the right tonsil is removed and the operation is completed. The patient is then turned and kept on its side with the face downward over the edge of the operating table until the bleeding has ceased. If adenoids are present, the patient is then given more ether, and they are removed in the manner before prescribed.

The cardinal rule in removing tonsils with the Mackenzie instrument is the using of a sufficient force laterally to get the ring of the tonsillotome around the base of the growth, and in this the operator is materially helped by the counter-pressure of the assistant's hands. If at the time of the operation the anterior faucial pillar is found to be adherent to the tonsil, it may be freed with a bistoury, and when this has been done there will be no obstacle to the removal of the entire mass. Apropos of the use of force in doing a tonsillotomy there can be no better illustration than that given by Sir Morrell Mackenzie, the inventor of the instrument, who said that the best operator for this condition he had ever known was an assistant of his, who was so heavy-handed that he never could do any other surgical work successfully.

No injury can be done to the surrounding parts if at the time the cutting occurs the blade of the instrument is held in a vertical position.

The after care of the child is important in order to guard against the possibility of a secondary hemorrhage. Whoever is left in charge of the patient should be instructed to see that he is kept perfectly quiet for the succeeding twenty-four or forty-eight hours, and not permitted to use the voice more than is absolutely demanded. Profound sleep after ether narcosis should not be allowed for several hours, as there have been reported several instances of serious results, due to a return of hemorrhage, which remained undetected. Only cold, soft food will be found acceptable to the patient, and is all that should be given. Small pieces of broken ice, held in the mouth, will be grateful to the patient's lacerated throat, and tend to prevent a recurrence of the bleeding. After several days have elapsed a mild antiseptic spray will be found of service. These simple preventive measures, conscientiously fulfilled, will render the chances of a secondary hemorrhage infinitely small and insure peace of mind to all parties concerned.

A great deal has been written about the dangers of

hemorrhage following tonsillotomy, and in 1893 the speaker made it the subject of an investigation, and read his conclusions, at a meeting of the Section on Laryngology and Rhinology, of the New York Academy of Medicine.

Up to that time there could be found in the entire medical literature of the world only fifty reported cases of alarming hemorrhage following this operation. Two of these cases were fatal in results, and one operator, Broca of Paris, had the misfortune to have both of them occur in his practice during the year 1879. In one of the cases death was caused by severing an anomalous internal carotid artery and in the other no details were given.

As to what constitutes an "alarming" hemorrhage arising from the tonsils, no general precept can be laid down; each individual case must be judged in itself, therefore the amount can only be defined as relative. It may be stated, in a general way, that after the excision of a tonsil in a child, it is customary to expect bleeding, varying in quantity from one drachm to two ounces. If the amount more nearly approaches the maximum degree mentioned, it is usually quite brisk for two or three minutes, and then subsides altogether. If the operation has been conducted under the primary effects of a general anæsthetic, a certain proportion of the amount of blood already designated is apt to find its way into the stomach and be vomited later; this may excite apprehension on the part of the patient or his family, who fear that it indicates a return of the bleeding. They should, therefore, be warned of the probability of this event.

In looking over the literature concerning the checking of tonsillar hemorrhage, it will be observed that the whole gamut of styptics has been traversed, and very rarely, if ever, have any of these drugs proven of service, unless combined with pressure. The much-vaunted combination of tannic and gallic acids, three parts of the former to one of the latter, as suggested by Mackenzie, may be of some use to control capillary bleeding that would probably cease spontaneously in a few minutes if left alone. Certainly it could not be expected to seal the mouth of a spurting artery of any considerable size, that is surrounded and held open by dense fibrous tissue. As a rule, then, it may be said that these drugs are inadequate to the emergency for which they have been recommended. If the hemorrhage is really of a serious and dangerous character, then some surgical or mechanical interference becomes imperative to prevent exsanguination, unless by a happy chance the patient goes into a condition of syncope, when the bleeding ceases as the arterial tension is lowered.

In some few cases of serious hemorrhage, when the artery is exposed, simple torsion with the forceps is all that is required. Oftentimes, though, the walls of the vessel will be found brittle, or cannot be seized, and it will then be necessary to transfix the stump of the tonsil, if enough of it remain, with a needle, and surround the mass with a silver wire ligature. These two methods, with the use of the actual or galvano-cautery applied to the bleeding points, practically include all minor surgical aids. It has been quite thoroughly demonstrated that the ligation of either the common or the internal carotid arteries singly cannot be relied upon, so that the only hope in this direction is to tie both of these vessels, or the external carotid near its origin from the common carotid artery. The idea of tying one of the great vessels of the neck is likely to appear rather formidable to many, and justly so, if the same result may be attained with other means.

The general consensus of opinion on the subject of checking tonsillar hemorrhage convinces one that the simplest and most successful method has been that of direct pressure to the bleeding surface. Most of the mechanical aids to this procedure have been found faulty in contrivance, or impracticable for actual use, and the surgeon has been obliged to resort to nature's only provision for this unexpected event, to wit, the use of his fingers. It matters not whether the bleeding occurs from a large, spurting artery that has been severed in one tonsil, or is in the character of prolonged, excessive oozing from both sides of the fauces, he will be forced to introduce one or two fingers, of one or both hands, into the mouth, as the case may be, and keep up pressure with them until the result is accomplished. In a few cases with which the writer is familiar, this pressure has been required for several hours continuously; not a pleasant task, even when the operator is helped and relieved by competent assistants. At best, digital compression must be limited, uneven, and unsatisfactory, as the hands become tired.

To obviate this exhausting and indifferent method of checking tonsillar hemorrhage the speaker designed, some years ago, a tonsillar hemostat, which has been found to be an efficient substitute for the fingers. This instrument is readily placed in position, and its effect may be noted by the use of the head mirror, which is rather a difficult task when the patient's oropharynx is occupied by the surgeon's fingers.

In regard to the other methods for the removal of hypertrophied tonsils little need be said. The only time that they should be considered is when the subject is an adult well on in life, and has a comparatively small, white and indurated tonsil. Experienced operators have learned to approach a tonsil of this nature with considerable respect, and to exclude it from their cutting procedures on account of its liability to cause great annoyance by excessive bleeding. Such growths are best removed by the use of the galvano-cautery snare, as suggested by Knight, or by the cold-wire snare, as described by Farlow. Ignipuncture is a slow and painful method of destroying these tissues, and is rarely used except to comply with the wishes of the patient or his guardian, who has an objection to a cutting operation.

Hypertrophy of the Lymphoid Tissue at the Base of the Tongue.—This section of the lymphoid circle of the pharynx was, perhaps, the last to receive serious attention at the hands of the specialist, who devotes his energies to the diseases of the throat, but that his labors have been well rewarded cannot be doubted when the number of obscure symptoms that have been traced to this region are borne in mind.

It is interesting to note that while other manifestations of the overgrowth of the pharyngeal lymphoid tissues are those essentially of childhood, the condition known as an hypertrophy of the lingual tonsil is rarely encountered before mature adult life has been reached.

Hypertrophies at the base of the tongue are observed only by the aid of the laryngeal mirror, and they can be seen to the best advantage by grasping the tip of the organ with a napkin held in the examiner's left hand, and drawing it forward so that the anterior end protrudes from the mouth. This act provides sufficient space for the passage of the mirror, and enables one to inspect the region thoroughly.

Contrary to the teachings of most textbooks, which lead one to expect that the tongue on its posterior surface is quite smooth, there will be found numerous slight elevations commencing below the apex of the angle formed by the circumvallate papillæ. These elevations vary in size from those of the dimensions of the head of a common pin to those as large as a split-pea; they occur singly or in groups

and are sometimes sufficiently large and numerous to cover the whole base of the tongue. When the latter is the case the epiglottis will be found to be resting its anterior and lateral surfaces on the mass, or it may be partially buried in it.

Constant contact of the epiglottis with the base of the tongue serves to keep up an irritation of both of these organs, and is responsible for the train of symptoms that is referable to this region. Besides the hyperæmia of the mucous membrane covering the epiglottis, caused by the constant friction of the opposing surfaces, the numerous small plexuses of veins situated at the base of the tongue become permanently enlarged and form varices.

Hypertrophy of the lingual tonsil seems to be of greater frequency in the female than in the male sex, or at least women complain of trouble in this region more often than do men. This may be explained possibly on the basis of the former being of a more sensitive nervous type than the latter, as when we consider the additional irritation of smoking and chewing tobacco, drinking, etc., to which man subjects his throat it seems strange that he does not have more trouble at this particular point.

Patients suffering from this condition usually state that there is a constant desire on their part to swallow, in order to get rid of something that seems to be lodged in the throat; many of them have a well-defined idea as to what it is they are trying to dispose of, and variously claim that it is a crumb, fish-bone, "lump," or some other foreign body that causes a feeling of fulness in the lower pharynx; pain is an occasional symptom of this condition, and patients frequently complain of a burning sensation; those that use the voice very much for singing or other purposes say that it becomes easily fatigued and most unreliable, sometimes disappearing altogether.

The most marked and annoying symptom produced by hypertrophy of the lingual tonsil is, however, the racking cough that very often accompanies it. A cough of this kind is usually paroxysmal in character, and is most often present at night when the patient first goes to bed, although it may occur intermittently throughout the sleeping hours. It would seem as though this night cough could be explained by the gravitation of the tongue deep down into the pharynx, thus bringing the lymphoid mass into more intimate relations with the epiglottis, while the subject is in the recumbent attitude. Whether this theory is correct or not, patients state that the only relief they obtain is by a change in the position of the body, and then it is only a temporary one.

Patients become very much alarmed at times because of the appearance of blood in the sputum after one of these violent attacks of coughing; these hemorrhages are due, of course, to the rupture of one or more of the small varicose veins already mentioned as being found at the base of the tongue.

The plan of treatment for a reduction of the masses of lymphoid tissue found in this location that has been most generally approved is one of destruction by the use of the galvano-cautery. This is accomplished under local anæsthesia, a 20-per-cent. solution of cocaine being employed for the purpose, by means of a curved electrode having a broad, flat platinum tip, which is applied to the different prominences under the guidance of a laryngeal mirror.

In making an application of the galvano-cautery to the region of the base of the tongue it is well to have the coöperation of the patient, who, by retracting his own tongue, leaves the left hand of the operator free for the manipulation of the laryngeal mirror while he directs the cautery point and controls the current with the right hand. In using the cautery here great care should be taken not to scorch the epiglottis, as it is capable of getting up a very marked inflammatory reaction, and this can be best avoided by not turning on the current until the tip of the cold electrode has been buried in the mass that it is desired to destroy. Another point that is worthy of attention is not to do too much burning at one sitting; three applications of the cautery point is about all that a patient will submit to at one time, as considerable pain is felt then, and the wounds are sensitive for several days afterward, on account of the exposed position and mobility of the parts; an interval of a week's time should be allowed before repeating the cauterization, and this conservative policy should be pursued until the hypertrophies have been destroyed and the symptoms have disappeared.

The free use, at home, of an albolene spray, containing 3 per cent. of menthol, will contribute greatly to the comfort of the patient during the course of treatment, and by giving protection to the wounded tissues, hasten their resolution.

313 Madison Avenue.

A CASE OF SEPSIS, FOLLOWING AN ATTACK OF OSTEOMYELITIS FROM A SLIGHT CAUSE.

By SAMUEL KOHN, M.D.,
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This case, from its apparently trifling inception to its fatal termination, five and one-half weeks later, was so abounding in interest, from both a diagnostic and a therapeutic standpoint, as to render the publication of its history obligatory.

Miss R. M., aged twenty-six years, born in the United States, unmarried, called at my office, in Arverne-by-the-Sea, L. I., Sunday, August 21, 1902, complaining of moderately severe pain, in and about the right wrist-joint, and gave this history:

On the day previous (Saturday) she had visited Sea Side, Rockaway Beach, with a number of her girl friends, for the purpose of seeing the sights; in the course of the afternoon she had taken a ride on the scenic railway, an elaborated toboggan slide, consisting of a number of ascending, as well as descending, grades, in consequence of which the motion of the car reached such great momentum at times that she was compelled, in order to steady herself, to grasp firmly the upright iron bar, a part of the car's construction. She stated that, in so doing, she felt at the time she was unduly straining the muscles and tendons of the right hand and wrist. Following this, she and her friends enjoyed a ride on one of the enormous carousels, in which Rockaway Beach abounds, and here again, in order to counteract the dizziness excited by the rotatory movement in one direction, she grasped with her right hand the iron upright nearest to her, holding on firmly as long as the motion continued. During the afternoon and evening she suffered from some pain in the right hand and wrist, but it was not until the following morning that she called upon me.

The parts about the right wrist were found slightly swollen; there was considerable tenderness to pressure; but, owing to the straightforward history of an unusual strain suddenly placed upon the muscles and tendons of the right hand and forearm, I experienced no difficulty in diagnosing an acute periarthritis of the wrist, and ordered several small ice-bags and absolute rest.

The following day I was called to the patient's home; found the wrist more painful to the touch; there was more swelling, and slight redness on both the extensor and flexor aspects of the joint; believing that synovitis had probably been superinduced

by the strain on the joint, I put the patient to bed, and ordered evaporating lotions of lead and opium. The temperature was at this time 102° F., pulse 80; otherwise the patient felt very well. On the third day the pain in the wrist became so intense that I was called at midnight, and was compelled, in order to allay the agony of the patient, to give three hypodermics, each of one-quarter of a grain of morphine, successively. The temperature was 104½° F.; pulse 90.

A thorough physical examination of the patient was now undertaken, to determine, if possible, the source of the severe infection, and of its results, if any. But a most careful and painstaking examination failed to reveal anything abnormal in the throat, lungs, heart, or abdominal organs; the sensorium was perfectly clear, the patient being only very much excited by the severe pain.

The salient and predominating signs and symptoms were to be found in the right wrist-joint. The previous history of the patient was carefully gone over with the mother, who assured me that, although her daughter had always been somewhat pale and slight of stature, she had not complained of being ill up to the day of her visit to Rockaway Beach.

From the patient I learned that for several days preceding the accident she had passed some blood per rectum and had suffered slightly from dysuria. This seemed to furnish a clue which might have led to the diagnosis of gonorrhœal rheumatism. I learned that she had been troubled for some time with bleeding piles. A vaginal examination was not obtainable, the patient absolutely refusing to allow any such procedure. As her menses appeared the following morning, I concluded that the bleeding from the rectum and the dysuria had probably been the forerunners of the monthly period.

Later on, in the course of the sickness, we had abundant opportunity to satisfy ourselves that the suspicion of a gonococcus infection was entirely without foundation in fact.

On this, the fourth day of the illness, the swelling and redness extended over the dorsum of the hand, and half way up the forearm. There was some swelling and redness on the flexor side of the wrist; extreme tenderness to the touch, diffused over the whole region; movement at the wrist was impossible because of the intense pain, the slightest movement of the fingers being exquisitely painful. Temperature, 103° F.; pulse, 84.

Salicylate of sodium was now given in gradually-increasing doses until saturation was effected, as evidenced by tinnitus, deafness, etc.; in the course of forty-eight hours she received the drug in fifteen-grain doses with one-quarter grain of morphine every two and one-half hours, while awake.

In spite of this medication, the temperature remained high, rising to 104½° and falling to 100°, twice in the twenty-four hours. The pulse at all times was fairly strong, regular, and, compared to the temperature, slow; ranging from 80° to 90°. No change was noted in the condition of the wrist. On the supposition that there might be a malarial infection, quinine was given in heroic doses, for several days, with no more effect upon the fever than if so much common salt had been administered. Iodides produced no more relief than the other drugs.

Of the local treatment, almost the same story is to be told. The arm was immobilized in a starch bandage on the third day, after the lotions and ice bags had failed to produce any amelioration. Owing to the severe pain, the bandage was removed the following day, and a 50-per-cent. ointment of ichthyol in lanolin, thickly applied; later tincture of iodine and blistering were tried successively, with the result of slightly alleviating the pain. On the eighth day auscultation of the heart revealed a slight, blowing systolic murmur, heard most distinctly in the third intercostal space, about three inches to the left of the sternum. It was audible at the apex, but slightly; was not conveyed to the vessels of the neck.

As this was the first discernible objective symptom aside from the wrist, since the onset, I determined to watch it carefully. The swelling and pain about the wrist had by this time somewhat diminished. It was possible for the patient to move the thumb and little finger slightly without pain. All other movements of the hand or fingers were still productive of great pain.

The exacerbations and remissions of fever every twelve hours, approximately, occurred regularly until the ninth day, when the patient had a slight chill in the afternoon, followed by a temperature of 105½°; which, in turn, gave way to a profuse perspiration, and a fall of temperature, within six hours, to 101°. On the tenth day another chill, more severe than the first, followed by high temperature, perspiration, and sudden fall of the fever to 99° F.

The following three days were comparatively comfortable, although the fever rose daily, as high as 103° F. The pain and tenderness in the affected wrist were becoming more localized in the articular end of the ulna, on its outer surface.

On the thirteenth day, at the patient's urgent solicitation, she was removed to her home in New York. Every precaution against jolting was employed, as the slightest jar conveyed to the forearm and wrist caused her to scream with pain. At this time Dr. Walter M. Brickner became associated with me in the management of the case.

A careful examination of the wrist now showed the point of greatest sensitiveness to be localized on the outer surface of the ulna, for a distance of two inches from its articular end at the wrist.

On September 16 Dr. Frank Markoe, who saw the patient with us in consultation, agreed that it was a marked case of sepsis, due probably to osteomyelitis of the lower end of the ulna, and that an operation might lay bare the source of infection. The results of the painstaking examinations of the blood and urine by Dr. Libman will be given below:

September 17.—The pain in the ulna still being very severe and the fever showing no signs of abatement, we concluded to operate. Dr. W. M. Brickner performed the operation.

The ulna was laid bare, and was found, at the point corresponding to greatest sensitiveness, to be denuded of periosteum, over an area of about half an inch square; the extensor tendon was deeply congested and soft. The tissues were soft and somewhat macerated in appearance; bleeding from the wound was so slight as to attract our attention. Probably due to thromboses of the smaller vessels. The ulna, chiseled open to its center, was considerably congested and softened, but no pus was found.

The highest temperature for the twenty-four hours preceding the operation had been 102.6°. On the following day, September 18, the patient had a chill, followed by a temperature of 105.6° at 10 p.m.; which by 7 o'clock A.M. on the 19th had fallen to 99°. The pulse throughout the illness had been of excellent quality and was so at this date, ranging from 80° to 100°. This feature, together with the absence of streptococci and staphyloccoci from the blood cultures, militated against our diagnosis of septic endocarditis. It seemed to us that an endocardial inflammation of a severity sufficient to produce such high temperatures must necessarily involve the muscular structure of the

heart to an extent sufficient to produce a rapid and feeble, or even an intermittent, pulse.

September 18.—The systolic murmur became more distinctly audible; a slight diastolic murmur was now heard, immediately following the systolic; this became more marked from day to day, until it became almost coequal in loudness with the systolic murmur. Both murmurs were heard with maximum intensity in the third left intercostal space, in a line with the left nipple. Examination of the abdominal organs revealed some enlargement of the liver, the free border being two finger-breadths below the free border of the ribs; the right kidney slightly movable. Dr. M. Manges saw the patient in consultation on September 18, and agreed with us in the diagnosis and treatment.

Frequent examinations of the urine showed slight traces of albumin, but no casts.

The treatment up to this time had included every possible means of combating sepsis; the nourishment of the patient was kept up to the highest point possible; when the stomach rebelled nutrient enemata were given at regular intervals, and were retained; stimulants, in the form of whiskey, Tokay wine, and champagne, were taken freely. High saline enemata and hypodermoclyses of normal saline solution were tried and found wanting.

Credés silver ointment was used faithfully and thoroughly for a period of several weeks without result. Marmorek's antistreptococcic serum was injected five times; after each injection the temperature rose within twelve hours to 106° or 106½°, and fell as rapidly from this to 99½°.

Hypodermics of pure carbolic acid were given for a time in two-per-cent solution; quinine and urea were used in the same manner, when the stomach rebelled against quinine. On the supposition that the infection might possibly have its source in the intestinal tract, salol and, later, guaiacol carbonate were administered for a time without any perceptible effect.

With all this, sponging with cool water was regularly resorted to when the temperature rose above 103°, and cardiac stimulants—strychnine or sparteine—were injected as required.

But, in pite of all these therap utie measures, the temperature continued to reach a height every day of 104° to 106° or 106½°, attended now and then by chills; and dropped as regularly to 99° or 100°. The patient's stomach throughout the illness has been, at times, rebellious, causing vomiting of the liquids ingested, but neither in the vomited matter, nor in the stools, was anything abnormal found, aside from some stringy mucus; no blood nor pus.

September 29.—Dr. A. Jacobi saw the patient with us, and agreed substantially with us in the diagnosis and treatment. From October 1 to October 8 the temperature ran the same course as in the preceding weeks, showing two exacerbations and remissions daily.

The wound in the ulra had almost healed; patient had for some time ceased to complain of any pain, and for two weeks had been able to move the hand and fingers. On October 8, at 8 A.M., the temperature was 105.4°, pulse 140°; patient had an attack of vomiting, fell into a collapse, and died at 11.30 A.M.

The extraordinary features of this case are:

First.—The production by such a trivial cause of an osteomyelitis, of sufficient virulence to produce a profound septic infection. It may, of course, be assumed that the infection took place through some unrecognized channel, previous to the accident—through the throat, the vagina, or a hang-nail, perhaps—and that the strain upon the structures of the wrist was the exciting cause which caused the cocci to settle in the ulna. But no lesion was found on the skin or anywhere else to account for such an infection. It may also be argued against the hypothesis of a pre-existing infection—would a young woman suffering with the symptoms of a systemic infection go out lightheartedly to see the sights, and take advantage of all the attractions of a seaside resort as this one did?

We learned after the patient's death that she had complained of a hang-nail on one of the fingers of her right hand shortly before she was taken sick; but had this been the point of entry for the infection would there not have been some symptoms accompanying it?

The only conclusion to be reached, therefore, is to concede the possibility of a severe muscular strain, inducing an osteomyelitis.

Second.—The existence of a grave septic endocarditis, evidenced by marked murmurs, attended by high fever, with a *good* pulse, *slow*—out of proportion to the fever, ranging from 80° to 110°—and perfectly regular. This quality of the pulse, together with the sterility of the blood cultures, seemed inconsistent with a serious endocardial and myocardial inflammation.

Third.—The exacerbations and remissions of fever, which took place *twice* in every twenty-four hours during the entire course of the disease, and the sharp and sudden declines; withal the sensorium throughout the disease was perfectly clear.

Fourth.—The complete failure of all therapeutic measures to influence, in the slightest degree, the steady onward course of the sickness; for five and one-half weeks the sepsis was fought at every step by every known means, but without any favorable result whatever.

Fifth.—The final interesting feature takes the form of a question. Was the lesion in the ulna a metastasis from a pre-existing infection which produced the endocarditis; or was the osteomyelitis of the ulna the primary of affection?

I incline to the latter belief.

REPORT ON THE EXAMINATIONS OF THE BLOOD AND ON THE POST-MORTEM EXAMINATION.—BY E. LIBMAN, M.D.

Examinations of the Blood.—On September 12 the count of the blood gave 10,000 leucocytes. Spreads showed a preponderance of polymorphonuclear leucocytes. No plasmodia were found, and the Widal-reaction was absent. A blood-culture was made, 10 c.c. of blood being drawn from one of the veins at the elbow. Both plates of serum-glucose-agar and flasks of glucose-bouillon were used. The result was entirely negative.

On September 13 the urine was plated. It was practically sterile, only one colony of the staphylococcus albus being obtained from 5 c.c.

The culture made by Dr. Brickner at the time of operation (from the bone) was sterile.

On September 23 a second blood-culture was made, using 15 c.c. of blood. The same media were used as before. In one flask there developed after two days, an organism subsequently identified as the staphylococcus aureus.

On September 24 the blood was again examined for plasmodia, with a negative result.

On October 4 the urine was again examined, but no colonies of the staphyloccus aureus were obtained.

Post-mortem Examination.—Performed on October 8, 1902.

Lungs.—Bilateral hydrothorax; congestion; slight œdema.

Heart.—All chambers dilated. No evidences of

old lesions. Anterior and left posterior flaps of aortic valve covered by friable vegetations. Vegetations extend to a slight extent over the endocardium of the ventricle. The sinuses of valsalva are filled by soft vegetations, and there is a perforation leading from them into the right auricle, just at the attachment of the tricuspid valve. The perforation on the auricular side is covered by a large mass of vegetations, which implicate the tricuspid flap by contiguity. There are no vegetations on the free margin of the valve.

The heart-muscle shows marked parenchymatous and some areas of interstitial myocarditis. An occasional area is purulent.

Liver.—Enlarged; congested; parenchymatous, and fatty degeneration; increase of periportal connective tissue; a hemorrhagic infarction in the right lobe, near the free border.

Spleen.—Very much enlarged; pulp congested, very soft (acute hyperplasia).

Kidneys.—Congested; marked degeneration.

Pancreas and Adrenals, Bladder, Uterus, and Appendages.—Practically negative. The *right ulna* shows a small granulating cavity at the lower end.

The gastrointestinal tract and brain could not be removed. No external portal for the infection could be found; abdominal and thoracic veins negative.

Bacteriologic Examination.—Cultures were made from the centers of some of the vegetations on either side of the heart, from the blood in either ventricle, and from the spleen. A few colonies of the staphylococcus aureus developed in all the cultures except those from the spleen. In the last the bacterium coli commune was found.

The staphylococci were found markedly virulent for mice, rabbits, and guinea-pigs.

Diagnosis.—Osteomyelitis of ulna; staphylococcæmia; acute endocarditis of aortic valve, with perforation into right auricle; acute endocarditis of right auricle. Point of primary invasion not demonstrable.

A Generalization on Aortic Regurgitation.—H. W. Syers does not believe that the majority of cases of aortic regurgitation are referable to rheumatism, but refers many cases to syphilis. He ascribes the sudden death, so often occurring in this form of valvular disease, to mural changes of the heart. It is perfectly obvious, he says, that the general imperfect filling of the arteries must be shared in by the coronary vessels, and hence it follows that the heart muscle itself must be more or less imperfectly nourished. Syers protests against the indiscriminate use of such remedies as digitalis and its congeners, simply because there is a murmur. So long as the discovery of murmurs is the end, aim, and object of heart examination, so long, I fear, will unnecessary and injurious treatment and meddling interference lead to the results which are only too often observed at the present time. Digitalis and other drugs of the class are nothing more nor less than most potent workers of evil in compensated heart lesion of all kinds, and in none more so than in aortic regurgitation. The already forcible contraction of the ventricle is rendered still more powerful, the strain on the arteries is increased, and the frequent contemporary presence of atheroma of these vessels may lead to the production of fatal cerebral hemorrhage. By the increased driving power of the ventricle, too, previously firmly adherent granulations may be swept away from the aortic cusps, and cerebral or peripheral embolism may be the result. Further, attacks of palpitation may be either excited or aggravated, and dyspeptic trouble, previously slight or absent, may be excited. And there is the further great danger of the heart being brought to a sudden and permanent arrest of action. Reliance should be placed on proper hygiene, in its broadest sense. Later, when compensation fails and the mitral value has yielded, the above-named remedies may find their proper application.—*Treatment.*

Therapeutic Value of Heat and Cold Applied to the Spinal Column.—W. F. Glenn offers the following summary: (1) Nothing should ever be put into the stomach except such substances as form a component structure of the body; (2) if this rule were rigidly adhered to, there should be no digestive disturbances, and we should always have a normal blood; (3) since the blood is the life, when the blood has its structural element normal and every cell is receiving its proper supply—no more, no less—disease cannot exist; (4) since we know that the amount of blood in any part is controlled by the action of the vasomoter centers of the spinal cord, and the sympathetic ganglia in close proximity to the cord, when these centers are performing their functions properly, the blood circulation must be normal, and no disease can exist; (5) when there exists any disease causing an increase of blood in the capillaries of an organ, the application of heat over the vasometer centers presiding over that organ causes almost at once a normal flow of blood in them, and, consequently, a normal circulation in the organ affected; (6) when there exists any disease which lessens the normal amount of blood in any organ, then the application of ice over the vasomotor centers presiding over that organ will cause a normal amount of blood to flow to that organ, resulting at once in a normal circulation, and a consequent subsidence of the disease.—*Nashville Journal of Medicine and Surgery.*

Acute Leucocythæmia.—Charles H. Melland says that the etiology and pathology of this disease are both obscure. That the affection is of an infective character is probable. The bone marrow is to be considered as the primary seat of the disease, the change in it being the initial and fundamental lesion preceding, or at least coincident with, the hyperplasia of the lymph glands, or in some cases occurring without any changes in the lymph glands, but in no case merely secondary to these latter changes. The disease occurs most commonly in young adults. The symptoms are weakness, dizziness, and palpitation, combined with those of acute febrile disorder, as headache and pain in the limbs. Fever is usually an early symptom. Hemorrhages from the mucous surfaces are common. The lymphatic glands are usually swollen. The spleen slightly enlarged. The diagnosis must, of course, rest on the blood examination. The red corpuscles are seriously diminished, and show marked evidences of degeneration. The increase in leucocytes is at times very great, but, as a rule, the numbers recorded are lower than in the chronic forms. The increase is solely in the lymphocytes. The prognosis is absolutely unfavorable, and treatment is confined to the symptoms.—*The Medical Chronicle.*

Venesection in Acute Nephritis.—R. W. Marsden reports two cases of acute nephritis, in which blood-letting was of value in restoring the circulation after cardiac failure. As to its effect upon uræmia, it is only conceivable that venesection would be of use in those cases in which, from whatever cause, the heart is no longer fulfiling its function properly, and there is a consequent increasing pressure in the venous system, so that in the treatment of uræmia one is again driven to the conclusion that the value of venesection is chiefly from the mechanical relief obtained. Springer suggests that better results might be obtained in the treatment of nephritis by venesection, if combined with the injection of fluid, but the author thinks that theoretical considerations are as little in its favor as in that of venesection alone. The latter alone, or in combination, is not to be adopted as a routine treatment for nephritis. But it is indicated when dilatation of the right heart follows overstrain and failure of the left ventricle, while the method of administration of fluids must depend on the needs of each case.—*The Medical Chronicle.*

MEDICAL RECORD:

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THE ISTHMIAN CANAL COMMISSION.

ONE of the chief difficulties with which the constructors of a canal dividing the continents of North and South America will have to contend will be the unhealthy conditions prevailing in the regions through which the waterway must pass. Dire experience has already taught the lesson that the Panama route is extremely deadly to man, and especially to members of the white race. The mortality which attended the partial making of the ill-fated French projected canal was appalling, and was undoubtedly a factor in the final wrecking of that scheme. There is probably no part of the world where malaria of a malignant type is more rife than in the country surrounding the course of the contemplated Panama canal. Indeed, the entire district, including the alternative Nicaraguan route, is a hotbed of some of the most fatal diseases incidental to an almost untouched tropical land.

Taking into consideration then the unhealthiness of the environment and of the climate, it is in a high degree essential that the Government of the United States should use every means in its power to combat these conditions, and to render the work of constructing the canal as little harmful to human life as is possible. Effective sanitation must be the keynote of the efforts to attain this end. But in order that a good sanitary system might be evolved and properly carried out during the making of the American interoceanic waterway it will be necessary that a sanitary expert shall have an authoritative voice in the deliberations of the Isthmian Commission.

At the recent meeting of the American Association for the Advancement of Science, Prof. William H. Welch of Baltimore presented the following resolutions drawn up by himself:

"*Inasmuch* as the construction of the isthmian canal is through a region in which without energetic sanitary control there is sure to be enormous loss of human life from preventable diseases, particularly from pernicious malaria and yellow fever, as well as great waste of energy and of money from disabilities caused by such diseases, and

"*Inasmuch* as the measures for the restraint of these diseases, which have already achieved even their partial extermination in Cuba under American administration, require expert knowledge, based upon practical familiarity with tropical diseases, experience in the application of these measures, and large authority in their administration,

"*Resolved*, That the American Association for the Advancement of Science begs most respectfully and earnestly to call the attention of the President of the United States the importance of appointing as a member of the Isthmian Canal Commission a medical man possessed of the qualifications indicated. The association is convinced that the mere employment of such a sanitary expert by the commission will not be likely to secure the desired results.

"*Resolved*, That the permanent secretary of the association transmit a copy of these resolutions to the President of the United States."

The above resolutions no doubt embody the views of medical men throughout the country. A sanitary expert, to do the most good, is needed as a member of the commission itself, and it is to be hoped that the President will appreciate the force of this contention.

From a purely scientific standpoint, the field offered for research work, and for testing on a large scale the value of the discoveries relating to the conveyance and propagation of malaria and yellow fever by means of mosquitos is magnificent. A result of the digging of the isthmian canal may be that Americans will duplicate, or even surpass, the brilliant record made in Cuba. However, to bring such an event to pass, a man of high scientific attainments must be given a place on the commission, so that he will have the opportunity of impressing his colleagues with the supreme importance of the situation regarded from the outlook of medicine and science.

THE CHANGE IN THE ADMINISTRATION OF THE STATE HOSPITALS FOR THE INSANE.

IN its issue of February 1, 1902, the MEDICAL RECORD adversely commented upon Governor Odell's proposition to centralize the management and patronage of the eleven New York State insane hospitals, and to invest their control in a State commission in lunacy at Albany. It was then urged that the Charities Aid Association was an independent body, composed of persons of good standing and of unimpeachable integrity, and who had always labored earnestly and energetically in the interests of the insane.

The same editorial contained this paragraph: "The grounds upon which well-founded objections may be advanced against the proposed scheme of Governor Odell are that the State hospitals will be brought within the domain of politics. The boards of managers who have up to the present time supervised the institutions of the insane have been, at any rate, outside of politics. They have received no pay, and have performed their duties faithfully and well in the cause of charity alone. Perhaps their management has not been at all times distinguished by close economy, but some extravagance, when it directly benefits the patients and those attached to the institutions, is preferable to cheese-paring methods of conducting such establishments on political lines."

Despite strong opposition, the Governor was firm in carrying out his measures of reform, and after nearly a year's trial of the new system it would appear that the strictures passed upon the suggested

alterations have been amply justified by their ineffective results.

The Charities Aid Association has just published its tenth annual report to the State Commission in Lunacy, and gives over a large portion of its space to a critical review of the working of the legislation enacted last year on the recommendation of Governor Odell. With regard to the changes in the management of the State hospitals, the association thinks that the transference of superintendents and assistant physicians from one hospital to another, the abolition of the office of any of the resident officers and employees, and the transference of power of the superintendent to another officer, appointed by the commission, and endowed with special powers, has not been attended with corresponding benefits to the patients or any of those connected with the hospitals.

The report respecting these points says in part: "The subordination of the superintendent through the absolute control of a central body like the commission, and the power of this body to regulate the conduct of his hospital in every particular, to delegate his duties to another officer, to transfer him to another hospital, or even to remove him from the service, are disastrous to the success of the best hospital administration."

The steward is now appointed by the commission, and although virtually subordinate to the superintendent, is really more secure in his position than is the superintendent. This is necessarily prejudicial to the authority of the superintendent. The report goes on to say: "Many factors of the present system are, in the nature of things, discouraging and humiliating to the superintendents and other medical men in the hospitals, and young men of ability are deterred from entering the State hospital service, while many of the best physicians, it is to be feared, will abandon the service. The change in the personnel of the service will be gradual, but it is to be feared that it will be disastrous to the success of the State hospital system."

The association in its report recommends that the Lunacy Commission's appeals for a larger appropriation, as the amount provided last year was not sufficient to provide the patients with all that was needed.

The report concludes by recommending that small reception hospitals be established in large cities for examination of the alleged insane and for treatment of incipient and acute cases. The recommendation is also made that the consumptive insane be segregated, and that summer camps be established in the grounds of suitably located institutions, where hopeful cases may be cared for during the summer.

There is no doubt that the Charities Aid Association deserve well of the community for calling attention to the defects in the system of management of State insane hospitals inaugurated by Governor Odell. The MEDICAL RECORD has always held that politics should be wholly divorced from the management of charitable institutions, and especially of hospitals. Such establishments should be conducted solely in the interests of the afflicted, and should never be used in any way as a means of political leverage.

WOMEN AS ARMY NURSES.

THE belief has for some time been gaining ground that, in many respects, women are better fitted for the work of nursing wounded and sick soldiers than are men. The female nurse corps of the British Army has been fairly well tested, and, on the whole, has fulfilled expectations. Women trained nurses were first employed in the United States Army in May, 1898, and throughout the progress of the Spanish War, until at the end of the campaign there were nearly 1,200 in the service.

In the *Journal of the Association of Military Surgeons of the United States* for November, Dr. Anita Newcomb McGee contributes an article treating of the "Nurse Corps of the Army." Doctor McGee has always taken much interest in the question, and in 1899 wrote a notable article on the subject. According to this writer, in the period between 1898 and the present time the trained army nurses have served in Porto Rico, Hawaiian Islands, China, Japan, and Cuba, but in none of these places is there any need for them now.

The army nurse corps, as it exists to-day, is found at six large hospitals in the Philippine Islands—including about thirty nurses at the First Reserve in Manila—on the transport vessels, at the Presidio of San Francisco, at the tuberculosis hospital at Fort Bayard, New Mexico, and, from time to time, at any post where they are temporarily needed. The total number is 167, of whom 123 are in active service, and forty-four classed as reserves.

In December, 1900, the department placed in the Army Reorganization Bill, which came into effect that winter, a provision that the Medical Department should consist of certain officers, the hospital corps, and the nurse corps, thus placing the trained women nurses on the same footing with the hospital corps, as an integral and permanent part of the army—and consequently abolishing the contract system formerly in use. The pay and allowances are the same as were authorized early in 1899, but a "superintendent" has been appointed to the head of the corps.

The most important administrative work of the new superintendent has been an inspection tour of most of the army hospitals in the United States and Philippine Islands, at which nurses are stationed. Several valuable recommendations have been made as a result of this trip.

The writer is of the opinion that the trained nurses in the army might be used to a larger extent than at present as practical teachers of the enlisted men in the wards of certain large or base hospitals, just as in civil hospital wards the head nurses teach the juniors and prepare them, in their turn, to take increasing responsibilities, and to perform their duties more skilfully. This is the method of the English system, in which the "sisters," as they are called, act only as head nurses, and at the large hospitals, where they are stationed, they have the men under their instruction and orders. Their official grade is equal to that of second lieutenant.

Dr. McGee, as the outcome of her experience, makes the following suggestions: Graduate nurses who have had the benefit of a systematic three-year graded course in a large civil hospital could immediately, on their army appointment, be given a special post-graduate military course at a large

hospital—either at the one proposed to be located in Washington or in San Francisco—and at the same time could teach practical nursing in the wards to the hospital corps recruits. Since it is not possible to obtain any considerable number of male trained nurses, such use of carefully picked trained women nurses of the highest type is by far the best way in which the recruits can receive a training. As they enlist only for three years, and as part of their time is consumed in learning military duties from surgeons and stewards, their training should be continued at the large or base hospitals, so that they may go into the field or to smaller posts well prepared for their work. The permanent teaching force of the nurse corps, including perhaps one hundred nurses, should be of the highest possible standard, and should virtually hold their positions for life, as they do in England. They should be regularly stationed at certain specified hospitals, but whenever an officer at a smaller hospital needs them for an epidemic or a critical case, he should—as he now can and does—telegraph for two or more nurses to be sent from the nearest large hospital.

In addition to this permanent force, definite provision should be made for war reserves. The Army and National Guard will supply corps men for the arduous field service, but they cannot maintain a large enough corps to fill the needs of war emergency, with its large army and large percentage of sick, and neither can they turn recruits into competent nurses in a few weeks.

Therefore, the civil profession of nursing must necessarily be called upon, and definite provision for this should be made in advance, so that our Government may never be dependent on haphazard aid.

With reference to the nurse corps of the United States Army, and the need of an eligible institution in which to train persons for this service, the report of the Surgeon-General of the Army for 1902 reads thus, "The desirability of a place in some army hospital, in or near Washington, where nurses could serve a probationary period, is fully realized. The advantages of such an arrangement would be manifold. The superintendent would have an opportunity to observe personally each candidate before making recommendations for her permanent appointment, the examinations required by law could be made more thorough, and the risk of assigning unqualified or undesirable nurses to distant hospitals, involving a long and expensive journey, would be minimized.

Women nurses are particularly well qualified for a large part of the ordinary army nursing. In time of peace—with the possible exception of venereal diseases—they are better fitted, from most standpoints, to tend to those suffering from any malady, than men. In time of war the female nurse's place is in the base hospitals. This fact was clearly brought out in the recent South-African campaign, where, in the general hospitals, of about 500 beds, there were employed from twenty-eight to thirty women nurses, with most satisfactory results. Of course, however, to fill properly the position of army nurse, a thorough, practical training is necessary, and the opinion of a large number of army medical officers is to the effect that. be the probationer male or female, the teaching of the duties should be entrusted to trained nurses and not to medical men. It is declared that women nurses are effective teachers, and that men learn readily from them.

All belonging to the medical corps of the United States Army are agreed as to the need of an effective army nursing system, and, perhaps, the majority of them think that, wherever feasible, men nurses should be replaced by women.

THE TREATMENT OF THE SMOKE NUISANCE.

Since the coal strike in the anthracite regions began, and developed into the proportions it eventually assumed, dwellers in American cities, and especially in New York, have had a foretaste of what would happen if they were dependent upon bituminous coal for heating and lighting purposes. Not only this, but the population of large towns in this country have recognized that they must seriously consider such an eventuality, and be prepared with measures which will obviate the danger to health and the inconveniences that must assuredly follow the consumption of soft coal on a large scale.

In Great Britain the smoke nuisance has long been one of the most prominent questions confronting inhabitants of cities, and the difficulties in the way of abolishing, or even of lessening, the volumes of smoke which hang like a pall over London and Manchester and other large centers of population may be accurately gauged when the fact is taken into account that little or nothing has yet been done to remedy the evil.

At the meeting of the British Sanitary Congress at Manchester, held September 9 last, Mr. W. N. Shaw, Sc.D., F.R.S., read a paper on the treatment of smoke which was published in the *Journal* of the Sanitary Institute. Mr. Shaw proffers the suggestion that it might be well not to attempt to prevent smoke by penal legislation, but to encourage the interception of smoke and the removal of the sooty particles before the air containing them is allowed to escape. He does not put forward this plan as the best mode of dealing with the question, but merely wants to consider whether it is, *prima facie*, practicable enough to justify including inquiries with regard to it in the demands that sanitation may reasonably make upon science.

The idea which Mr. Shaw has in mind is that proposed by Mr. Peter Spence or Manchester many years ago, namely, the erection of municipal chimneys, whereby a single smokestack should be provided for a considerable number of independent fires. "The existence of this practice," says the writer, "makes me regard the separate opening on each chimney of the domestic house into free air as not absolutely required by any physical laws governing the removal of smoke. The factory builder is not always successful in using his chimney for preventing smoke, but he is successful in leading the foul air of many flues into one channel, which might afford an opportunity for depriving the smoke of its soot."

Moreover, arrangements for propelling air mechanically are becoming every day more extended. Some of them, as employed in various systems of ventilation, are quite as elaborate as any that would be required to deal with the smoke of an ordinary house, or block of houses. Laboratories and other build-

ings of a similar character are provided with special means, mechanical or thermo-mechanical, for removing noxious fumes. There is no sufficient distinction to be drawn between coal smoke and other forms of refuse that foul the air to make it necessary to use one system for the former and a different one for the others. It thus seems almost certain that if the domestic architect had sufficient encouragement to make the attempt, he would not find the plan of dealing with household smoke by the method of the factory chimney, or by mechanical propulsion, beyond the range of practical physics.

The plan suggested is, in short, to concentrate the output of smoke as much as possible, and then to drive it away, by means of electrical fans, to certain points for treatment on a mode somewhat similar to the treatment of sewage.

As to treatment, Mr. Shaw, after saying that he does not suppose it to be possible to establish a few main drains for smoky air corresponding to the main sewage drains, and to use one or two cleansing stations for purifying the air from smoke, goes on to state his opinion that it might be possible to achieve a similar result by a large number of systems on a correspondingly small scale, and the systems might be some of them municipal and some private. Electricity, he also thinks, might be used as a means of purifying smoke, following the principle that sooty particles coagulate under mechanical action, and in a line with experiments made some years ago by Sir Oliver Lodge on the deposition of smoke in a closed chamber by the action of electricity.

The paper read by the British scientist refers entirely to conditions in some of the large cities of Great Britain, and would not apply to the smoke question in any American towns. Nevertheless, it is instructive in many respects. It shows how difficult it must be to deal successfully with the smoke nuisance when a man of Mr. Shaw's experience and repute can point to no definite remedy, but can only suggest measures that will seem, to the majority of persons, visionary, and would be, besides, of a cost almost prohibitive.

Geographical Distribution of Stone and Calculous Disorders.

Mr. Reginald Harrison, F.R.C.S., read a paper with this title at the Congress of Medicine, held in the autumn of last year in Egypt.

The writer drew attention to the well-known fact, that the distribution of stone throughout the world is very varied and irregular. In Great Britain with her colonies and dependencies, there is abundant evidence of this. In some districts of England and the British Isles, as, for instance, in the Eastern counties, stone is common, whilst in other parts, amongst which may be included the whole of Ireland, it is remarkably rare. In British India these contrasts are still more remarkable. In the United States and Canada similar differences exist, but not to the same degree.

"In analyzing the evidence," says Mr. Harrison, "deducible from the fact that such varieties are to be found in the distribution of calculous disorders, stress has been laid upon certain differences in the conditions under which the inhabitants of respective countries live. These have reference mainly to the food and drink supply, to climate and to States incidental to the latter—for instance, a local liability to certain parasitical affections, or to physical conditions of the urinary apparatus favorable to these concretions."

Dr. Patrick Manson has pointed out that there are two kinds of stone whose etiology are positively known; those found on foreign bodies, and on the ova or débris of bilharzia. Mr. Freyer has also shown that about one-third of the cases of stone he had operated upon in England were complicated with enlargement of the prostate. These conclusions, Mr. Harrison thinks, taken in conjunction with the statement that there was ten years' difference in the expectancy of life in favor of the inhabitants of England as compared with India, indicated that structural obstruction, as a consequence of age or otherwise, must be regarded as a factor in the production of urinary calculi.

In short, Mr. Harrison is inclined to think that geographical considerations carry more weight in searching for the cause of stone than is reasonable, and that there are other factors in the forming of such concretions which require investigation. At the same time local conditions of soil, water, and climate have their influence on the production of urinary calculi. The writer regards stone as a preventable disease, and concludes by saying that when it occurs in endemic proportions it is deserving of further notice. It is a symptom and not a disease.

Ethyl Chloride as an Anæsthetic.

The *Lancet* at the end of every year has for some time been accustomed to pass in review the medical and surgical events of the preceding twelve months. The close of the past year was no exception to this rule, and in its issue of December 27 is given a retrospective survey of the notable happenings in the medical world during 1902. The writer of the *Lancet's* annus medicus, recognizing the great importance of anæsthesia, has devoted a large portion of space to a consideration of new methods of anæsthesia, and especially singles out ethyl chlorid for critical discussion.

He writes thus concerning this compound: "Ethyl chlorid, although called a 'new anæsthetic,' was really discovered by Flourens fifty years ago. H. Girard has given the result of a most exhaustive research upon chlorid of ethyl. Girard's conclusions show that the physiological action of ethyl chlorid resembles closely that of the other members of the ethyl series. In that it contains chlorine it is more of a protoplasm poison than the oxide. Its extreme volatility, however, invests it with advantages and drawbacks entirely its own. Thus it has to be given undiluted by air. The rapidity of the action of the concentrated vapor in most persons minimizes the pre-paralytic stage of excitement, although Broadtbeck, Lotheissen, Gires, and others have recorded, although rarely marked, excitement with noisy talking even when the patient was wholly unconscious. These phenomena were most marked in alcoholic and neuropathic patients. As the mucous membrane of the upper air passages becomes rapidly anæsthetic it is claimed that reflex cardiac syncope does not occur as a result of ethyl chlorid. However, Girard points out that reflex inhibition of respiration may supervene, although it rapidly disappears, and we are compelled, therefore, to regard his conclusion as to cardiac inhibition being always absent as at present open to further examination. The cumulative action of ethyl chlorid prevents its employment for prolonged operations, at least for such as do not allow the alternate narcotizing and recovery of the patient. The rapidity of the recovery renders it extremely difficult to prevent complete return to consciousness before the removal of the

inhibition. As far as our knowledge goes at present this anæsthetic appears at its best in brief operations. It is well spoken of by Girard for use in minor surgery and dentistry. Its rapid action, the speedy recovery of consciousness, and the absence of after-effects as well as its portability are, he thinks, its best qualities."

Others have used ethyl chlorid in ophthalmic practice with much satisfaction and no unpleasant results, but, taking into consideration its volatility, and the consequent difficulty of keeping a patient unconscious for any length of time, it would appear that this anæsthetic is better adapted for minor surgery and dentistry than for operations on a large scale.

In the course of the article on anæsthetics the writer says, "the most important event of the year was undoubtedly the step taken by the Royal College of Physicians and Surgeons of England in compelling medical students to obtain a practical knowledge of anæsthetics and their administration before admission to the final examination."

It is in a high degree useful, and in many instances of the most vital importance, that medical men should possess a knowledge of anæsthetics and their mode of administration. This knowledge is of particular value to country practitioners, who often have to give an anæsthetic unaided, and whose inability to do so correctly has been in the past the cause of many fatalities.

The Doctor in Literature.

Now and then some busy physician takes to writing a book on some other subject than that of medicine and gives the purely human side of the song within him. If more of this work were done, pathetic, sentimental, and poetical literature would be proportionately enriched. The latest notable effort along such lines is that of Dr. W. S. Gordon of Richmond, Va., who gives in "Recollections of the Old Quarter,"* one of the best phonetic studies of the negro dialect that has yet appeared. True to his instinct, he has brought a trained habit of thought into its task which proves him a literary artist of high class. To such as are acquainted with the ways, habits, and sentimental character of the Southern negro, the "old Dinahs" and "Uncle "Uncle Abe's" are alive again with their quaint descriptions, weird supersitions and musical intonations. Aside from this there is woven in the reminiscent stories of the speakers the high literary elements of incidental scene and place which make the situation real, natural, and telling. When the author speaks for himself he is equally felicitous, with a smoothness and grace of style that proves eminently his fitness for his task. Would that more leisure hours of talented medical men could be given to similar efforts. How much indeed of the sentiment and pathos of a doctor's life might thus be presented to enrich our general literature and broaden the plane of a common human sympathy.

The Treatment of Tetanus.

In the United States within the past year there has been one serious epidemic of lockjaw and another of lesser extent. These unfortunate occurrences have drawn the attention of the medical profession to the disease, and the modes of prevention and treatment have been discussed at length. The old routine treatment of isolation and silence, together with the administration of chloral in large doses, has almost died out, and the injection of antitetanic serum and of carbolic acid have taken its place.

Dr. Vallas of Lyons, at the recent meeting of the Congress of Surgery, read a long report on the treatment of tetanus, a part of which was given in the Paris letter of the Medical Record of January 3. The writer pointed out a fact which does not appear to be thoroughly recognized, namely that the antitetanic serum is really not anti-tetanic but antitoxic, and that, consequently, the wound requires most energetic treatment. As a preventive, however, it is claimed that the serum is efficacious. Dr. Vallas states that whenever a wound is of a suspicious nature an injection of 10 c.c. should be made the first day, the same amount the third and tenth day. In case the wound is not healed, the injection should be repeated every fifteen days.

Bacelli's treatment of lockjaw by injection of carbolic acid has been attended with great success in Italy and elsewhere. The method consists in the injection of a 2 to 3-per-cent. solution of carbolic acid. About 30 to 40 cgs. of carbolic acid should be injected daily. Injections of hydrogen-peroxid have been tried successfully on horses, as have intravenous injections of an iodide solution. It would seem then that in order to prevent an attack of tetanus, the serum should be used, while for purposes of treatment carbolic acid is a most valuable adjunct. There are those, however, who hold that carbolic acid is almost a specific in lockjaw, and the wonderful results reported from Italy from the administration of this antiseptic would almost make one believe that such is the case. On the other hand, it is asserted that tetanus is less deadly in Italy than in many other lands. Further investigation is needed before a strict line of treatment can be laid down, but in the meantime the weight of evidence shows that carbolic acid is a factor of much importance in the treatment of lockjaw.

Smallpox and Vaccination.

In the *Lancet* of December 27 is a review of the epidemic of smallpox which prevailed in London during the greater part of the past year, and the efficacy of preventive measures, and especially of vaccination. Many of the remarks made by the writer in the British journal may be applied with equal force to the situation as regards the attitude of the majority of the population toward smallpox and vaccination in this country. Those persons who are not actively opposed to vaccination are for the most part in no fear of smallpox, and consider vaccination as a somewhat unnecessary nuisance. This indifferent frame of mind has been brought about by the fact that no deadly epidemic of the disease has attacked the United States for a considerable time. The type of the malady seems to have become mild. Therefore, it is argued if smallpox does not often kill, what is the use of putting ourselves to the bother and discomfort which vaccination entails. That such an argument is fallacious, and that those who hold the belief are living in a fool's paradise is patent to men who are well versed in the matter. However, this phase of the subject was amply discussed in the Medical Record a short time ago.

The *Lancet*, referring to small pox in its last issue of the year 1902, says: "The recent prevalence of smallpox has taught certain lessons. In the first place we have seen, contrary to the teaching of the anti-vaccinationists, that smallpox is in no sense dead. It is true that in the recent outbreak we have not seen any serious approach to a malignant type of the disease, but we have experienced enough to know that smallpox is still at our gates, and that if we wish

* "Recollections of the Old Quarter," by Wm. S. Gordon, M.D., Lynchburg, Va.

to keep it at bay we must not relax preventive measures. In connection with the subject of revaccination, the fact has been inconveniently brought home to us that if the majority of individuals postpone the operation until smallpox is actually in our midst, an almost breaking strain is put upon our administrative machinery, both in respect to the preparation of a sufficiently potent lymph and to the actual performance of a revaccination. Panic vaccination is unsafe for the individual and unfortunate for the cause of vaccination. With respect to other preventive measures, the enormous importance as regards limitation of the spread of the disease by its early recognition has been again accentuated. Inasmuch as in the absence of smallpox few medical men can become thoroughly familiar with its manifestations, there is the more need that there shall be a systematic arrangement by means of which those who have had actual experience with smallpox shall be available for the assistance of those less experienced, and such a provision should be always in readiness."

The need of being able to make an early diagnosis is so evident as to require but little emphasizing. Smallpox is spread by the inability of a medical man to make a quick and correct diagnosis. In view of this fact, it would be to the benefit of all concerned if physicians were to use every means to render themselves conversant with the various idiosyncrasies of the disease.

Typhoid Fever Due to Oysters.

We have only recently had occasion to refer to a conspicuous illustration of the part played by the consumption of oysters in the transmission of typhoid fever. The case was that of Winchester, Eng., but a no less demonstrative example nearer home has just been recorded by Dr. Philip Marvel in a paper read before the Philadelphia County Medical Society (Proceedings of the Philadelphia County Medical Society, December, 1902, p. 339). There occurred in Atlantic City during the latter part of the summer of 1902 an unusually large number of cases of typhoid fever which could not be traced to the ordinary sources of infection. Persistent investigation, however, disclosed the fact that some of the oysters intended for local consumption were being freshened or fattened in a canal but a short distance from a point where sewage was being poured into the waterway; and it was also known that there had previously been cases of typhoid fever in the city whose excreta had found their way into the sewage. That the outbreak of the epidemic was actually due to the consumption of contaminated oysters was conclusively demonstrated by the fact that new cases of the disease ceased to develop after the sale of oysters and clams subjected to the freshening or fattening process was prohibited under legal penalty.

"The Medical Library and Historical Journal" is the title of a new journal, the first number of which is announced for publication this month. It will be devoted to the interests of medical libraries. Its original articles will treat of medical history and biography, practical medical library administration and economy, medical bibliography, the care of books, the history, construction, and use of medical libraries, etc. A feature of the journal will be the publication of a complete index medicus of every current medical book, both English and foreign. The journal is to be published quarterly, and is to be edited by Messrs. John S. Browne and Albert T. Huntington.

News of the Week.

The Medical Society of the State of New York.—The annual meeting of this society will be held in Albany on January 27, 28, and 29, under the presidency of Dr. Henry R. Hopkins of Buffalo.

A Research Fellowship in Medicine at the College of Physicians and Surgeons.—A new fellowship in medicine of the annual value of $1,200, and tenable two years, has been established at Columbia University. The fellowship is to be known as the Proudfit Fellowship, in honor of the late Alexander Moncrief Proudfit of the class of '92, who left a large bequest to the university. It is established distinctly for research work, and is to be offered to graduates of the College of Physicians and Surgeons to enable them to pursue advanced study and research in internal medicine either in this country or in Europe. Awards will be made once in four years.

Proposed Amendment to the Milk Law.—A bill will soon be introduced into the New York State Legislature amending the present law in such a way that the possession of each can of inferior milk will constitute a distinct violation of the law. This bill, which will be introduced on behalf of the State Department of Agriculture, results from the recent decision of the Court of Appeals in a Rochester milk inspection case. Under the decision the quality of milk delivered by a dairyman or dealer must be judged from an average sample of all his cans. This decision has all but nullified the milk inspection law, since a dealer might have several cans each of adulterated and pure milk, selling only from the former, but an average sample of all might be up to the standard.

Alumni Association of the College of Physician and Surgeons.—A reunion of the Alumni of the College of Physicians and Surgeons, under the auspices of the Alumni Association, will be held at Sherry's, Fifth Avenue and Forty-fourth Street, Monday, January 19, 1903, at 8.30 P.M. There will be a vaudeville entertainment with supper.

A New Hospital for Gastric and Intestinal Diseases.—Application was made last week to the Board of Charities at Albany by several men residing in this city for permission to incorporate for the establishment of the "McKinley Memorial Hospital for Diseases of the Digestive Organs." The Directors mentioned are: Dr. Mark I. Knapp, Dr. Ramón Guitéras, Dr. Reynold W. Wilcox, Dr. Carl Beck, and Mr. Edward Lauterbach.

An Institution for the Study, Prevention, and Treatment of Tuberculosis.—It is announced that Mr. Henry Phipps of New York will establish in Philadelphia an institute for the study, prevention, and treatment of tuberculosis. It is proposed to erect buildings in the center of the city, in the midst of the poor, at a cost of from $200,000 to $300,000. An endowment of $1,000,000 is to be provided, yielding an income of $40,000 annually, which is to be devoted to maintenance. The institute, which is to be named after its benefactor, is intended to be a center for the distributon of knowledge concerning tuberculosis, with the object of stamping out this disease. There will be an administration building containing a Finsen light department, a hydrotherapeutic department, with baths and electric appliances, and also pavilions with a capacity of 100 beds for the treatment of advanced cases of pulmonary tuberculosis. There will, further, be a dispensary for the treatment of walking cases. From this source assistance will be given poor tuberculous patients in their homes, and a general

supervision will be kept over them for the purpose of instructing them in methods of preventing the spread of the disease. They will be supplied with disinfectants, sputum cups, and paper napkins, and be taught their use. Their homes will be disinfected when necessary, and the clothing of the extremely poor will be disinfected and washed, and these will even be supplied with food of the proper kind when necessary. Lectures will be given and conferences held on the subject of tuberculosis, and steps have been taken looking to the holding of the International Congress of Tuberculosis at Philadelphia in 1905. An effort will be made through the institute to correlate the various forces of the country engaged in the crusade against tuberculosis, and make this movement more effective through united endeavor. It was intended to begin the work at once in a temporary building rented for the purpose, but an obstacle has been found in a Pennsylvania law which forbids the erection of hospitals in the built-up parts of any city in that State. Dr. L. F. Fick, who will be medical director of the institution, says that, unless the law mentioned is repealed, the idea of establishing the institution in Philadelphia will be abandoned, since one of the chief purposes of the institution is to keep it in close touch with the poorer classes, and this can be accomplished only by having it in the midst of their homes. It will not be erected in the suburbs of any city, but only in a crowded section. If the bill for the repeal of the law is defeated in the Legislature, the institution will be established in New York City.

Bequests to Philadelphia Hospitals.—By the will of the late Henry C. Cochran of Philadelphia the following bequests are made, to become effective on the death of his widow: To the Presbyterian Hospital $5,000, to endow a free bed in memory of his mother; to the Pennsylvania Hospital $10,000, one-half for the department for the insane; to the University Hospital $5,000; to the Philadelphia Polyclinic, the Gynecean Hospital, and the Medico-Chirurgical Hospital, each $1,000; to the Philadelphia Dispensary and the Northern Dispensary, each $500. By the distribution of the estate of the late Thomas Elkinton, Jefferson Hospital, the Orthopedic Hospital, the Polyclinic Hospital, and the Hospital of the University of Pennsylvania, each receives a legacy of $5,000.

Death Rate of Philadelphia.—According to the annual report of the Philadelphia Board of Health, the death rate of that city for the year 1902 was 17.67 per 1,000, as compared with 18.26 for 1901 and 17.17 for 1879. Among the principal causes for death during the year were as follows: Pneumonia, 2,976; pulmonary tuberculosis, 2,845; diseases of the heart, 1,681; Diphtheria, 435; smallpox, 231; scarlet fever, 143.

Protestant Episcopal Hospital of Philadelphia.—The Board of Managers has recommended the erection, at an early date, of a separate dispensary building, at a cost of $75,000. Preparations have been made for the erection of a ward for patients suffering from contagious diseases. During the fifty years of the existence of the hospital 65,000 patients have been treated at a cost of $2,500,000, and 714,000 patients have been treated in the dispensaries.

Pennsylvania State Medical Examinations.—As a result of the recent examinations, licenses to practise medicine in the State of Pennsylvania were granted to 64 of 77 applicants. It is said that the papers gave evidence of a marked improvement in the standing of those that passed the examinations successfully. At present all candidates are required to possess a preparatory education not below the standard of a high school, and they must have spent at least four years in a recognized school of medicine.

Typhoid Fever and Smallpox in Philadelphia.—For the week ending January 3 there were reported to the Philadelphia Board of Health 532 deaths—sixty-two more than for the week before, and forty-four more than for the corresponding week of the previous year. Of the whole number, 165 were due to diseases of the lungs; fifty-two deaths were attributed to disease of the heart. There were reported 144 cases of typhoid fever, with ten deaths; sixty-three cases of scarlet fever, without any death; fifty-two cases of diphtheria, with nine deaths, and fifteen cases of smallpox with one death. Nearly one-third of the cases of typhoid fever were reported from parts of the city supplied from the Queen Lane reservoir, and a suspicion exists that the water is obtained by direct pumpage from the river, though this is denied by the authorities. Active measures have been undertaken to prevent the spread of smallpox, and additional assistant medical inspectors have been appointed to see that all persons are properly vaccinated.

Professor Lorenz arrived in England last week, and has been repeating his American experience in the way of clinics and courtesies from his medical brethren in Liverpool and London.

Pathological Society of Philadelphia.—At a stated meeting, held January 8, Dr. J. Dutton Steele exhibited preparations showing the anatomy of the bile-ducts and gall-bladder. Dr. Jos. Sailer exhibited a series of heart lesions. Dr. D. J. McCarthy exhibited a brain from a case of Sydenham's chorea. The specimen came from a young man who had had choreiform movements in conjunction with pain, swelling, and redness in several joints. The brain presented several large cavities that developed in consequence of imperfections in the technique of preservation, and which were found to depend upon the bacillus mucosus capsulatus. No actual lesion was found in the cerebral structure. Dr. D. J. McCarthy presented a communication entitled "A Contribution to the Study of the Formation of the Hemolymph Glands from Adipose Tissue in the Human Beings." The observations were made on the bodies of two patients that had suffered from adiposis dolorosa. Dr. McCarthy presented a brief communication also on "The Pathology of Forage Poisoning." The observations had been made upon horses that suffered from weakness, delirium, and spasm, in consequence, probably, of the ingestion of contaminated food, and no constant lesion was found. In a number of instances, however, a proliferation of new cells was noted surrounding the capsules of the nerve cells in the intervertebral ganglia. Drs. Henry M. Fisher and Wm. T. Longcope exhibited the specimens from a case of acute ulcerative endocarditis of the pulmonary valves. The patient had previously suffered from attacks suggestive of rheumatism, and systolic and diastolic murmurs were heard over the heart during life. After death extensive verrucose and ulcerative endocarditis was discovered, involving the pulmonary valves, and apparently extending to the interventricular septum, through which a perforation had taken place, the opening, however, being occluded by a thrombus.

College of Physicians of Philadelphia.—At a stated meeting, held January 7, Drs. Wm. G. Spiller, John H. Musser, and Edward Martin reported a case of intradural spinal cyst with operation and recovery. The patient was a young woman, who presented pain in the distributon of the third and

fourth lumbar nerve-roots, first on the left and then on the right side, increased knee-jerks on both sides followed by loss later on one side, and beginning paralysis in the lower extremities. Despite the utmost care at the operation, the cyst, which had exceedingly thin walls, ruptured before its contents could be received into an appropriate vessel, so that the exact nature of the formation could not be determined. The possibility of its being an echinococcus cyst or a cysticercus cyst was suggested. The improvement following operation was noteworthy—pain, exaggeration of reflexes, and paresis disappearing. Drs. Joseph Sailer and Robert D. Rhein presented a communication entitled "A Case of Eventratio Diaphragmatica; with an *X*-Ray Picture of the Patient by Dr. Pfahler." The patient was a chronic epileptic, who was seized with typhoid fever, and in whom the percussion-note was tympanitic over the lower third of the left chest, while the heart was displaced to the right. The case was suspected to be one of diaphragmatic hernia, but, on post-mortem examination the left half of the diaphragm was found to occupy an unusually high position, its concavity being occupied by the stomach and intestines, while the left lung was hypoplastic, and the heart was displaced to the right. Dr. Horatio C. Wood was re-elected President, Dr. Arthur V. Meigs, Vice-President; Dr. Thos. R. Neilson, Secretary, and Dr. Richard H. Harte, Treasurer. Dr. Wm. C. Gorgas, Major and Surgeon, U. S. A., and Dr. Charles Finlay of Havana were elected Associate Fellows, and it was announced that a like distinction was in contemplation for the late Major Walter Reed, U. S. A., prior to his untimely death. Dr. S. Weir Mitchell announced that he had received from Mr. Andrew Carnegie a gift of $50,000 for the purpose of enlarging the library building on condition that the college provide an equal sum.

American Association for the Study of Inebriety.—The thirty-second annual meeting of the American Association for the Study of Inebriety was recently held in Boston at the Washingtonian Home, under the presidency of Dr. L. D. Mason. Resolutions were adopted condemning the indiscriminate use of medicine for the alcohol and opium habits, and suggesting that institutions be licensed and inspected which are to care for inebriates, or victims of narcomania. Dr. L. D. Mason of Brooklyn read a paper on "Patent or Proprietary Medicines as the Cause of Either the Alcohol or Opium Habit, or Other Form of Drug Habituation, and Some Suggestions as to How the Evil May Be Remedied, and the Public Protected." It was urged that a general campaign of education be insisted upon, and that an increasingly careful study be made of the underlying causes which lead up to the conditions under consideration. Dr. H. D. Rodebraugh read a paper on the "Value of Surgery in Certain Cases of Inebriety." He urged the necessity of considering the physical side of the patient, and spoke of the good effects of simple surgical operations. Dr. Edward Cowles read a paper on "Legislation for the Control of Inebriety." He drew attention to the English law on the subject, and spoke of the somewhat different conditions existing in the United States, where a probation system, longer confinement, establishing industrial colonies, and similar ideas have influenced legislation. He urged that the probation system be made more useful, and that a better understanding be established between magistrates, probation officers, and hospital authorities. Dr. S. B. Elliott spoke on the subject of "Restraint and Moral Measures in the Treatment of Inebriety." Dr. Elliott suggested the desirability of separating incurable from curable patients, and he insisted upon the medical rather than the criminal aspect of the subject. Dr. Agnes Sparks read a paper on "Plans of Treatment for Women Inebriates." "The Hydropathic Treatment of Inebriety" was the subject of a paper by Dr. C. A. Shephard. Dr. Shephard insisted upon the very great value, for obvious reasons, of cleanliness for the preservation of general health. Dr. J. H. Kellogg spoke on "Diet in the Treatment of Inebriety." Dr. J. W. Mattison, in dealing with the subject of "Narcotic Abuses and the Public Weal," spoke strongly against the wide sale of nostrums containing narcotic drugs. He urged the adoption of restrictive laws such as are in force in Germany. Dr. T. D. Crothers read a paper on "Inebriety in Ancient Egypt and Chaldea," in which he showed the similarity between the situation regarding alcohol at that time and at the present day. The following officers were elected: *President*, Lewis D. Mason, Brooklyn; *Vice-President*, Charles H. Shephard, Brooklyn; *Corresponding Secretary* and *Treasurer*, T. D. Crothers, Hartford; *Recording Secretary*, J. J. Wagner, Greenwich.—*Boston Medical and Surgical Journal.*

The Death Rate from Malignant Disease in London—According to a despatch to *The Sun*, the statistics printed by the London County Council of the mortality from cancer in that city during 1902 shows that there was a slight decrease in the death rate, the percentage being .93 per 1,000, as compared with .95 in the previous year. The proportion, however, has been more than doubled within fifty years, the rate between 1851 and 1860 being .42. Even in the year 1891 it was only .78. Comparatively few deaths from cancer were reported before the year 1855.

A Medical Member of the Panama Canal Commission.—The American Association for the Advancement of Science, which met in annual session in Washington on the first of this month, voted to request President Roosevelt to appoint a physician as a member of the Isthmian Canal Commission.

Lemon-juice and Typhoid Fever.—The energetic Health Commissioner of Chicago proclaims his continued trust in the bacillicidal virtues of lemon-juice. In the latest bulletin at hand of the Department of Health he says: "Further laboratory study of the action of lemon-juice on the typhoid germs confirms the results previously announced. The investigation has been extended to its action on the colon bacillus—first cousin of the typhoid and the cause of diarrhœal and dysenteric diseases, which carry off many more victims every year than does typhoid fever at its worst. It is found that the juice from different specimens of fruit varies greatly in destructive power, and the proportion stated last week—one teaspoonful to half a glass of water—is none too much. The action of the acid is instantaneous." In the meanwhile the New York City Health officials, according to the daily papers, continue to scoff at the hasty conclusions of the Chicago people, and Buffalo, being geographically placed between the two contestants, has decided to arbitrate the difficulty. It is stated in a recent despatch that Health Commissioner Greene has directed the physicians of the bacteriological department to make investigations relative to the merits of lemon-juice as a destroyer of typhoid bacilli, being prompted to take this step by the conflicting reports received from New York and Chicago.

The Revived "Index Medicus."—A prospectus has been issued giving information concerning the new *Index Medicus*. This invaluable publication was established in 1879, under the editorship of Drs. John S. Billings and Robert Fletcher, and was discontinued in 1899. The present publication, which is

undertaken by the Carnegie Institution, will be known as *Index Medicus*, Second Series, and will be under the editorial charge of Dr. Robert Fletcher. The first number will appear in January, 1903. It will consist of the titles in full of books, pamphlets, theses, contributions to coöperative works, and original articles in journals, transactions of medical and scientific societies, and the like, arranged under subject-headings. It will be issued as early as possible after the first day of the month, time being allowed for the arrival of foreign journals, and will represent the literature of the preceding month. A table of contents will accompany each number, and on the completion of the volume an "Annual Index of Authors and Subjects" will be issued. The subject part of this annual index will be elaborately subdivided, the classification closely resembling that of the Index Catalogue of the Library of the Surgeon-General's Office. The annual index of the last volume of the first series occupied 156 pages in double and triple columns. The titles in certain languages, as Russian, Polish, Swedish, Danish, Finnish, Hungarian, Bohemian, Roumanian, and Japanese, will be translated into English. The editor, while indexing all really original matter, will not admit "reports of progress" or include all copies of an article which may appear in other journals. Translations will be admitted when in languages more familiar than the originals. The classification by subjects which will be adopted in the monthly numbers, will closely follow that which use made familiar to the readers of the first series, but with such additions and modifications as advances in medical knowledge may require.

The Health of New York State.—It is reported by the State Board of Health that the State's mortality during the three months ending December 31 was one-tenth of 1 per cent. less than last year. There has been less prevalence of most infectious diseases and of diseases affecting infancy and childhood, but the records show an increase in maladies of the respiratory, circulatory, and nervous systems. The total of deaths was less than the average of the last five years for the corresponding period.

Gift of a Laboratory to the Orange Memorial Hospital.—A fully equipped bacteriological and pathological laboratory has been presented to the Orange Memorial Hospital by Dr. William B. Graves of East Orange. It will be known as the Graves Laboratory. A large room has been set apart in the dispensary building, and it will be at the disposal of private physicians as well as the hospital. The new laboratory will save considerable delay, as at present it is necessary to send cultures and specimens either to New York or to Princeton.

Defective Ambulance Service in London.—In a recent issue of London *Truth* it is said that the inadequacy of the ambulance service in that city is clearly shown in the report presented by Sir William Collins to a committee of the London County Council. A record has been kept of ten of the large London hospitals of the mode in which casualties were brought in. Out of 994 injured persons arriving 642 came in cabs or carts, 302 in different kinds of ambulance, and 50 by other means of conveyance. "The fact is," the writer concludes, "that for the general public in London there is no ambulance service worth the name."

Koch Investigating the South-African Cattle Plague.—Dr. Robert Koch has gone to Beira to investigate the cattle plague of Rhodesia. This disease, it is said, is wholly different from any other known form of cattle plague, the first cases having been noted during the recent war.

The Microbe of Rabies has, it is claimed, been isolated by Professor Sormagin of the University of Pavia. No details are given in the dispatch announcing the discovery of the nature of the microorganism.

A Memorial to the Late Major Walter Reed.—At the annual meeting of the American Association for the Advancement of Science, a committee to secure a suitable memorial to the late Dr. Reed was appointed as follows: Dr. D. C. Gilman, Prof. Alexander Graham Bell, ex-Surgeon-General Sternberg, U. S. A.; Seth Low, J. G. Schurman, W. H. Welch, A. S. Hewitt, C. S. Minot, and S. E. Chaille.

A Lecture on Ankylostomiasis.—On Saturday evening, January 17, at 8.30 P.M., at the Medical Library Building, 1313 Bedford avenue, Brooklyn, Dr. Charles Wardell Stiles of Washington will deliver an address under the auspices of the Medical Club of Brooklyn on "Hookworm Disease (Uncinariasis)—A Newly Recognized Factor in American Anæmias."

Expert Anæsthetists for Bellevue and Allied Hospitals.—The Board of Trustees for Bellevue Hospital and the allied hospitals has appointed Dr. Myron P. Denton and George M. Creevey to Bellevue and Dr. Samuel J. Kopetzky to Harlem Hospital as expert anæsthetists. Their duties are to instruct the incoming members of the house staff to administer different anæsthetics, and to exercise general supervision of the use of anæsthetics. As soon as suitable anæsthetists can be obtained appointments will be made to Gouverneur and Fordham hospitals.

Reduced Rates for the Annual Meeting of the American Medical Association.—The General Agent of the Southern Railway Company announces that the Southern Railway has authorized the rate of one fare for the round-trip to New Orleans from Washington and all prominent points on its system throughout the entire South. Dates of sale May 1, 2, 3, and 4, good for continuous passage in each direction, with final limit of ten days from date of sale. Tickets can be extended for longer period, however, provided they are deposited in person, by the original purchaser, with the Special Agent at New Orleans not later than May 12, 1903, and a fee of fifty cents is paid at time of deposit, when the final limit will be extended to a date not later than May 30, 1903.

The Plague in San Francisco.—Dr. Walter Wyman, Surgeon-General of the Public Health and Marine Hospital Service, sends the following correction of a newspaper report concerning an alleged statement of Dr. Glennan: "I note that in the number of the MEDICAL RECORD for December 27, 1902, there appears under the caption 'Fresh Denials from San Francisco.' an item based upon an alleged interview in the San Francisco *Call* with Surgeon A. H. Glennan of this service, now at San Francisco, California, in which Surgeon Glennan is made to say that the plague does not now, and never has prevailed in San Francisco, and that the bacillus of the disease which existed there was that of chicken cholera. I would invite your attention to the fact that, under date of December 14, 1902, Surgeon Glennan telegraphed the Bureau that the statement attributed to him by the *Call* was false. An authoritative denial was published in the Sacramento (California) *Bee* of December 16, 1902." A statement of similar import was attributed to Dr. Wyman himself by the agents of an alleged "news" service in Washington, on the occasion of his return from San Francisco two weeks ago. Dr. Wyman very promptly denied the truth of the report, but few of the papers that had published the manufactured statement thought it necessary to give place to his denial. In the meanwhile some of the Australian ports have

quarantined against San Francisco, on the ground that the reports of the State Health Department cannot be depended upon. Dr. Eagan, secretary of the British Columbia Board of Health, who went to San Francisco to investigate the reports regarding the bubonic plague, has made a report to the British Columbia Government in which he says that rats that have been found dead in San Francisco have showed plague bacilli when examined. He recommends that strict quarantine be maintained against vessels arriving from that city. In response to the urgent requests from numerous State health officers, Surgeon-General Wyman has called a conference of the Public Health and Marine Hospital Service with the health representatives of nineteen States, to meet in Washington, January 19. This is the first advantage that has been taken of the law of 1902 to call a conference of that service when requested officially by the health or quarantine officers of any five States. The principal object of this conference will be the consideration of bubonic plague in San Francisco and in the State of Sinaloa, Mexico.

A Lowered Death Rate in New York City.—In the annual report of the Health Department the announcement is made that the death rate of New York for 1902 was 18.74 per 1,000, which is considerably the lowest ever reported in this city. The total number of deaths was 68,082, as compared with 70,803, and a death rate of 20.02 per 1,000 for 1901, which is a decrease in the rate of 1.28 per 1,000, and indicates a saving in 1902 of 4,619 lives. The death rate for 1902 in each of the five boroughs was also the lowest on record. The annual death rate of the city since consolidation has been as follows: 1888, 20.26; 1889, 19.47; 1900, 25.97; 1901, 20.02; 1902, 18.74.

An International Medical Congress at St. Louis.—The authorities of the Louisiana Purchase Exhibition at St. Louis have taken steps toward the organization of an international medical congress, to be held in 1904, by appointing an executive committee composed of Drs. W. G. Moore, F. J. Lutz, H. Tuholske, W. E. Fischel, and L. H. Laidley.

The Beth Israel Hospital.—About $25,000 was realized for the benefit of the Beth Israel Hospital at a fair and reception in Madison Square Garden two weeks ago.

Obituary Notes.—Dr. A. M. Tully died November 4, 1902, at Las Vegas Hot Springs, N. M., at the age of forty-eight years. He was a graduate of the Medical Department of the University of Vermont in the class of 1880, and practised his profession for fifteen years in Chicago. For several years he was on the staff of General Crook.

Rontgen Rays in the Causation of Cancer.—The death of Dr. Blacker, who cured the king of a rodent ulcer and soon afterward himself died of epithelioma, was even more tragic than in a previous letter it was described to have been. There appears to be reason to believe that the disease which caused his premature death was due to *x*-ray dermatitis. While manipulating the apparatus, he is said to have received a severe burn on one of his fingers; the dermatitis gradually spread up the arm, and in its track malignant growths developed, first near the elbow and afterward in the axilla, finally involving the whole of the shoulder. Amputation at the shoulder joint was contemplated, but the rapid extension of the disease deterred Sir Frederick Treves from attempting operative intervention. I hear that this is not the only case in which the origin of malignant disease has been traced to the *x*-rays.—*Medical News.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

CHRISTMAS IN HOSPITAL—MUNIFICENT DONATIONS—PROFESSOR BALL—SMALLPOX—COLLEGE OF PHYSICIANS—TYPHOID FEVER AND SHELL FISH—MAJOR ROSS—PATHOLOGY OF PANCREAS—SPASMODIC ASTHMA.

London, December 26, 1902.

Yesterday being Christmas day, the patients in the several hospitals were entertained as usual by the students, staffs, and nurses. For those who could take them, little dietary extras were provided, and in the evening the wards were decorated, and music and other amusements kept up. The inmates of workhouses and charitable institutions of all kinds were similarly treated by benevolent persons.

The Lord Lieutenant of Ireland has intimated his intention to confer a knighthood on Mr. C. B. Ball, Regius Professor of Surgery in Trinity College, Dublin. Professor Ball was the operator on Her Excellency, the Countess, as I have already reported to you. He is the youngest son of the late Robert Ball, M.D., the eminent naturalist, and a brother of Sir Robert Ball, the professor of astronomy at Cambridge.

The Hospital for Sick Children is the recipient of £50,000, from Mr. W. W. Astor, for building a new outpatient department, to be dedicated to the memory of his little daughter Gwendoline, who died in the autumn.

Mr. Astor's munificent gift is of special value just now, for the committee has been exercised for a long time on the inefficient state of the department, which might well be called disgraceful, and which has more than once been complained of by the visitors of the King's Hospital Fund

The Chelsea Hospital for Women has just received £1,000 from the executors of the late F. T. Freeman.

The Royal College of Physicians has had its adjourned discussion on the propriety of retaining Latin as a subject for preliminary education. The ancient corporation came to the conclusion to pass on to the next business—thus giving us another instance of its incapacity. The whole discussion displayed a nervous fear of disagreeing with the University of London, some of the graduates of which are advocates of German. They seem to forget that the Germans do not ignore Latin, and that there is an air of unreality about all these discussions. It is nonsense to say that Latin is useless unless carried to the degree of ripe scholarship.

Smallpox is officially announced to be spreading in Liverpool. The outbreak threatens to be more widespread than that of last winter. An appeal has been issued urging revaccination.

The oyster merchants have been roused to renewed activity by the recent pollution of the Emsworth beds. They appointed a committee which met at Fishmongers Hall and collected evidence to prove that other beds were free from sewage contamination, and none but those of clean origin were admitted to the London market. Every facility is afforded to inspectors of the Fishmonger company and the city corporation. They ask for legislation. It is not only oysters, but all shellfish which ought to be protected. A recent outbreak of typhoid fever at the East End of London was confidently attributed, by the Medical Officer of Health, to the consumption of cockles at Southend by holiday makers. Whether this were so or not, there is no doubt that the cockles were taken from beds below the outfall of sewage works. The Local Government Board is well acquainted with the position—its own inspectors have warned it of the danger, but nothing is done. What is the use of a government board which merely fills a blue book with proofs of the necessity of doing something, and then does not do it?

Major Ronald Ross, C.B., F.R.S., was entertained on Monday at an "at home," in the town hall of Liverpool, given by the Lord Mayor and Lady Mayoress. The Nobel Prize being awarded to Major Ross for his discoveries in reference to malaria was made the occasion of this local honor, in which the Liverpool Tropical School largely participated.

Sir M Foster, who had intimated his intention to retire from the representation of the University of London was subsequently reported to have reconsidered his decision. After that the papers declared his committee had not received any such decision. "First she would and then she wouldn't."

An intensely interesting research on the pancreas, by Professor Starling and Dr. W. M. Bayliss, was the subject of a communication to the Pathological Society. The

primary object of the investigation was physiological, but some of the results have a pathological and clinical bearing. Indeed, this research must be taken into account in any proposed pathology of the pancreas. C. Bernard showed that the introduction of ether into the stomach produced a flow of pancreatic juice. Then Pavlov showed that food or acid must pass into the duodenum before the secretion began. Drs. Stirling and Bayliss now find that the introduction of acid into the upper part of the small intestine causes a flow of pancreatic juice. They isolated a portion of jejunum from all its nervous connections, and found the flow equally excited by the acid. The action, therefore, seems chemical—certainly not reflex. They scraped the epithelium from the jejunum, pounded it with acid, and injected it into the veins of an animal. This caused a large flow of juice. In the cells of the intestine must be the substance, which, reaching the pancreas through the blood, excites the secretion. For this substance they propose the name "secreton," which will, at any rate, serve to distinguish it for the present. This "secreton" is identical in frogs, birds, and mammals; it always, when injected, produces a flow of pancreatic juice. Three ferments occur in pancreatic juice, acting respectively on proteids, carbohydrates, and fats. Juice collected from a fistula has a strong action on fats, but only a weak one on proteids; if allowed to flow over the mucous membrane, the proteid action is greatly increased. So collected from the duct, it has no tryptic action, but the addition of scraped mucous epithelium from the intestine makes it powerfully tryptic. The juice must, therefore, contain trypsinogen, and needs only something contained in succus entericus to produce the tryptic ferment. This something is called "enterokinase." Injection of "secretin" stimulates the pancreas, even when there is no acid in the duodenum; in that case, intense congestion of the mucous membrane is produced. While pancreatic juice remains in the ducts, it has no action, as there is no carbohydrate and very little fat present, and the tryptic ferment is inactive without entorokinase. Regurgitation of succus entericus into the pancreatic ducts would produce the tryptic ferment, and this might set up acute pancreatitis.

In the discussion on the paper it was remarked that gastro-enterostomy had not been followed by such ill results as might be expected from the facts related—thus it might lead to enteritis with atrophy or necrosis of intestinal epithelium. Professor Starling, on this point, said secretin was not produced in the lower two feet of the ileum, and if the gastric communication was made so low, he should expect pathological results.

Drs. T. G. Brodie and W. E. Dixon recently had a paper at the Pathological Society, upon some points concerning spasmodic asthma. All the symptoms of an attack, they admit, can be explained by the common view that they are caused by contraction of the muscular walls of the small bronchioles. The innervation of these muscles was, therefore, first considered. Experiments were described, and tracings shown illustrating various points. One point may be named—there is no evidence that a local irritant is present in the attacks.

The results of experiments with drugs may, perhaps, be most interesting to your readers. Some, *e. g.* muscarine, pilocarpine, physostigmine, produce constriction by acting on the nerve ends. Others, *e. g* barium, bromine, chloride of gold, etc., by acting on muscles. The effect of the first can be neutralized by atropine.

Those acting on muscles, however, are not affected by this drug. This action of atropine is noteworthy, as the drug has often been employed with success, although a sufficient dose cannot be given to control the spasms. Another drug clinically in repute, is lobelia, and the experiments showed that it has a distinct effect; injected into an animal to annul the bronchial spasm produced by muscarine, or pilocarpine, it caused dilatation, but this lasted for only one or two minutes, when the spasm returned.

With regard to other points, nothing like an asthmatic attack had ever been produced by stimulation of the nasal or gastric, or intestinal mucous membrane.

Rectal Feeding in Febricula and in Typhoid Fever.—Emilio Cioffi holds that rectal feeding is the ideal method in both of these fevers. The stomach is given complete rest, and there is no danger of any food reaching the small intestines, which are the seat of ulceration and which, therefore, should be protected from all irritation. Milk, eggs, and peptones are used in the nutritive enemata, and by their use the author has taken many cases successfully through the disease, completely avoiding the vomiting which is so dreaded, especially in typhoid fever.—*Giornale Internazionale delle Scienze Mediche*, December 15, 1902.

THE FIRST EGYPTIAN CONGRESS OF MEDICINE.

(From Our Special Correspondent.)

CAIRO, December 26, 1902.

MODERN Egypt is not the country to which the American or European medical man would look for much enlightenment in the practical needs of his profession. And yet Egypt cannot fail to interest him, not only as the land which may be regarded as the ancient home of medical and surgical knowledge, but also because, at the present day, it is subject to many strange pathological phenomena. It is, above all, the home of that peculiar African disease, bilharziosis; and ankylostomiasis, pellagra and ophthalmia are, like the poor, always with us. Its geographical position alongside the great world thoroughfare—the Suez canal—which links the East to the West, and its nearness to Mecca, to which large numbers of its inhabitants annually go and collect the infection of the whole Mussulman world, afford the sanitary authorities of Egypt but too many opportunities for becoming familiar with cholera, bubonic plague, and other infectious diseases. It is not uninteresting to remark on the almost complete absence of scarlet fever, whooping-cough, and amyloid degenerations in this country. As an example of the efficacy of vaccination in stopping the ravages of small-pox, no country presents a more striking example than Egypt. In a land which is essentially Mohammedan, alcoholism does not loom so largely as it does in most other countries; but, on the other hand, the wide use of hashish as an aphrodisiac, produces a very large number of cases of neurasthenia and insanity, as Dr. Warnock has shown at this congress. A weekly mortality of 200 from infantile diarrhœa, of fourteen from enteric fever, and three from scorpion bites; and the extraordinary freeness of this semitropical country from malaria, except on the borders of that great highway for malaria-stricken patients, the Suez canal, complete this rough sketch of the salient pathological features of the land.

It was only natural, when these facts were taken into consideration, that this congress should have attracted chiefly those interested in the diseases of warm climates and a few others attracted by the fascinations of this bizarre part of the earth. Official delegates were sent from most of the European and neighboring Eastern countries, from America and from Australia; but the majority of the visitors, not unnaturally, came from the shores of the Mediterranean, where the diseases of Egypt present a more genuine, because a nearer interest, than they do elsewhere.

The congress was opened by his Highness the Khedive Abbas Hilmy II in the Opera House, Cairo, on December 19, 1902, in the presence of the ministers of state and all the diplomatic representatives. On the succeeding four days the scientific sittings were held in the magnificent lecture-rooms of the Egyptian Government School of Medicine which had been lent for the purpose. The number of communications (236) was so great and the sections so few (Medicine, Surgery, and Ophthalmology) that little opportunity was offered for proper discussion. Demonstrations of interesting cases—chiefly bilharziosis, pellagra, and leprosy—were given daily in the Kasr-el-ainy Hospital which forms part of the School of Medicine.

During the congress nothing aroused more interest than the splendid collection of nearly 900 pathological specimens, almost all retaining their natural colors with unimpaired brilliance. These specimens were collected and prepared by Dr. St. Clair Symmers, Professor of Pathology. In this museum the bilharzial preparations attracted most attention by reason of their novelty, and also by their graphic demonstration of the whole course and the many manifestations of this, the commonest disease in Egypt. In one specimen of the urinary bladder could be seen a small area of light-brown or sandy discoloration (microscopically found to be crowded with ova of bilharzia hæmatobia) representing the earliest phase of bilharziosis; a series of more advanced stages culminating in specimens in which the whole mucous membrane of the bladder was "sandy" or, in others, had budded out into large papillomatous growths (studded with ova) which might block up the openings of the ureters or urethra or completely fill the bladder; other specimens showed the infection or the secondary changes in the ureters and kidneys.

Other specimens showed exactly analogous phenomena in the rectum, colon, and intestines; in some cases forming tumors which might be mistaken for cancer; in others causing multiple ulcers, which were a common cause of "dysentery" in Egypt.

Other specimens again showed similar changes in the female genital organs, vulva, vagina, uterus, Fallopian tubes, and ovary. There was a cauliflower-like bilharzial growth from the cervix uteri, which was mistaken for

cancer and led to hysterectomy. Another specimen—bilharziosis of the vulva—was probably unique, because the papillomata contained not only the ova, but also the worms themselves.

Other specimens showed the peculiar periportal variety of hepatic cirrhosis, which Professor Symmers had recently discovered to be due to this disease.

At the first meeting of the Surgical Section all of these specimens were shown and described by Dr. Symmers. On the same occasion Professor Looss (of the Egyptian Medical School) brought forward a number of new facts concerning the life-history of bilharzia. He clearly demonstrated the manner in which the spine of the ovum was formed by the chitinous capsule adapting itself to the shape of the uterus, the spine being chitinous material which protruded into the efferent canal (vagina). Hence, the different position of the spine (whether terminal or lateral) had no other significance than an indication of whether the ovum was placed vertically or obliquely in the uterus. Professor Looss also gave it as his opinion that the bilharzia larva could enter the human body only through the skin (during bathing), as he had clearly demonstrated in the case of uncinaria (ankylostoma). He could adduce no direct proof; but the fact that the larva was instantly killed by gastric juice and dilute hydrochloric acid proves that it was impossible for it to enter the body through the alimentary tract. In the discussion which followed, Dr. Ruffer objected that the infection of bilharziosis in the Transvaal could not be explained in this way, because bathing was not such a common habit there as it is in Egypt; to this Professor Looss replied that all the local authorities in South Africa could explain the transmission of the disease only in this way.

Dr. Ruffer also attempted to combat the view that the ova of bilharzia formed a common nucleus of urinary calculi (which are so common in Egypt) by the statement that he had been unable to find the ova. Professor Looss pointed out that once the technical difficulties had been overcome, and the necessary experience attained, bilharzia-ova could be certainly demonstrated in a very large proportion of the calculi found in Egypt.

A large number of papers were read on the clinical aspects and treatment of bilharziosis, but these were of purely local interest. The statements and the microscopical preparations of Dr. Goebel (Alexandria) failed to convince his hearers as to the carcinomatous nature of some of the renal and vesical bilharzial lesions.

Dr. Symmers also showed an enormous cavernous angioma of the liver, the organ being three times the normal size, and at least seven-eighths of the whole being transformed into cavernous tissue. This specimen was probably unique.

It was also pointed out that, in spite of the habits of the people, echinococcus was exceedingly rare in Egypt; and, as in Australia, amyloid disease was hardly ever found, "notwithstanding the enormous amount of syphilis and tuberculosis."

A series of cases of both the red and the black varieties of madura-foot were shown. Dr. Symmers also showed specimens of severe bronchopneumonia, which was an exceedingly common cause of death among foundlings (most of whom are syphilitic) in Cairo.

He also showed three specimens of elephantiasis of the scrotum, in one of which the bulk of the tumor was composed of fat, another of exceedingly dense fibrous tissue, and in the third the scrotum exhibited dense fibrosis and in parts mucoid degeneration.

Professor Looss exhibited a very large collection of intestinal parasites obtained from man and other vertebrates in Egypt; and also gave demonstrations of the life history of ankylostoma duodenale, and of the manner in which the larvæ make their way through the unbroken human skin.

The extraordinary collection of desiccated bodies of prehistoric Egyptians in the Anatomical Museum of the School of Medicine aroused great interest during the congress. The brains, eyes, hair, skin, and various viscera of these people of 7,000 years ago were shown, as well as many pathological specimens—osteitis deformans, dental abscesses, bone-lesions of doubtful nature, variously attributed by different experts to syphilis, tubercle, elephantiasis, etc. The earliest known splints (used for fractures of the femur and radius and ulna) were shown, as well as many reunited fractures, and an unreduced forward dislocation of the knee with new-joint-formation. The earliest renal calculi ever found were shown and also a prehistoric prolapsus ani. Various mutilations of the genital organs (from the Soudan) were exhibited

The study of these various museums in the School of Medicine may be regarded as the chief work of the congress.

The memoirs presented to the congress may be divided into two classes: (1) those of a general nature and (2) those of chiefly local interest.

In the first group the most noteworthy was perhaps the oration delivered at the opening ceremony by Professor Bouchard (Paris) on the new tendencies in therapeutics. This consisted in an advocacy of the views (already stated in part in *Comptes Rendus de l'Académie des Sciences*, July 7, 1902) that the local manifestations of certain general diseases may be more effectively treated by the local application of the appropriate drug in minimal doses than by the mere general exhibition of the medicine. For example, if a man of sixty kilos weight suffering from acute rheumatism which chiefly affected one joint received each day six grams of salicylate of sodium by mouth every kilo of his body received ten centigrams of the drug: in other words, not only the diseased part but also the healthy part of his body was receiving this chemical which, if not directly harmful, could serve any useful purpose in the healthy tissues Why not, therefore, inject five or ten milligrams of salicylate of sodium locally into the 50 or 100 grams of soft tissues around the joint? Experience showed that such treatment, even by extremely minute doses (applied locally), was more effective than a proportionate dose per os. General treatment, however, was obligatory; but if it showed itself insufficient local medication was a most efficient and valuable aid. In the treatment of syphilis, and especially in the case of gummata and painful local troubles, the local injection of minimal doses of mercury and iodide had proved most efficacious. Either drug might be used separately, or 2 c.c. of a solution containing one centigram of perchloride of mercury and three grams of iodide of potassium to 100 grams of water might be employed.

Book Reviews.

A Manual of Surgery for Students and Practitioners. By William Rose, M.B., B.S., F.R.C.S., and Albert Carless, M.S., F.R.C.S. Fifth edition. New York: Wm. Wood & Co., 1902.

The essentials of a good textbook should be a clear, concise statement of the main facts of the subject with which the volume deals. The reviewer knows of no book in our language which satisfies these conditions better than does this manual, and the issuing of five editions within four years is proof of its merits and popularity. A criticism of the several parts of this general textbook is hardly the purpose of this review. The authors have not attempted to present any new facts. They have tried and admirably succeeded in furnishing to the student an up-to-date, reliable, concise textbook. The volume is very nicely made up; its printing clear and sharp, and the text is amplified with numerous excellent illustrations. The work is well written in a brief, clear style, and the illustrations are well chosen, instructive, and not too numerous. The publisher has made the text into a very attractive book, which deserves to meet with good support on the part of students and medical book buyers.

Manual of Antenatal Pathology and Hygiene of the Fœtus. By J. W. Ballantyne, M.D., F.R.C.P.E., F.R.S. Edin. New York: William Wood & Company, 1902.

The name of Ballantyne is so intimately associated with the studies of antenatal conditions that anything from his pen will be cheerfully welcomed. In this volume the author describes fetal physiology and pathology and announces a second volume on teratology and morbid heredity. When we consider the vast opportunities for detailed study—according to the author, "nearly 300 specimens, embracing almost all the leading types of antenatal morbid states"—then our interest in the work is increased.

In glancing through the pages we find chapters that are so important to the general practitioner that they deserve at least a word. For example, concerning "Fractures of the Long Bones," and "Dislocations in the New-Born Infant." "Sepsis Neonatorum" is a very interesting article. The description of "Fetal Growth" is very interesting. The ever welcome chapter on "Fetal Syphilis" is very important. The chapter on "Fetal Endocarditis" is worthy of note. So we go from page to page until the chapter on "Antenatal Diagnosis" is reached.

These are only a few of the many instructive chapters—all written in a clear, distinct style, and bringing out point after point in conformity with modern thought. The book is profusely illustrated. There are over 500 pages of instructive reading matter, with a very complete index. The author is to be congratulated on his excellent work, which will add laurels to his well-deserved reputation.

Progress of Medical Science.

The Boston Medical and Surgical Journal, January 8, 1903.

Plague Serum in Three Cases.—W. J. Calvert used plague antitoxin in three cases of the disease in Manila. One case recovered, and in this case 200 c.c. of the serum were injected. The author believes that if larger doses had been given in the other cases more favorable results might have been obtained. The points of interest in the first fatal case were left lower pneumonia, enlarged spleen, left femoral bubo, and marked septicæmia on the third day before death. In the second case they were severity of the attack, right femoral bubo, with involvement of all inguinal glands, and septicæmia from the second day of disease until death. In the first case very few bacilli were found in smears from the blood and spleen, but many in smears from the consolidated lung and the bubo. In the second case a few bacilli were found in the blood and spleen, while smears from the bubos were teeming with organisms.

The Malignancy of Joint Tuberculosis Illustrated by a Series of Forty-seven Cases.—Charles F. Painter, from his study of the subject, reaches the following conclusions: Tuberculous disease tends to recur after apparent cure in a considerable proportion of cases. This recurrence is most commonly a local one. Metastases are not common. Trauma, direct or indirect, is frequently associated with the recurrence. Indirect trauma is probably the exciting cause of the recurrences, especially when partial ankylosis or deformity exists. Patients who have suffered from bone and joint tuberculosis should be cautioned that they are not well when symptoms have ceased, and that reasonable care must be exercised to avoid recrudescences. Deformity and shortening should be corrected as far and as accurately as possible, to lessen the chance of recrudescence. Mechanical treatment, especially fixation, should be used in the acute conditions in childhood. Exploratory interference, where discretion is used, with the view to removal of isolated foci, is advisable in many cases in children, and is to be urged in the majority of recrudescences if seen early. Recognition of the fact that patients with hip disease, Pott's disease, and tumor albus have tuberculosis just as much as if they had phthisis, and should be treated accordingly, must be insisted upon.

Journal of the American Medical Association, Jan. 12, 1903.

The Relations of Lupus Erythematosus to Tuberculosis.—The conclusions offered by H. G. Anthony are as follows: (1) That discoid lupus erythematosus is a granuloma, which has no relation whatsoever to tuberculosis, but which may be accompanied by a general eruption. (2) That tuberculosis may produce symptomatic lupus erythematosus, usually with disseminate, atypical plaques. (3) That what may be shown by statistics regarding the relation of lupus erythematosus to tuberculosis depends on what is understood as evidence of tuberculosis, and also on what is included in lupus erythematosus.

Peripheral Neuritis as a Complication of Whooping Cough.—A. A. Eshner refers to previously reported cases of this association of lesions, seven in number, omitting those characterized optic neuritis and deafness. The cases include paralyses of the lower limbs, the cricoarytenoid muscle in the larynx, upper extremities, neck, diaphragm, etc. In some the paralyses were permanent, but the majority recovered. Coincidently with the motor lesions, the sensibility may or may not be impaired. The functions of the rectum and bowels are generally unaffected. The details of symptoms do not materially differ from those of neuritis due to other causes.

Tuberculous Peritonitis.—This topic is considered by T. M. Rotch with special reference to the occurrence of the disease in early life and its treatment by laparotomy. Sixty-nine cases are carefully analyzed, the analysis showing that tuberculosis of the mesenteric lymph nodes does not preclude a successful result in treatment. It also shows that, inasmuch as the presence of palpable masses and the absence of fluid does not preclude a successful operation, and inasmuch as the degree of intestinal adhesions can only be surmised before operation, laparatomy would seem to be indicated in all cases of tuberculous peritonitis, provided (1) that the general condition of the patient permits it, and (2) that there is an absence of evidence of cerebral, pulmonary, or extensive glandular or bone tuberculosis. The presence of tuberculous ulcers of the intestines is obviously an unfavorable condition for operation, but in many cases they cannot be diagnosticated by the clinical symptoms. Of 20 cases operated on and relieved, the history of 13 was traced; 1 had died 4 months after operation, 1 lived 7 months, 1 was well for one year, but then relapsed, while the remaining 10 were alive and well at periods after operation varying from three months to nine years. The symptoms observed were as follows: Abdominal tenderness was generally absent, and if present was rarely severe. The movements of the bowels, so far as recorded, were not significant, loose movements and constipation alternating, and one being about as frequent as the other. Even in the cases in which an autopsy subsequently showed the presence of tuberculous ulcers of the intestines, there was, as a rule, nothing especially characteristic or suggestive noted in the discharges. The temperature was, as a rule, elevated and irregular. Pulse and temperature accelerated and variable, while the presence or absence of leucocytosis seemed to be of very little value in either diagnosis or prognosis.

Medical News, January 10, 1903.

Intermenstrual Pain.—Jennie G. Drennan states that in these cases the pain occurs from the twelfth to the sixteenth day from the commencement of the preceding menstruation; in some cases it is paroxysmal, or, again, the pain is constant with very severe exacerbations. It ordinarily lasts two days. In none of the cases recorded was there a menstrual discharge, but an increased amount of leucorrhœa was observed. The writer obtained good results in one case by merely treating the general condition. She believes that there was a spasmodic contraction of the cervix uteri—internal os—due to extreme excitability of this organ in a neurotic patient at the time when the unimpregnated ovum was being cast off from the uterus. Another theory is that: "intermenstrual pain" is a Fallopian tube colic.

Veratrum Viride as an Antitoxic.—A. B. Isham gives the history of a number of cases successfully treated by subcutaneous injections of veratrum viride. These patients suffered from a variety of affections: eclampsia, pneumococcus infection, pulmonary tuberculosis, convulsions (carbolic-acid poisoning), contracted kidneys (uræmia), gallstone colic, thermic fever (acute delirium), convulsions (opisthotonos). The writer declares that the properties by virtue of which veratrum viride antagonizes toxæmia are largely inherent in its active principles, or alkaloids, jervia and veratroidia. Both alkaloids are said to "depress the functions of the spinal cord" and to abrogate its reflex activity without affecting the irritability of nerves or the contractibility of muscles. Jervia, in sufficient doses, causes salivation, slows the action of the heart and lessens arterial blood pressure. In large doses it causes convulsions and death from asphyxia. Veratroidia has a feebler action than jervia upon the cord cells. It always causes vomiting, and sometimes purging. In large doses it causes convulsions, less severe than in the case of jervia, and death from respiratory paralysis; it reduces the frequency of the pulse. In small doses it increases the force of the heart, but in larger doses weakens it and lessens arterial pressure. Frequently, copious perspiration follows the exhibition of both alkaloids in adequate amount. The liver cells are stimulated, and the secretions of accessory glandular organs are excited to unusual activity.

Boiling as a Method of Sterilizing Catheters.—C. B. Nancrede and W. H. Hutchings conclude that: (1) Although the washing with warm soap-suds is an absolute prerequisite to most methods of chemical sterilization and is an excellent precaution, in the method of employing caloric recommended by the writers, it is not necessary, as their experiments have shown. (2) One of the chief obstacles in the way of catheter sterilization has always been the oily lubricants. The boiling temperature promptly liquifies the vaselin usually employed, which will be seen floating upon the surface of the fluid, mechanically carrying away with it numerous germs mingled or adherent to the cold, semi-solid lubricant. (3) The English catheter is more readily sterilized than the soft-rubber instruments, and can be repeatedly boiled without material damage, with proper precautions. (4) The English web catheter can be boiled for any length of time without damage in a saturated solution of ammonium sulphate. As this boils at 104° C., it is superior to plain water, but subsequent washing in sterilized water is requisite to remove crystals of the salt which are deposited on cooling. (5) The only precautions requisite in boiling English catheters in plain water are those necessary to prevent their coming directly in contact with the bottom of the vessel in which they are boiled—this can be done by enveloping them in gauze or a towel. (6) The authors' numerous experiments incontestably prove that caloric can be successfully employed for all varieties of catheters with the exception of the soft French instrument, provided all air is expelled from the interior; that this essential having been secured, although in a great majority of cases five minutes' immersion in water which is actually boiling will suffice, ten minutes of actual ebullition should be employed, especially

for the smaller-calibered instruments; and that a previous cleansing with warm soap-suds is desirable, although not essential, reducing, as it does, the time of exposure requisite to sterilize the instruments.

New York Medical Journal, January 10, 1903.

A Case of Tetanus Following Vaccination.—The case is reported by W. S. Cooke, the patient being a girl of four years. An older sister, vaccinated at the same time, had no untoward result. Four weeks later the patient began to have some pain and stiffness in the facial muscles, and three days later a typical spasm occurred in the abdominal muscles, the entire body gradually becoming affected in the recurring seizures. There was at first no opisthotonus. These seizures continued at intervals for over a week, but gradually subsided. Antitoxin was injected on several occasions. Other than this the treatment consisted of potassium bromide and chloral two grains and a half of each to the drachm of mixture, every two hours, and later every hour; the antitoxin, as stated, and whiskey in two-drachm doses, every two hours. Laxatives were used only twice, and the nourishment was entirely liquid, mainly milk. As to the cause of the infection, the author states that he followed the usual measures as to surgical cleanliness, etc., while a shield was worn. The child was sent to the country shortly after the vaccination, and it is probable that, during her out-door play, dust and dirt-carrying tetanus germs settled on her legs (the site of vaccination), and that perspiration washed the infecting material into the sore.

Note on the Salt Starvation Principle in Epilepsy; Treatment by Bromides.—L. P. Clark says that it has been found that bromine can replace chlorine in the tissues. Therefore, by sodium chloride starvation and the continual administration of the bromides, we get an organic bromide compound acceptably fulfilling the physiological rôle of chlorine, and, at the same time, acting as a therapeutic agent of sedation in epilepsy. Ordinarily we know the dosage of bromide sufficient to control epileptic seizures is from 60 to 160 grains, but under the salt starvation method 20 to 60 grains is just as efficacious. The lowering of the dosage means a lowering of the possible toxicity from the drug, with its well-known attendant evils upon mind and body. Then, too, the economic feature of the plan is obvious, as bromide sedation in epilepsy, as well as in other neuroses, must often be continued for several years. It is especially to be recommended in those acute idiopathic cases which require such large doses of bromides given in the ordinary manner that fatal intoxication is imminent; in those in which even unusually high dosage of bromide is of little value; in those totally intractable to the bromide salt; and, finally, in all chronic cases in which a long-continued sedation is necessary to hold in partial check the severity and frequency of epileptic attacks. The dietary should be especially arranged for palatableness, and consist of cereals, milk, and vegetables. The bromide of sodium should be given in the patient's food in place of table salt, as it is nearest like the latter.

Thoughts on Fetal Intracranial Hemorrhage.—D. H. Stewart believes that this accident arises from unequal squeezing. That is, a lack of counter-compression on the vertex simultaneously with heavy urging pains acting on the body. This causes increased tension in the intracranial vessels, and happens under certain conditions and at a definite stage of labor, the forceps in the majority of cases being applied too late or not at all. The accident may occur without the formation of any caput. succedaneum. The period of danger of liability to hemorrhage is the interval between rupture of the membranes and complete pelvic engagement. A heavy pressure on the body in a dry labor before overlapping, especially if there is constriction of the veins of the neck by an encircling cord, is a fairly certain cause of cerebral engorgement. To prevent this accident we should in dry labor dilate the os promptly, and furnish pressure against the vertex with the rubber dilator. As soon as possible, the forceps should be applied and the head brought low, so that the bones along the sutures will lap and keep their places. Lateral pressure in undesirable, unbalanced, and intracranial pressures are the dangerous ones. To determine the existence of this accident the author lays down the following rules: When the child is born, feel the fontanelles with the palmar surface of the finger, never with the point; and have the contact as extensive as possible—pulsations are made out quite clearly in this manner. Lay the palmar surface of the little finger along the arched top of the tongue. If there is either tremor or rigidity, the clot is at the base. Here there is usually no attempt at sucking. There may or may not be in vertex cases, although sucking well on the second or third day is no disproof. Rigidity of the jaw is rare. A peculiar convergent strabismus (clonic) is common. It gives good ground for a fatal prognosis if it lasts more than a few minutes. It is also found after burns in the new-born, and if it begins, it usually continues till coma and death take place.

American Medicine, January 10, 1903.

Secondary Hemorrhage of the Umbilicus.—Ramon D. Garcin delivered a patient of a healthy boy on October 23. The case progressed satisfactorily, the cord coming off on October 29. There had never been any oozing, and the surface underneath was smooth and healthy. On October 31 there was secondary hemorrhage of the umbilicus, due to detachment of a clot of blood over the seat of the artery. The child died in a few minutes.

The Causes of Death in Diphtheria.—Bernard Kohn states that it is in cases of mixed infection that the severe complications of diphtheria are most likely to occur. Of these, bronchopneumonia is the one most to be dreaded. It occurs especially when the larynx is involved. The kidneys are more or less affected in almost every case of diphtheria of moderate severity, but the nephritis usually runs a favorable course. A distressing mode of death, from the physician's standpoint, is that due to heart failure. It may occur early or late; in cases of great severity, or in the mildest cases. Occasionally death from heart failure may occur without warning or previous symptoms, but usually, if carefully watched, there will be noted some premonitory symptoms. In some cases of sudden death, apparently from cardiac paralysis, there may be found a hyperplasia of the thymus gland, lymph nodes, spleen, and other lymphoid tissues, associated with a hypoplasia of the heart and the aorta. These changes form what is called the "lymphatic constitution." Changes in the nervous system due to the action of the diphtheric poison are frequently noted. Finally, diphtheria may be complicated with other infectious diseases, such as measles, scarlet fever, or typhoid fever. In many cases the combinations are most deadly.

The Treatment of Epilepsy by the General Practitioner.—William P. Spratling declares that epilepsy is curable in many cases if taken in time, and if accurate treatment is given for a sufficient length of time. The writer summarizes the principles of treatment as follows: (1) Every patient should be searchingly examined, to bring to light the especial cause in each case. Then the patient and his disease should be treated as a unit, never being disassociated. For example, the bromides should not be given simply for the fits while nothing is done for the individual whose moral and physical stamina is so often impaired. A dietary should be written out for each case, to be strictly followed. The writer believes that, unaided, bromides never cured a case of genuine epilepsy. If the bromides are given, it is best to employ either the hypochlorization method or to use bromipin, which is a 10-per-cent. solution of pure bromine in the oil of sesame. This does not produce acne, or impair the digestive or assimilative functions, nor does it suppress or pervert any of the faculties or functions of the mind or body. In the form of an emulsion it is a very good reconstructive. Every defect or ailment that can be discovered should be combated with appropriate treatment. The patient should be mentally and physically employed all the while, and not allowed to think he is an invalid. After several years of this treatment, the results will prove gratifying.

Philadelphia Medical Journal, January 10, 1903.

The Parasyphilitic Affections; the Curability of Tabes and General Paralysis by Intense Mercurial Treatment.—Leredde declares that, after having cured a case of tabes with mercurial treatment, after thorough researches upon the parasyphilitic affections, and cases of recovery from tabes and general paralysis, he is absolutely convinced that in syphilitic patients these diseases are not only syphilitic in origin, but can also be cured by mercurial treatment if the mercury be pushed to very high doses. The unsuccessful cases are due to incorrect treatment, and to the existence of the irremediable degenerations produced in these conditions, as in all other affections of the nervous system. When the day, which is not far distant, arrives when the syphilitic nature of tabes and general paralysis will be admitted as a demonstrated truth, the histologists will have to describe the lesions of syphilis in a broader manner.

What Can Be Done to Lessen the Mortality of Carcinoma Uteri?—E. E. Montgomery believes that neglected lesions of parturition are a prolific source or cause for the development of carcinoma of the cervix uteri. These lesions, then, should always receive attention. Next to prevention is the early recognition of the disease. There are no characteristic signs of cancer of the uterus, nor is the disease limited to any particular period. The three symptoms upon which the diagnosis is based are pain, hemorrhage, and discharge. But, unfortunately, these

symptoms are found in other conditions, and are not regular in their occurrence in carcinoma. The pain is usually lancinating. Hemorrhage is a danger-signal, as is also a discharge, thin and watery, with a sweetish, fetid odor. The mortality can be lessened by early operation in healthy tissue, and, with the exercise of precautions, to prevent the re-implantation of the disease. Generally the abdominal incision is preferable to the vaginal, as by it the operator is enabled to go further away from the involved structures.

Deutsche medicinische Wochenschrift, December 11, 1902.

Congenital Elephantiasis.—L. Bernhard and M. Blumenthal report a case the clinical picture of which is identical with that of the acquired form of this disease. In addition to the diffuse fibromatous increase of connective tissue, small lymphangiectases were present in large numbers. Without microscopical examination the diagnosis of elephantiasis would have been impossible. The etiology could not be explained on the basis of hereditary influences. or inflammatory lesions. Bacteriological examinations were also negative. It seems probable that the condition should be considered a lymphangioma due to anatomical malformations of the lymphatic system.

Epithelioma Contagiosum of Birds.—E. Marx and Anton Sticker's experiments show that none of the organisms which have hitherto been regarded as the cause of this disease bear any etiological relation whatsoever to the same. The virus of the disease belongs to the filtratable poisons, as it readily passes through a Berkfeld filter. It is very resistent, surviving drying and exposure to the day and sunlight for several weeks. It is still active at 12° C., and is not destroyed by a three hours' heating to 60° C., or one hour at 100° C., provided it has been previously dried and placed in a sealed vacuum tube. It is more susceptible to the action of carbolic acid, which kills it in a two-per-cent. solution. The virus of dove-pox if passed through the hen becomes incapable of producing the disease when reinoculated into doves. One attack of this disease always confers a complete immunity.

A Mercurial Reaction Peculiar to Syphilitics.—Karl Herxheimer and Dr. Krause describe a cutaneous mercurial reaction which occurs only in syphilitics, and which may be utilized for diagnostic purposes. It only occurs when the mercury is given by inunction. In from fifteen to twenty-four hours after such a treatment, in case no eruption is already present, there appears over various regions of the body a more or less diffuse redness, which gradually increases in intensity for about twelve or twenty-four hours, and then slowly subsides, until it finally disappears. In cases in which an eruption is already present, this increases in redness, becomes elevated and more or less confluent. Numerous observations have shown that in normal individuals and those sick with other diseases this reaction never occurs. Perhaps its greatest value is in the early diagnosis of syphilis, but it may also be used in differentiating tertiary lesions. Furthermore, the intensity of the reaction is of prognostic value, for its intensity stands in direct relation to the amount of syphilitic poison present in the system, and hence gives a guide to the exact condition of the patient from a syphilitic standpoint.

Deutsche medicinische Wochenschrift, December 18, 1902.

Inherited Diaphragm of the Larynx.—P. Fraenckel adds two cases to the literature of this rare condition. The first patient was twenty-two years of age, and had suffered with constant hoarseness and frequent attacks of laryngitis from birth. Upon examination the diaphragm was seen to block up the space between the vocal cords anteriorly, extending posteriorly for about one-third of the anteroposterior diameter of the larynx, where it ended in a sharp, indurated border. The clinical history of the second case was similar to that of the first; here, however, the diaphragm was more extensive, extending from the anterior angle of the vocal cords backward for about one-half of the anteroposterior diameter. Neither case showed any permanent improvement under treatment, although the attacks of laryngitis could be somewhat ameliorated.

Oxyuris Vermicularis as the Cause of Acute Appendicitis.—Rammstedt says that these intestinal parasites may occasionally be the cause of acute appendicitis, and reports a case in exemplification thereof. In the amputated appendix there was found a large mass of these worms, and the lesions of a catarrhal inflammation of the mucous membrane. No abscess was present. The appendix was bound to the cæcum by adhesions, so that it is evident that previous attacks had taken place. The total leucocyte count before the operation was 26,000, and it is interesting to note that such high figures do not, in all cases, signify the presence of pus. Cases of appendicitis due to intestinal parasites could, without doubt, be successfully treated with vermifuges and cathartics, but, since an accurate diagnosis of the cause of an appendicitis is impossible prior to the operation it is evident that it is not safe to delay the same, or substitute other treatment therefor.

Berliner klinische Wochenschrift, December 15, 1902.

Acute Inflammations of the Tonsil.—H. Beckman considers the acute inflammations of the tonsil as etiological factors in acute or chronic catarrhal conditions of the nares, pharynx, and middle ear. Extended observation has shown that in 95 per cent. of cases of the latter diseases acute tonsillitis, either directly or indirectly, is to be regarded as the cause. According to this conception, such acute or chronic inflammations can only be successfully treated by measures which shall directly combat the tonsillar condition. Much experience has shown that removal of the tonsils is the only safe course to be followed. The excision, however, must be complete, for if any of the tonsillar tissue is left behind the nasal and pharyngeal condition is but little, if any, improved. In twelve years the author has performed 9,000 such operations, nearly all of which were followed by a complete disappearance of the rhinitis, pharyngitis, or otitis.

Berliner klinische Wochenschrift, December 22, 1902.

Two Cases of Stramonium Poisoning.—Knaut reports two cases of stramonium poisoning which were caused by the ingestion of stramonium seeds. The patients were children, and had picked up the seeds while playing in the fields. The symptoms were intense, but were successfully combated by the administration of ipecac and apomorphia, although about two hours had elapsed between the ingestion of the poison and the administration of the emetics.

Chorea Electrica.—Ludwig Bruns considers under this name that peculiar nervous affection which was first described by Henoch and later by Bergeron. The disease occurs exclusively during childhood. The muscular twitchings are limited to the neck and shoulder muscles, and are electrical in character. That is, they appear as if produced by the passage through them of an electric current. The disease is in no way related to Sydenham's chorea. It may be divided into three varieties: (1) chorea electrica propria; (2) chorea electrica hysterica; and (3) chorea electrica epileptica. These varieties are, as a rule, easily differentiated, although at times the first two varieties may be confounded. As the name indicates, the second variety is hysterical in origin. It is easily cured by suitable treatment. which is of the same nature as that given to ordinary hysterical patients. The first and third varieties are very resistant to treatment. In the latter the attacks simulate, in many respects, true epilepsy.

Münchener medicinische Wochenschrift, December 23, 1902.

Cancroin "Adamkiewicz."—J. Decker has used inoculations of cancroin in four cases of carcinoma in which the diagnosis was absolutely assured. The number of inoculations given was 24. 16, 18, and 16 respectively. At each inoculation 1 gm. was given. In no case was any benefit whatsoever obtained, and it is very evident that the claims of Adamkiewicz for this preparation have been greatly exaggerated.

Parenchymatous Syphilitic Nephritis.—Max Wagner reviews the literature of syphilitic nephritis, and adds three more to the eleven which have hitherto been reported, and in which he regards the diagnosis as absolutely established. In all of these fourteen cases all possible sources of error in diagnosis were excluded. Furthermore, the action of mercury on the nephritis was specific in all, although in a few of them too large doses of this drug irritated the kidneys and temporarily increased the albumin and casts. For this reason care should be taken in the treatment of syphilitic nephritis by mercury. Small doses should at first be given, and in increasing the same the effect upon the urine should be carefully watched, and if the albumin and casts are not lessened, the dose should be at once reduced, and, if necessary, the administration entirely suspended for a time.

Perforation of the Nasal Septum among Workers in Chromate Factories.—J. Bamberger says that the perforation of the nasal septum so common among workers in chromate factories is due to the lodging of small particles of the chromate compounds on the septum in the location in which the perforation takes place. Experimentation with powdered magnesia has shown that the current of air entering the nostril first strikes the external wall of the same, and is then sharply deflected toward the septum, and that the largest portion of the magnesia which lodges in the nostril is not found upon the external wall, but on the septum. Thus the cause of the perforation of the sep-

tum by the inhalation of chromate compounds is readily explained. Those workers in such factories who suffer from nasal catarrh with abundant secretion very seldom suffer from the nasal perforation, because the secretion which covers the mucous membrane protects it from the action of the chromates.

French and Italian Journals.

The Histological Lesions in Cowpox.—M. E. Tabusso, during a severe epidemic of the disease in the Piemontese valleys, was able to make numerous researches into the nature of the disease. His conclusions are that, with the exception of a part of the pulmonary lesions, there are no specific lesions in cowpox, and that the anatomico-pathological findings are very similar to those of diphtheria and cholera in man, as well as those found in experimental yellow fever.—*La Riforma Medica*, December 13, 1902.

A Lesion Confined Exclusively to the Hepatic Endothelium, Due to Cocaine.—Gilbert and Carnot have observed in a rabbit, after slight, chronic intoxication by cocaine, a remarkable alteration of the liver, in that it affected only the endothelial cells. These cells were heavily loaded with fat, while the hepatic cells and biliary cells were healthy, and did not contain the least trace of fat. This interesting alteration indicates the considerable rôle that the endothelial cell plays in the antitoxic function of the liver in relation to dissolved substances, like cocaine, as well as in relation to insoluble substances, such as pigments, fat, or microorganisms. These observations show that there ought to be a place in the pathology of the liver for lesions of the hepatic endothelium. Under the influence of small doses of cocaine, the authors have obtained a fatty degeneration of the endothelium.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, December 21, 1902.

Treatment of Vesical Perforation by Transplantation.—L. Baldassati and R. Finotti have obtained excellent results by the use of a seromuscular transplantation instead of the epiploic transplantation usually employed. The muscular layer gives a strength of resistance which is better able to support the distensions to which the bladder is often subjected than is the epiploon. By its contact with the urine it protects the outer layer of peritoneum, and, moreover, it is of a thickness which causes it to adapt itself with exactitude to the portion of bladder wall to which it is sutured. The animals experimented on tolerated the operation well, there being merely slight and temporary disturbances. At autopsy it was found that the bladder was of normal shape and size, and presented adhesions to the omentum and sometimes to the intestines, so that the line of union with the transplantation could not always be perceived. At the point of operation the walls were thicker and more resistent, while the mucosa was normal in aspect, with only slight hollowing.—*La Riforma Medica*, December 18, 1902.

Torsion of Hydrosalpinx During Pregnancy.—According to Pinard, the first symptoms observed in this case were very grave, and suggested appendicitis; there were pains in the right iliac fossa, so intense that they caused nausea. But the localization of the pain was too low for this diagnosis to be maintained. Besides, the pain radiated to the right labium. Pulse and temperature were normal; there were no intestinal troubles, but there was frequent desire to urinate. Nephritic colic was thought of, and baths and morphine were prescribed. The condition remained stationary for several days, then vomiting of almost pure bile occurred, with severe diarrhœa, abdominal meteorism, and a very pronounced jaundice. The Pulse was 104. Manual dilatation was performed under chloroform, and the woman was delivered by forceps. The patient appeared to do well. But Pinard thought it wise to perform laparotomy. At the right of the uterus was a black tumor; it was a hæmatosalpinx, with twisted pedicle. The tube was removed. The unusual feature of the post-operative phenomena was the appearance of jaundice of great intensity.—*La Presse Médicale*. December 17, 1902.

Concerning Meat Diet. — Dufour placed four dogs on meat diet. In the beginning the animals took the meat in large quantities voluntarily—as much as 500 grams for dogs of six or seven kilos. Under its influence the following phenomena have been observed: Albumin appeared three times out of four in the proportion of .5 to .6 a liter; normal bile pigments were passed in the urine three times out of four, but urobilin was never determined. The quantity of indican became at least ten times greater than in the vegetable diet. The nitrogen coefficient was increased, but in spite of that the proportion of nitrogen not transformed into urea, and remaining in the state of products more or less toxic, became three or four times greater, a fact far more important than the absolute figure of the coefficient. All of the animals grew thin, the skin changed, and became the seat of generalized eczema, with disseminated ulcerations. Dufour concludes that the exclusive or excessive meat diet produces congestion of the kidneys and the liver, and increases notably the amount of toxic waste products of nutrition, which circulate in the tissues.—*Bulletin Général de Thérapeutique*, December 15, 1902.

Tuberculous Rheumatism.—Mouriquand describes a case of Poncet's. The patient was a boy who worked in a restaurant. He had a tuberculous family history. His mother died of the disease. A sister living is tuberculous. A cousin has tuberculous laryngitis. There is no history of gonorrhœa. From the age of twelve till he was twenty-two years he suffered with violent facial neuralgia, which occurred periodically every four or five days, and which was not relieved by quinine or antipyrin. In 1892 he suffered from an attack of true polyarticular rheumatism. His muscles were also affected. He spent one month in the hospital. In 1898 there were unmistakable signs of bacillary bronchitis. There was hæmoptysis. In March, 1902, he suffered from rheumatic pains in both thumbs. This resisted simple treatment. There was also intercostal neuralgia as well as laryngitis. In December, 1902, there developed rheumatism of both thumbs and of the radial sheaths. Both hands swelled. The apices of the lungs were affected. In the presence of rheumatic phenomena so pronounced, not relieved by salicylate of soda, and coincident with distinct lesions of the lung apices, Poncet has made the diagnosis of tuberculous rheumatism.—*Lyon Médical*, December 21, 1902.

The Journal of Medical Research, November, 1902.

A Study of Eel Serum, and the Production of an Antitoxin in a Cold-blooded Animal—A Contribution to the Study of Immunity.—Justin De Lisle concludes from his experimentation that eel serum is extremely poisonous when injected into the veins of the rabbit or guinea-pig. The immunization of the guinea-pig with eel serum has not yet been attained. That of the rabbit, although a delicate task, is usually successful. Inasmuch as the red globules of a rabbit vaccinated with the serum or the blood globules of an eel offer a higher degree of resistance to the dissolving action of eel serum than do the blood globules of the normal rabbit, and there is inability of the blood globules of the rabbit that has been vaccinated with the serum or the blood globules of the eel to neutralize the toxic principle in eel serum, together with the non-production of the sensibilizing body, the author concludes that eel blood, when injected into the organism of the rabbit, excites the red globules of that animal to produce an antitoxin.

Preliminary Note on Some Effects of Tobacco on the Tissues of Rabbits.—Isaac Adler describes a series of experiments conducted upon rabbits. The animals are fed exclusively on cabbage carefully mixed with an infusion of tobacco. A rabbit killed after two weeks of the treatment shows no signs of disease anywhere, even on the closest inspection. After two and a half months, an animal apparently in perfect health shows proliferation of the connective tissue of the liver; after four months there is progression of the same lesions. All other organs are, however, unaffected. This is as far as experiments have progressed up to the present, but the author presents this preliminary note at this early stage of experimentation because he considers one fact as reasonably certain—that is, that we have in tobacco infusion, administered as described, a toxic substance, probably one of many, which, acting with extreme chronicity, exerts its influence, at least in the earlier stages, exclusively upon the interstitial and fibrous tissue, uncomplicated by any parenchymatous degeneration or any gastric or intestinal lesion.

On the Erythrogenic Spleen of Mephitis Mephitica.—Walter R. Brinckerhoff says that in this animal the spleen shows evidence of active red corpuscle formation. The sections of bone marrow show a comparative paucity in cells of the erythrocyte series. Erythroblasts in all stages are present, but do not form a prominent feature of the section, as they do, for instance, in the normal marrow of the rabbit. In the pulp of the spleen all stages of red corpuscle formation are present. The erythroblasts lie in the sinuses in great numbers and form a prominent feature of the section. The fact that the spleen of M. Mephitica functions as an organ for red corpuscle formation is of interest on account of its bearing upon the problem of the loci of hæmatopoiesis. In this animal the spleen normally divides with the bone marrow the labor of erythrocyte production. In the majority of the higher mammals the spleen is more nearly related to the lymphatic system than to the bone marrow. In M. Mephitica the presence of erythogenic tissue, which is found only in the bone marrow of most of the mammalia, emphasizes the serial character of the three hematopoietic organs.

Society Reports.

THE PRACTITIONERS' SOCIETY,

176th Regular Meeting, Held on Friday, December 5, 1902.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

A Case of Pneumothorax.—Presented by Dr. W. GILMAN THOMPSON. The patient was a young man, twenty years of age, an Italian fruit vender, who was admitted to the Presbyterian Hospital ten days ago. He had never had any previous illness of any seriousness, and the only symptom of which he complained at the time of his admission was a cough, which had troubled him for two or three weeks. An examination of the patient's chest revealed a pronounced pneumothorax on the left side. The physical signs were typical of this condition, and upon aspirating the chest air was drawn off. There were no signs of pulmonary tuberculosis, but, after repeated examinations of the sputum, tubercle bacilli were found upon one occasion. The most interesting feature in connection with the case was the extreme displacement of the heart, which was crowded over to the right side fully as far as its natural position on the left side. In spite of the pneumothorax and the marked displacement of the heart, the patient, apparently, suffered no physical discomfort. There was no bulging of the chest wall, and very slight difference in the respiratory movements on the two sides of the chest. The heart sounds were normal. Dr. Thompson said that in a number of cases of pulmonary tuberculosis, treated by Dr. H. P. Loomis, in which he had seen nitrogen gas injected for the purpose of compressing the diseased lung, the gas produced a very rapid displacement of the heart, but the displacement was rarely so great as in this instance. For this reason, and because there was so little general disturbance, the question arose whether in this case the displacement of the heart might not be a congenital condition, and the pneumothorax merely a coincidence. The question also arose as to the advisability of aspirating the chest for the purpose of removing the air. That operation had been done a number of times. In 1900 such a case was reported in the *Transactions of the Presbyterian Hospital*, by Dr. Herbert W. Carter, who aspirated a simple pneumothorax, occurring in the service of Dr. W. P. Northrup. In that instance the patient suffered from pain and extreme dyspnœa, and the operation was done to equalize the pressure upon the affected side. Done under those conditions, the operation had always been successful, but in the case under discussion, there were apparently no indications for aspiration, and it was a question whether it would not be better to allow the lung to remain compressed for a time. The pneumothorax was probably the result of a minute perforation in a tuberculous area, and the compression of the lung served as a conservative process, acting in the same way as would an injection of nitrogen gas, by imposing rest upon the affected lung and allowing it to heal. The air in the chest, which was apparently causing the patient no discomfort, might eventually be absorbed.

Dr. BEVERLEY ROBINSON said he was inclined to agree with Dr. Thompson that it would be wiser not to aspirate the chest at present. By drawing off the air, a reopening of the perforation might result, and the tuberculous process might become more active. The marked displacement of the heart naturally gave rise to some apprehension, but, on the whole, he thought it best not to interfere.

Intracranial Neurectomy by a Simplified Method.—Presented by Dr ROBERT ABBE. The patient was a woman, forty years old. who had been operated on for inveterate tic douleureux only eight days ago. The method employed by Dr. Abbe was a modified intracranial neurectomy. Instead of the Hartley-Krause operation, with its large osteoplastic flap, Dr. Abbe made a vertical incision in the temporal region just within the hair line. He then chiseled a little hole through the thin portion of the temporal bone, and with the rongeurs gnawed away a section of bone about an inch and one-half in diameter. This was quickly and easily done, taking just ten minutes, while by the Hartley-Krause method it took fully twenty or twenty-five minutes to get through the bone. Dr. Abbe practically eliminated the danger of arterial hemorrhage in connection with the operation, by a preliminary ligation of the external carotid artery. In spite of this precaution, however, there would be a certain amount of venous oözing, and in controlling this, the speaker called attention to a little expedient that he had found of much practical value. Instead of trying to control the bleeding from the dura and bone by means of plugs of gauze, he used a narrow strip of sterile rubber tissue, wrapped over the end of a small wad of gauze. When this was pressed down upon the bleeding points, the blood instantly clotted, whereas gauze sucked up the blood and tore away the slow forming clot when it was removed.

Upon exposing the brain, instead of removing the Gasserian ganglion, as was now so widely advocated, Dr. Abbe dissected out the inferior and superior maxillary branches of the fifth nerve, and removed about half an inch of each on the inner side of the foramina rotundum and ovale. These two foramina of exit were then covered with a piece of rubber tissue, which was allowed to remain permanently. This interposed a non-conducting, sterile medium between the two nerve ends, and prevented them from reuniting. Recent investigations had shown that the regeneration of nerve cells took place very rapidly—usually within a month. If we could succeed in keeping the divided nerve ends apart for a longer period than this, a fibrous stump was formed which acted as a permanent barrier to the regenerative process, even if the rubber tissue were eventually absorbed, which, however, it was not. Dr. Abbe said that he had now done this modified operation seven times. In all of the cases the neuralgia was of the most inveterate type, and in all of them the relief was prompt and, thus far, permanent. The first case was operated on nearly seven years ago; the second, over five years ago; the third, three years ago; the fourth, eight months ago, and the rest more recently.

Before he undertook this modified method, Dr. Abbe said he had operated in a number of cases by the Hartley-Krause method. Those patients had also remained well, but the operation of removing the ganglion of Gasser was unquestionably a very severe one. There was danger of grave hemorrhage and shock, even in the best and most experienced hands; it took from one and one-half to two and one-half hours, and the speaker said he knew of one case in which it took four hours to control the hemorrhage. The operation he had described could be done within an hour. Dr. Abbe said that one advantage of the vertical incision which he resorted to in these cases was that it was not followed by any wasting of the tissues in the temporal region, such as was apt to occur after the usual horseshoe flap incision made in the Hartley-Krause operation. The interposed rubber tissue remained permanently in every case. He sterilized it by gentle rubbing with 1-1,000 bichloride solution before operation and immersing it in normal salt solution, from which it was taken and placed *in situ*. In a rabbit, he had removed a piece of rubber tissue placed upon the brain two years before by his assistant, Dr. W. S. Schley, and found the rubber intact and with only the slightest marginal adhesion on one side. Thus he disproved the statement that rubber might be disintegrated by time.

Dr. ROBERT F. WEIR said he was not convinced as to the ultimate value of the method described by Dr. Abbe. On the contrary, he was inclined to believe that any operation for the relief of intractable facial neuralgia which was limited to an attack upon the nerve on the distal side of the ganglion was a step in the wrong direction. Unless the ganglion was destroyed, the probability

of a recurrence must always be feared. In fact, the tendency was now to go even beyond the Gasserian ganglion, and the suggestion had been made to divide the sensory root and leave the ganglion alone. Dr. Weir said he agreed with Dr. Abbe that a transverse incision through the temporal muscle was apt to be followed by a disagreeable amount of atrophy. The severe hemorrhage incident to these operations was an important factor. Preliminary ligation of the common carotid had been suggested, but this was apt to lead to serious cerebral complications, as it took some time for a collateral circulation to be established. Instead of this, or instead of tying the external carotid, as practi ed by Dr. Abbe, the suggestion made by Dr. Crile of Cleveland was worthy of consideration. He advised and practi ed satisfactorily in animals and in the human subject the use of temporary pressure upon the common carotid with a rubber guarded screw clamp; this compression could be prolonged for an hour or two without causing any damage to the artery, and the patient received thereby all the benefits of a ligation. The interposition of various kinds of tissue between the divided ends of nerves or to prevent the formation of adhesions had been tried very extensively. Rubber tissue, gutta percha tissue, gold leaf, and sundry others that had been tried had been found to become perforated by granulations, and had thus lost their protective value. Used for the purpose described by Dr. Abbe, the rubber tissue might possibly act as a barrier between the severed ends of the nerves for a time, but the speaker said he would not like to rely too strongly upon its permanence.

The President, Dr. Joseph D. Bryant, said he had given considerable attention to this subject, and had endeavored to work out on the cadaver a method which would prove a little more feasible than that followed by Hartley and Krause. He was very favorably impressed with the vertical incision through the temporal muscles, as it was not followed by a subsequent impairment of the tissues in that region. This was well illustrated in the case shown by Dr. Abbe. So far as the interposition of rubber tissue between the divided ends of the nerve was concerned, Dr. Bryant said he was a little skeptical as to the permanent value of such a barrier. Still, there had been no recurrence in any of Dr. Abbe's cases, even in the one which was operated on over seven years ago, which would seem to indicate that the barrier had proven effective. After mere division of a nerve or the removal of a section, regeneration of the nerve was apt to be very prompt. The speaker said that in one case of facial neuralgia in which he removed one inch of the infra-maxillary nerve, the pain returned within three months. The patient subsequently died from another cause, and at autopsy a direct communication was found between the divided ends of the nerve. The method described by Dr. Abbe certainly opened up a field for careful investigation. Instead of removing a section of the nerve trunk beyond the foramen, as Dr. Abbe did, why would not a similar effect be produced by removing a section after its exit through the foramen, providing its ends were kept from reuniting? Should the method of practice employed by Dr. Abbe prove as beneficial as his results seemed to indicate, then, indeed, ought not, for various reasons, the surgical efforts to be directed more to the anterior than to the posterior parts of the nerves as later experience seemed to demand? On account of the severe hemorrhage and shock, the Hartley-Krause operation was a very formidable one, with an average death rate of about 8 per cent. Dr. Abbe, by the method he had described, had thus far no death rate.

Dr. Charles L. Dana said that the opinion now generally accepted by neurologists regarding the causation of tic douloureux was that the original trouble was due to a peripheral degenerative neuritis and arteritis, but that the degenerative process eventually involved the ganglion, and that a permanent cure could not be expected in old cases unless the ganglion itself were removed. The undoubted success of Dr. Abbe in cases he had reported was perhaps due to the fact that the operations were done comparatively early in the course of the disease; at least, before the ganglion had become much affected. Cases of facial neuralgia of recent origin—that is, if taken hold of within two or three years after the onset of the symptoms—could usually be quite successfully treated medically; but in the long-standing cases, the speaker thought, nothing short of complete removal of the ganglion would afford permanent relief.

Dr. Abbe, in closing, said that prior to treating these cases by this method, he had done the Hartley-Krause operation many times. He had also removed sections of the nerve trunks anterior to the skull, but this did not give satisfactory results. The procedure suggested by Horsely, namely, resecting the root of the nerve on the inner side of the Gasserian ganglion, had been tried by Horsley and Fraser in two cases, one of which was fatal. The operation was one of extreme gravity. Dr. Abbe said the feeling was growing upon him that cases of inveterate tic douleureux should at once be advised to have the intracranial operation done, instead of losing time in experimenting with the anterior methods.

Some Questions in Heredity.—Dr. Andrew H. Smith stated that he appreciated what the reader of the paper had said regarding the vagueness of the various forms of so-called heredity, and he did not know that we could establish any very positive data upon which to base an opinion as to the importance of this factor. The question of the soil being inherited and affording an opportunity for the development of certain morbid conditions was one which had recently been thoroughly ventilated, but it was an exceedingly complex subject, and Dr. Smith said he had never accumulated any special observations regarding it. As to the inheritance of longevity, he thought there could be no doubt about that. He could cite numerous instances among his acquaintances and patients in whose family records this tendency to attain advanced age was distinctly shown. In one particular instance that he had in mind, there were ten children in the family; four of these died rather early from acute disease, but the other six lived to an advanced age, the youngest being over seventy years and the oldest over ninety years at the time of death. The question of heredity possibly became complicated in a way he had never seen referred to in children who were the offspring of a woman during her second or subsequent marriage. Such a factor was well recognized in the breeding of lower animals. For example, a mare that had given birth to a mule, would, if covered by a horse afterward, give birth to a foal with certain asinine peculiarities, and those same peculiarities might be carried through several foals. He could not verify the assertion which he had heard made that a white woman who had given birth to a mulatto child would subsequently, and by a white husband, give birth to children who would show distinct Negro qualities. This entire subject of heredity was a very complex one, and could only be solved by an enormous accumulation of statistics. Our present impressions on the subject have been, no doubt, largely influenced by tuberculosis. Instances in which entire families, upon reaching a certain age, died of tuberculosis occurred to all of us, and they impressed us as examples of the influence of heredity, but even in those instances there was a disturbing factor. A careful investigation would generally show that the family lived in the same house from generation to generation, using the same furniture, etc. Particularly in country houses one room was usually set apart as a sick room; this was occupied by the successive members of the family when they were ill, and closed up when they died, generally without a disinfection, and thus the infection persisted. In cities, where the people were more apt to change their residence, the infection might be perpetuated by articles of furniture.

Dr. Robert Abbe said it seemed to him that the idea of hereditary disease—excepting, perhaps, in the case of syphilis—was assuming less and less prominence every

year. In cancer he had practically given up placing any reliance upon a family history of that malady. He had found very little satisfaction in tracing the history of cancer as an hereditary factor. He had practically reached the conclusion that the microbic diseases were not inherited (excepting, possibly syphilis), but that there were, undoubtedly, inherited tendencies. The latter fact he regarded as beyond dispute. Webbed-fingers, cross-eyes, and various physical defects were examples of this. We must admit that there were hereditary qualities, but not hereditary diseases. The greater or lesser vulnerability to disease must also be regarded as an hereditary quality.

Dr. Beverley Robinson said he had formed no absolute convictions as to the influence of heredity, but there was one phase of the subject which had not been touched upon, namely, individual habits which crop out at certain periods of life. These were apparently not influenced by environment, but developed in generation after generation, and they could only be explained, in his opinion, upon the theory of heredity.

Dr. W. Gilman Thompson said this subject had long interested him, and the question had often arisen in his mind whether heredity played any part in the production of the identical diseases to which Dr. Smith had referred in his paper. Heredity, in its broadest sense, was a conservative process for the preservation of the species, and, from a biological standpoint, it could hardly be expected that many diseases should be of an hereditary nature. Approached from a statistical standpoint, the theory of heredity was open to many fallacies, and all such figures should be considered in connection with the the laws of chance, as reduced to a mathematical science. If we took, for example, the statement that among ten thousand persons there were ten cases of carcinoma; five of these occurred in persons whose ancestors suffered from the same disease, and in the other five there was no such history. From those figures it would be quite as logical to argue that the disease was hereditary as that it was not. In weighing the value of statistics on this subject, therefore, a liberal margin should be left for the well-understood laws of chance. Dr. Thompson said he agreed with Dr. Abbe that heredity is regarded as a less important factor now than formerly in the very list of diseases which Dr. Smith mentioned. In gout, for instance, instead of the disease being inherited, it was the general habits of life, of diet, lack of exercise, etc., which acted as contributory factors. If the disease itself had been transmitted, its influence should become accumulative, and the disease factor strengthened in succeeding generations. Instead of this, the contrary could be shown in many instances in which the disease became extinct. The speaker said it was difficult to define what was meant by heredity, and too much importance had no doubt been attached to it. Alcoholism, for example, had been regarded as an hereditary and transmissible affection. It was probably the mental weakness, the lack of will power that was transmitted, and not often an actual, irresistible craving for alcoholic stimulants. This lack of will power was shown by alcoholic subjects in many other ways. In conclusion, Dr. Thompson said he was inclined to attach somewhat less importance to the influence of heredity in the transmission of certain diseases and specific dyscrasiæ than Dr. Smith.

Dr. Hermann M. Biggs said he did not regard tuberculosis in any of its varieties as an hereditary disease, in the proper sense of the term. There have been a few cases of tuberculosis found at birth—cases of intrauterine infection—but these were exceptional, and any type of tuberculosis developing after birth was no doubt the result of an infection occurring after birth. He constantly found a history of the patient's ancestors useful as throwing some light on the probable quality of the various types of tissues inherited, but that the diseases themselves were in any sense transmitted he had never believed. Different generations of the same family often showed a tendency to the development of cardiac disease, arteriosclerosis or renal disease, but this fact simply gave a suggestion as to the probable quality of these various forms of tissue. As regards alcoholism, he regarded it as an acquired taste and not a transmitted one, excepting in the sense that those persons had inherited a poorer quality of nerve tissue, and a lack of will power.

Dr. John Winters Brannan said he thought Dr. Smith, in his paper, had made a clear distinction between the possible inheritance of the disease and the inheritance of a lessened power of resistance. It was possible to conceive that the latter existed in certain families, especially in connection with certain maladies, such as renal or heart disease.

Dr. Virgil P. Gibney said he had long since satisfied himself that heredity played an unimportant part in bone tuberculosis. He was willing to admit, however, that there was a weakened resistance of the tissues in those cases. Even in club-foot, he did not regard the hereditary factor of much importance. Occasionally, it seemed as though these malformations were influenced by heredity, but, by going into the family history of a large number of those cases, the hereditary factor became less significant.

Dr. Charles L. Dana said he coincided in the opinion of the previous speakers that patients did not inherit diseases, but only constitutional defects. This distinction had been sharply drawn in neural pathology, and the name given to such a defective constitution was a "degenerative" constitution. In nervous diseases this showed itself in two ways: (1) Morphologically, where the inherited tissue died before its time. To this. Gowers had given the name of abiatrophy, which simply meant that in a person with, for example, Huntington's chorea, the cortical brain matter gradually died at an abnormally early age. In the same way, certain spinal affections, like hereditary ataxia, were the result of this premature decay of the nerve substance. These morphological tendencies, Dr. Dana said, were certainly strictly inherited, and might run through an entire family; they were called diseases, but were, more strictly speaking, teratological defects. The other form of defective constitution might be called physiological; it had not a distinct morphological basis, but simply meant that the brain and spinal tissues were born unstable and dynamically weak. A person with such degenerative defect might live to old age, but was apt to become the subject of various types of neuroses, epileptic attacks, forms of dementia, etc. It was on the above basis, the speaker thought, that the problems of heredity would eventually be solved, and they had been fairly well determined in connection with nervous diseases. As to how the diseases were actually acquired, he believed that in many instances this was accidental. It was known that locomotor ataxia was not inherited. Patients with that disease, as well as epileptics and paretics have had healthy children, who never developed any nervous disease. In regard to alcohol, Dr. Dana said he thought the craving for drink was a form of degeneration and mental weakness, which was inherited from parents or grandparents, who had defective constitutions. As a result of this inherited mental weakness, these persons were liable to various forms of psychoses. The drinking habit being so prevalent, the alcoholic psychosis was, naturally, very common. There were exceptional cases, however, in which the craving for drugs or alcohol was directly inherited, so that it showed itself in children during early life. In those instances, the children were born with a specific craving.

Dr. Alexander McPhedran of Toronto said he thought the term heredity was too widely used. Certain conditions could properly be spoken of as hereditary, while diseases could not. Tuberculosis could no more be regarded as hereditary than smallpox. Certain conditions and certain mental and physical states in children

usually followed the type obtaining in the parents. The term heredity should be restricted to such a tendency, and should not be applied to a disease with which the child became accidentally infected *in utero*. We were quite certain now that tuberculosis was an infective disease, and that children might be infected *in utero;* so also with syphilis and smallpox, and probably with scarlet fever and measles. If the term heredity was applied to a more restricted condition, it would, perhaps, be better understood. The accident of infection should not be classed with the inheritance of mental and physical peculiarities, which are, to a greater or less degree, constant.

Dr. William Mabon, discussing the subject from the standpoint of the neurologist, thought there were certain types of psychoses which were largely influenced by heredity, while upon other types it had little or no influence. He had seen some striking examples of the former type in some of the State institutions for the insane. In one instance a certain family had contributed a member or relative as an inmate of one of the various public institutions for fifty consecutive years. The fact must be recognized that many individuals whose parents have been insane would not of necessity become insane, excepting under peculiar stress. Such individuals had a lessened power of resistance, and when trials came they might break down under the increased burden. It was extremely difficult to secure any accurate statistics regarding previous cases of insanity in the patient's family. Many families were unwilling to disclose such facts in their history.

Dr. A. Alexander Smith, in closing, said that in no place in his paper had he taken the ground that a disease was distinctly inherited. He knew of no disease that could be regarded in that light. A disease with which a child was born was congenital, but not inherited. Tuberculosis and syphilis furnished examples of this type. He had, however, a very pronounced and emphatic feeling that heredity played a more important part in the development of certain diseases than the remarks of Drs. Abbe, Thompson, or Dana had conveyed to his mind. When they made the statement that it was some variation in the tissues that was inherited, they touched upon the important factor which he had endeavored to bring out in his paper, and wanted to emphasize now. With the possible exception of syphilis, we did not know of a single disease which was transmitted. Hamilton of Edinburgh had stated positively that syphilis could not be transmitted, while Jonathan Hutchinson claimed it could. Dr. Smith said he believed that heredity played an important part in the matter of the tissues, and the particular direction in which such hereditary influence showed itself developed a tendency to disease in that direction. The tendency to tuberculosis could only be called a tendency.

Death after Cerebral Embolism with a Ruptured Aneurysm of the Mitral Valve of the Heart.—Dr. Hermann M. Biggs showed a fresh specimen of a heart which had been removed from a man who had died suddenly several weeks after a cerebral embolism, the result, apparently, of a ruptured aneurysm of the mitral valve. There were two aneurysms on the aortic section of the mitral valve, one of which had ruptured. There were areas of extensive old and also a recent endocarditis affecting both the aortic and mitral curtains, and extending to the endocardium lining the left ventricle, covered with expansive vegetations. There were also isolated patches of disease in the aorta covered with vegetations and extensive thrombi in the auricular appendices. The heart was also interesting because of a very extensive defect in the auricular septum; the septum had two orifices, into each of which a finger could be readily introduced. The physical signs in this case had been limited to a loud basic murmur, which extended all over the upper portion of the chest and well up into the neck, and also a very loud systolic apex murmur, transmitted around the left side.

Gallstones.—Dr. Weir presented a specimen of a gall-bladder containing many small stones and a large one impacted in the cystic duct which he had removed without opening it, after having recognized through its thickened and somewhat distended walls several calculi and one particularly in the cystic duct, which could not be forced upward. The patient, a woman of thirty-eight, had had "cramping pains" at irregular intervals, but none so bad as the one which seized her four days before she was admitted to the Roosevelt Hospital. A painful tumor at the edge of the liver was recognized, though no fever or chills had been noticed. It was evident at the operation that a thickened and badly-inflamed gall-bladder co-existed with the cystic duct obstruction. No jaundice was or had been present, and her stools showed no alteration in color. Hence, instead of resorting to the usual procedure of first opening the gall-bladder and evacuating the contained calculi, which to a certain degree lends an increased risk from the probably infectious retained bile and secretions, the gall-bladder was quickly and easily separated from its liver bed, and with traction upon it the cystic duct beyond the obstructing gallstone was rendered readily accessible A double catgut ligature was passed around the duct, which was then divided, and the gall-bladder removed. An attempt was made to cover over the stump, but from its sinking deep into the wound this was difficult and was not persisted in. A rubber-and-gauze drain was then inserted. The gall-bladder, on being opened, showed not only thickening, but sloughing of its mucous membrane, and its fluid contents were decidedly purulent. Some forty or fifty calculi were found, and one, as large as the end of the finger, blocked up the cystic duct. The patient was doing well.

Dr. Weir then presented another set of gallstones, two of which, of rather large size, had been extracted, by a direct incision into the cystic duct for one of them and into the common duct for the other; the latter was some one and a half inches from the first cut, could not be forced through the original cut into the gall-duct. Several others, though smaller, were removed from the gall-bladder. The wounds in the ducts were left open, with drainage by a tube and gauze, down to, but not into, the duct. The gall-bladder itself was drained by a tube held in it by the inverted edges of the wound (the Kader principle). No jaundice existed in this case—only recurring attacks of pain. The stones, therefore, while caught, did not plug tightly the tube. It was an internal operation.

A third gall-bladder specimen was also shown by Dr. Weir, to illustrate a complication but recently recognized, and not yet recognized often enough to formulate the treatment. The gallstones presented were a dozen in number, and nearly of equal size, which was that of an average pea. The specimens had been removed from a woman of thirty-nine years, who had had several months ago a typical pain in the liver region, without jaundice. This recurred six weeks ago, with vomiting but no jaundice, and no change of color in the urine or stools. Three days prior to her admission to the Roosevelt Hospital another similar attack began, this time with jaundice. On her entrance into the hospital, this was already fading. On examination, there was no tumor nor decolored fæces or colored urine; no leucocytoses. The diagnosis made was escaping or escaped gallstones, with probable retention of others in the gall-bladder. On opening the shrunken and thickened gall-bladder, the few small stones were extracted, but palpation of the cystic and common duct failed to reveal any mass in them, but, on reaching the pancreatic region, a hard and large mass was felt, plainly due to a general increase in size of this part of the organ. Further examination to the left of the median line showed that the whole gland was increased in size and hardness, which, in some places was greater than in others. The query was at once raised whether this was neoplastic, or due to a chronic inflammation, perhaps to a

stone at present or previously impacted near the papilla of Vater, and allowing the entrance of bile into the pancreas. Nothing, however, could be felt to corroborate the latter view, and as the patient's condition, from the extra exploration which had been found necessary, was considerably deteriorated the wound was closed after a proper drainage had been inserted by Kader's inversion into the gall-bladder. A few days later, to test the patency of the common duct, some methylene blue was dropped through the drainage-tube into the gall-bladder, and, by its subsequent presence in the fæces, the patency of the gall-passage was established. Had this test, which Dr. Weir said had served him well in a number of instances, failed, it would have pointed toward a conviction of a blocking up of the pancreatic duct, and would have warranted a later opening of the duodenum, and the extraction of the obstruction. No evidence of pancreatic insufficiency had been found in the fæces. The patient was doing well, though no bile yet flowed from the drainage-tube in the gall-bladder.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

Stated Meeting, Held January 8, 1903.

HENRY HEIMAN, M.D., CHAIRMAN.

Vincent's Tonsillar Ulcer.—Dr. W. N. BERKELEY presented a child of six years having the Vincent tonsillar ulcer. Two nights ago the child complained of sore throat, and when first seen by the speaker yesterday there was slight fever, but no great constitutional disturbance. Examination showed a minute sloughing area over the upper margin of the right tonsil, about one-eighth of an inch in diameter. On pushing the slough aside with a swab, an excavated ulcer, about half an inch long, was revealed. Smears from it showed typical spirillæ, and the elongated bacilli described by Vincent. The precise relation of the bacilli to the spirillæ was not yet understood. As regards the treatment, nothing was necessary, except the use of antiseptic washes and liquid diet. Dr. J. Sobel, about one year ago, had described a series of these cases, and since that time a number of others had been reported.

Dr. CHARLES HERRMAN said that while there was no doubt about the diagnosis in this case these ulcers did not ordinarily present quite such a sharply defined margin, and were more of a greenish-brown color. The bacteriology of this disorder was still but little understood, and he thought in the future it would be shown that this form of ulceration occurred in other parts of the body than the throat.

Malnutrition with Small Heart.—Dr. SARA WELT-KAKELS presented a little girl showing malnutrition and anæmia. There was no history of syphilis, tuberculosis, or of nervous taint. This child was born at full term, but was a very small baby. She had always been thin and delicate, and appeared different from her sisters. Since last June various physicians had been consulted regarding her. Last September the child had been brought to her, suffering from severe and constant headache, lack of appetite, and constipation. Examination showed the child to be very much emaciated and pale, the complexion being almost greenish. Hypermetropia in both eyes was found, and was corrected by glasses, but this did not relieve the headache to any extent. The heart impulse could be felt in the fourth intercostal space, and the peripheral arteries appeared to be very small—so small that, in order to take the pulse, it was usually necessary to take it in the brachial artery. The child became cyanosed from time to time. One hour after a test-breakfast the contents of the stomach were examined, but nothing of great importance was found, except a deficiency in free hydrochloric acid. The daily quantity of urine varied between 350 and 500 c.c., instead of the normal quantity, 1,140 c.c. Microscopical examination of the centrifuged urine was negative. The quantity of urea excreted daily was 6.25 gms., instead of 18 gms. There was no sugar in the urine. Examination with the Gärtner tonometer showed the blood pressure to be only 69 mm., whereas normally it varied between 100 and 120 mm. The microscopical examination of the blood proved negative. Apparently, the condition was due to a hyperplasia of the blood vessels, or to a relatively small heart.

Dr. WELT-KAKELS then demonstrated the action of the Gärtner tonometer, the only convenient and satisfactory instrument at our command for taking the blood-pressure in clinical work.

Dr. HERRMAN said that these cases came under the group designated as infantilism. He now had such a case under observation, the patient being a boy.

Report of a Case of Paroxysmal Hæmoglobinuria.—Dr. CHARLES HERRMAN made this report. The subject of it was a boy of four years, born of apparently healthy parents. Very early in life the child developed unmistakable evidences of congenital syphilis, and was treated for this for about one year. On coming under observation, he was found to be rather undersized and anæmic. A hæmic murmur was heard in the neck. The heart and lungs were normal, and the spleen was not enlarged. Examination of the blood showed no malarial plasmodia. The attacks of hæmoglobinuria came on about ten o'clock in the morning, the child becoming, at this time, peevish, tired, and weak, and having a chill. Shortly after this a quantity of dark red, bloody urine would be voided. At first the attacks recurred at intervals of a few days, but there had now been no such attack for four weeks. On November 13 examination of the urine showed it to be brown in color, acid in reaction, and of a specific gravity of 1030. There was albumin. No red blood-corpuscles were found, on microscopical examination, but hæmin crystals could be obtained in the usual manner. According to the literature, only about twenty cases were on record, and there was a history of congenital syphilis in about one-half of the cases. The attacks could be produced artificially by cold baths, or by immersion of one extremity in cold water. Physical exertion and emotional shock were also causes. The theory was that hæmoglobinuria was preceded by hæmoglobinæmia. Dr. Herrman said he had examined the blood of this patient, applying various tests to it. The application of cold to the capillary tube containing the blood produced no change. An elastic ligature was placed around the index finger, and the hand and a portion of the forearm were placed in water at 45° F., for ten minutes. The part became cyanotic, and on the withdrawal of the blood coagulation took place in the usual way, and the serum was red, whereas it was yellow after the circulation had been restored. It was remarkable how this patient would recover so rapidly after apparently a severe attack; he would be playing around within an hour after the attack. When there was a history of syphilis, the administration of mercury and the iodides caused rapid improvement. The attacks were apt to recur in the winter, and continue for a number of years. In giving the prognosis, the possibility of the development of nephritis must be borne in mind. It was well to give the protoiodide of mercury for five days, and alternate this for a like period with peptonate of iron. The kidneys should be thoroughly flushed out by the free ingestion of water. When the attacks were frequent, the patient should be kept perfectly quiet, and during cold weather should remain in the house, and always be warmly clad. One observer had reported that he had been able to cut short the attack by the inhalation of the nitrite of amyl. The speaker suggested that a warm mustard bath would answer the same purpose.

Dr. L. E. LA FETRA said that during the past summer he had met with a case which might be called malarial hæmoglobinuria, yet it was not a pure case of this kind.

No plasmodia could be found in the blood, yet the administration of quinine increased the interval of the attacks, and prevented their recurrence for the past two months.

Dr. Henry Heiman said that the case reported was particularly interesting, because of the existence of syphilis of the kidney, as well as of the vascular system. An arteriosclerotic condition had probably been produced by the syphilitic virus.

Dr. Herrman said there must be some other factor than arteriosclerosis, because this was quite common, whereas paroxysmal hæmoglobinuria was exceedingly rare. The additional factor was probably a peculiar excitability of the vasomotor system.

Otitis Purulenta Neonatorum et Infantum.—Dr. Max Toeplitz presented a paper with this title. He said that in the infant the tympanic ring was much shorter than in the adult. The mastoid antrum and middle ear of the child were nearer the surface of the skull than later in life. The Eustachian tube in the child was wider, shorter, and more horizontal than in adult life. Prior to 1893 otitis purulenta of infants was considered an independent disease. In some cases the very high temperature and the presence of stupor or of convulsions suggested cerebral disease. A positive diagnosis of meningitis could only be made by lumbar puncture. Otoscopy in children was comparatively easy, but not so in the infant or new-born. The acute stage of otitis lasted from a few hours to a week or more, and terminated in spontaneous perforation, or in chronic otitis, or else in death from meningitis. The extension of inflammation took place through the mastoid-squamous fissure. In children primary inflammation of the labyrinth manifested itself by fever, convulsions, a tendency to vomiting, dulness of the sensorium, stiffness of the nape of the neck, and an irregular pulse. In children the patrous bones were rapidly destroyed. All the acute otitides were due to bacteria, chiefly the diplococcus pneumoniæ, the streptococcus pyogenes, and the staphylococcus pyogenes. These microorganisms usually entered through the Eustachian tube, by means of the nasal douche, or during sneezing or blowing the nose. The chief complications were facial paralysis, mastoid disease, brain abscess, and sinus thrombosis. Inflammations of the ear were twice as frequent in children as in adults.

After the diagnosis had been made, and this was not always easy, the child should be kept quietly in bed, given fluid nourishment, and the bowels should be thoroughly evacuated. Steam and hot water-bags were useful until it was evident that pus had accumulated, when paracentesis should be done at once, after having carefully sterilized the ear. The opening should be made in the posterior inferior quadrant of the drum, and the canal then closed with sterile gauze. Spontaneous perforation sometimes occurred, but it was always irregular, and was apt to leave irregular scars in healing, which interfered with the hearing later in life. As a rule, the discharge continued after both spontaneous and artificial opening of the drum. Under ordinary conditions it was best to employ the dry method of treatment, *i. e.* wiping off the secretions and dusting with a thin layer of some antiseptic powder, and then closing the canal with sterile cotton. This treatment was, however, only applicable when done under the supervision of the physician, or of a very intelligent attendant, and hence, in a large number of cases it was necessary to rely upon syringing.

Dr. E. Gruening said that in children one should very often look in vain either for a circumscribed bulging or a bulging of the whole drum of the ear in the presence of otitis. Inspection was more apt to show a general thickening of the epidermis and an obscuring of the usual land marks, and when this condition was present he would not hesitate to perform paracentesis of the drum. It was well in these cases always to examine both ears. He had seen quite a number of cases this winter, which had been complicated with bronchitis. It was almost wonderful how quickly the cough would subside after puncture of the ear drum. This fact seemed to point to the bronchitis being secondary to the otitis. It was impossible to make the external auditory canal aseptic; hence, the simplest method of treatment was by syringing. The use of a piston syringe required two hands; therefore, it was better to use a fountain syringe with the reservoir elevated only about six or eight inches above the head of the patient. In adults he preferred the dry treatment. As deaths had been reported, in which even by post-mortem examination nothing was revealed but the otitis media, the importance of prompt and efficient treatment was evident, and he would advise puncture of the ear drum when in doubt.

Dr. Carl Koller said that it had become evident in recent years that sinus thrombosis was comparatively common, and was the result of direct infection of the bulb of the jugular vein in the acute cases. Cases of pyæmia had been known to occur without any apparent thrombosis of the sinus.

Dr. E. Fridenberg said that it had been his lot to see a rather large number of middle-ear diseases in children which simulated other affections, and were consequently not recognized until the discharge from the ear occurred. These cases were not of the bronchial type, but were associated with gastroenteritis, or with intestinal catarrh. Some of the cases had been, at first, treated by their attending physicians for typhoid fever. In middle-ear suppuration in children one was apt to meet with great restlessness, or even with slight coma. He agreed entirely with Dr. Gruening as to the necessity of a free incision into the ear drum, in cases presenting severe symptoms, and evidence of accumulation of fluid behind the drum. The term "paracentesis" was unfortunate, because the old paracentesis needle was a very inefficient instrument, not giving a sufficiently large opening into the drum. The incision should be large and free—what might be called an internal Wilde's incision. He was not inclined to believe that any mechanical introduction of bacteria found in the nose or pharynx would ever produce a middle-ear disease, without the existence of a systemic condition predisposing to such disease. The intensity of middle-ear disease in children was explained by the anatomical conditions described in the paper, and also by the great thinness of the roof of the tympanic cavity.

Dr. Charles G. Kerley emphasized the importance, for those practising among children, of becoming familiar with the appearance of the normal ear. It was very awkward to make a diagnosis of pneumonia and then to find that the fever and urgent symptoms had most unexpectedly subsided on the appearance of a discharge from the ear. In his own experience these affections of the ear had been almost invariably associated with adenoids. He could not agree with the last speaker regarding the harmlessness of nasal douches, for he had known of one institution which made a practice of using saline irrigations of the nose and throat to keep its aurist quite busy until this practice was abandoned. He preferred making use of irrigations of 1 to 10,000 solution of bichloride of mercury every three hours at first, in cases of suppurative otitis.

Dr. Fridenberg explained that he, too, believed that irrigations, by inflicting traumatism, would cause otitis media, but, in his previous remarks, he had had in mind the use of the Politzer bag. His contention was that traumatism produced by the injection or irrigation was sufficient to produce otitis, irrespective of the question of the introduction of bacteria.

Dr. Toeplitz, in closing, said that he was in favor of using irrigations at first as often as every hour, the fluid having a temperature of 108° or 110° F. Baginsky made it a rule to examine the ears of all children coming to him, and he had found some affection of the ear in 80 per cent. of the children. Dr. Toeplitz said he had seen otitis purulenta

produced in very many instances after a douche or after bathing. This he explained on the theory that bacteria were carried in by the fluid. In performing paracentesis of the ear drum he made use of a knife of special shape, in order to insure a very free incision.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending January 10, 1903:

	Cases.	Deaths
Measles	120	6
Diphtheria and croup	344	46
Scarlet fever	206	11
Smallpox	1	..
Varicella	110	..
Tuberculosis	246	164
Typhoid fever	80	11
Cerebrospinal meningitis	..	..

GRATITUDE.

"Thank God for the doctor," the layman cried,
As he watched him with bated breath,
And saw the physician with skilful touch
Save the one that he loved from death.
"Thank God for the doctor," he humbly moaned.
"Every hour of my life I owe
To him who has saved us this life to-day;
Saved the home from its grief and woe."
There were honest tears in the layman's eyes
As he held, in a vise-like grip,
The doctor's hand that was thin and cold,
And pressed it with fervent lip.

. . . .

What a lovely thing is this gratitude!
How sweet the reward we gain!
For the labor we do for the sick and weak;
Our labor of hand and brain!
What a wealth we have for our daily work
For those who are sad and ill,
How sweet to the ear is the grateful word
Until we present the bill!
Oh, wise was the man who of Old Nick wrote
"When sick quite a monk he'd be,"
But gaining his health—what a truth it was—
That "devil a monk was he."

—Geo. Thos. Palmer.

Wonderful Old Men.—Men of thought have always been distinguished for their age. Solon, Sophacles, Pindar, Anacreon, and Xenophon were octogenarians; Kant, Buffon, Goethe, Fontenelle, and Newton were over eighty years; Michelo and Titian were eighty-nine and ninety-nine years respectively. Harvey, the discoverer of the circulation of blood, lived to be eighty years. Many men have done excellent work after they have passed eighty years. Landor wrote his "Imaginary Conversations" when eighty-five years old. Izaak Walton wielded a ready pen at ninety years. Hahnemann married at eighty years and was working at ninety-one years. Michel Angelo was still painting his giant canvases at eighty-nine years, and Titian, at ninety years, worked with the vigor of early years. Fontenelle was as light-hearted at ninety-eight as at forty years, and Newton, at eighty-three years worked as hard as he did in middle life. Cornaro was in far better health at ninety-five years than at thirty years, and as happy as a boy. At Hanover Dr. Du Boisy was still practising as a physician in 1897, going his daily rounds at the age of 103 years. William Reynold Salmon, M.R.S.S., of Conbridge, Glamorganshire, died on March 11, 1897, at the age of 106 years; at the time of his death he was the oldest known individual of indisputably authenticated age, the oldest physician, the oldest member of the Royal College of Surgeons, England, and the oldest Freemason in the world.—*Scientific American Supplement.*

Japanese Police and Rats.—The following account exemplifies the thorough manner in which Japanese officials carry out their orders: The *Drogisten Zeitung* says, last month the police of Kobe distributed to every house in town a package of arsenic, with directions for the use of the poison printed on each package, which latter was to be used in the destruction of rats, in accordance with the plan of the Department of Health in fighting the plague. A very prominent citizen of Kobe, and a political leader of some note, on the day after the distribution was made, called at the office of the Kobe *Chronicle* and lodged a complaint to the effect that he had been grossly insulted by the police. According to his account, a police officer on the foregoing day had walked into his dwelling, and without a word handed him a package marked "Arsenic." "What is that?" asked he. "That's for you," answered the officer. "For me?" inquired the astonished citizen, in whose mind, no doubt, visions of a hint to betake himself to the unknown shore after the "good, old" Japanese fashion, were floating. "Yes—for—you," repeated the policeman, pausing after each word to emphasize it. "The order has gone forth that all vermin shall die!" This was all that the astonished editor could get out of the wrathy politician, and the latter went away still raging against "the insult the police had put upon him."—*National Druggist.*

A German Ambulance Train.—Although it is impossible altogether to prevent railway accidents, it seems, at least, that some thing can be done to relieve the sufferings of those who have been injured. Both in America and in Germany ambulance trains are now in use, which are kept ever ready to be sent out for the purpose of affording speedy relief to the maimed.

The train, so far as its narrow limits permit, is as admirably equipped as any modern hospital; its operating room is fitted up with an operating table, with all the necessary appliances of antiseptic surgery. The ward of this hospital on wheels has eight removable beds, which can be used as litters, if need be. Reclining chairs complete the furniture of the ward. Every German railroad has a certain number of these ambulance trains, the road being divided into sections, and a train assigned to each. Trains are always side-tracked at a station, ready to be sent out. As soon as news of an accident is received, the water tanks are filled, and the railroad surgeons—who live in the vicinity of the stations—are called by telephone. Even the fast limited trains must give way to the surgeons, and are side-tracked, in order that the ambulance may speed to the scene of the accident. The admirable system which has been devised, renders it possible for the surgeons to reach the injured within half an hour after they have been informed of the accident.

Blood-sucking Mosquitos.—The habit of sucking blood is an acquired habit, confined to the female anopheles. The male insect will, at times, alight on a hand held perfectly immobile, and will probe about with his suctorial mouth, as if inclined to bite, but will invariably fail to do so. In a species of culex—culex elegans—the male is also a blood-sucker, and quite as voracious as its female. The female of a maculipennis will readily bite when enclosed in a test-tube, the open end of which is held in contact with the skin; but it is almost impossible to induce some culices to bite under such conditions. A pseudopictus, like the culices experimented upon, would not bite when enclosed in a glass tube. Anopheles of both sexes will readily suck up the juices of plants, and the females can be kept alive for several months by feeding them with sliced ripe fruit. The habit of sucking blood from a

vertebrate is not peculiar to mosquitos only, but is exhibited by various diptera. In some it is common to both sexes, but usually it is confined to the female, and may probably be connected with the development of the eggs.—Dr. Louis Sambon in *British Medical Journal.*

Temperature of 110° F. in an Infant Ten-Days Old.—C. W. Kahl reports the case of an infant of ten days whose temperature reached 110°, equal to 112° had the graduation extended as the mercury raised. It would be difficult to say how far the mercury would have risen had the author possessed a longer thermometer. There had been no action of the bowels in twenty-four hours. There was tympanites and every evidence of great pain. Cold baths were given every two hours, castor oil in 1 dr. doses was administered every four hours. Strychnia sulph., gr. ⅛; quinine sulph., gr. v; syr. simp., three ounces, was given in 1 drachm doses every two hours. The abdomen was rubbed with sweet oil and turpentine. On the next day the temperature was still as high, but the child rested better, and had a better appearance; there was no action from the bowels, although several doses of the oil had been administered, so magnesium sulphate was given every half hour and there was free action. At six P.M. of the same day the temperature was 99½°; the stools were at first hard and curded, followed by green and slimy stools. This condition lasted two days. The following day the temperature was 99°, the child nursed, slept well, the tympanites had disappeared. There was complete recovery.—*Pacific Medical Journal.*

Paroxysmal Tachycardia Associated with Epilepsy.—R. Travers Smith describes a case, the features of which he thus summarizes: (1) The patient inherited a predisposition to epilepsy. (2) The tachycardia commencing in early life, its sudden paroxysmal nature, its mysterious appearance, disappearance, and reappearance, its tendency to become more frequent and severe, are all suggestive of functional epilepsy. (3) The patient's vacant look in a paroxysm, the impairment of memory, occasionally amounting to unconsciousness, indicate a mild degree of the psychical disturbances of epilepsy. (4) The occurrence of polyuria after a paroxysm of the heart, as after epilepsy. (5) Minor epilepsy showing itself as well as the tachycardia, both occurring frequently, but without apparent order or sequence. (6) The subsequent appearance of major epilepsy in the same patient. (7) The decided improvement (if only for the time being) of the paroxysmal tachycardia on the administration of potassium bromide. (8) Perturbation of the heart's action has been observed as an aura in epilepsy.—*Medical Press and Circular.*

The Treatment of Acne Vulgaris.—George Henry Fox says that massage or pinching of the skin for a minute or two at a time will often give to a dry, barsh cheek a soft, smooth, and oily feeling. In a case of acne it quickens the cutaneous circulation, and hastens the absorption of nodules; it destroys all pustular lesions, whether superficial or deep seated; it tends to empty distended glands and obstructed sebaceous ducts, and gives life and tone to a skin whose inactivity is the prime cause of the disease in question. Many lengthy chapters and journal articles have been written on the therapeutics of acne. If the author were asked to give the practical treatment of the disease in the fewest possible words, he would simply recommend cold bathing, strict diet, systematic exercise, and the frequent use of the curette.—*The Medical Examiner and Practitioner.*

The High Value of Normal Saline Solution.—Even at the expense of reiteration, the value of normal salt solution in certain major conditions may be emphasized. Experience has abundantly shown that it is safe to employ hypodermically, and that its effect is prompt and more decided than possible to obtain by other means. Six drachms of sterilized salt dissolved in one gallon of sterilized water is the proportion which may be readily used, and this solution at a temperature of from 110° to 120° F. may be injected into the loose subcutaneous tissue in varying amounts and at varying intervals, according to the demands of the case. Normal salt solution is thus indicated in shock, hemorrhage, and in acute septic and toxic conditions.—*The Clinical Review.*

The Use of Spectacles in the British Army.—It seems, says the *Lancet*, October 25, that we are henceforth to become accustomed to what has hitherto been a rare sight in the army—many spectacled soldiers. From a paragraph in the *Army and Navy Gazette*, October 18, we learn that it has been proposed to issue spectacles to such soldiers of the British and native troops serving in India as may require them, to correct defects of vision. Medical officers have, our service contemporary understands, been called upon to report how many men will require glasses and the probable cost per annum involved thereby. Meantime, in order to carry out these instructions, the optical means of testing the vision of British and native soldiers in India will presumably have to be issued.

A Substitute for a Hair Pillow may be made by slipping a newspaper between the pillowcase and the feather pillow.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending January 10, 1903:

SMALLPOX—UNITED STATES.

		CASES	DEATHS.
California, Sacramento	Dec. 20–27	1	..
San Francisco	Dec. 21–28	12	..
Colorado, Denver	Dec. 20–27	3	..
Illinois, Chicago	Dec. 27–Jan 3	6	..
Indiana, Evansville	Dec. 27–Jan. 3	..	1
South Bend	Dec. 27–Jan. 3	1	..
Maine, Biddeford	Dec. 27–Jan. 3	26	..
Maryland, Baltimore	Dec. 27–Jan. 3	1	..
Massachusetts, Boston	Dec. 27–Jan. 3	20	4
Cambridge	Dec. 27–Jan. 3	5	..
Chelsea	Dec. 26–Jan. 2	1	..
Fall River	Dec. 27–Jan. 3	3	..
Lawrence	Dec. 27–Jan. 3	1	..
Michigan, Grand Rapids	Dec. 27–Jan. 3	7	..
Nebraska, Omaha	Dec. 27–Jan. 3	3	..
New Hampshire, Manchester	Dec. 27–Jan. 3	8	..
Nashua	Dec. 27–Jan. 3	2	..
New Jersey, Camden	Dec. 27–Jan. 3	3	..
New York, Buffalo	Dec. 27–Jan. 3	1	..
New York	Dec. 27–Jan. 3	4	..
North Carolina, Charlotte	Dec. 1–31	126	21
Ohio, Cincinnati	Dec. 26–Jan. 2	7	1
Cleveland	Dec. 27–Jan. 3	7	1
Dayton	Dec. 27–Jan. 3	10	..
Pennsylvania, Altoona	Dec. 27–Jan 3	..	3
Erie	Dec. 27–Jan. 3	..	5
Philadelphia	Dec. 27–Jan. 3	15	1
Pittsburg	Dec. 27–Jan. 3	16	7
Williamsport	Dec. 27–Jan. 3	1	..
Rhode Island, Newport	Dec. 27–Jan. 3	1	1
Warwick	Dec. 24–31	4	..
South Carolina, Charleston	Dec. 27–Jan. 3	4	..
Tennessee, Memphis	Dec. 27–Jan. 3	4	..
Wisconsin, Green Bay	Dec. 28–Jan. 4	2	..
Milwaukee	Dec. 27–Jan. 3	4	..

SMALLPOX—FOREIGN.

Argentina, Buenos Ayres	Oct. 1–31	..	12
Belgium, Ghent	Nov. 8–15	..	1
Ghent	Dec. 6–13	..	2
Brazil, Bahia	Nov. 29–Dec 13	12	..
Canada, Quebec	Dec. 20–27	2	..
Ecuador, Guayaquill	Dec. 13–20	..	3
France, Marseilles	Nov. 1–30	..	37
Great Britain, Leeds	Dec. 13–20	11	..
Liverpool	Dec. 13–20	56	..
London	Dec. 6–13	1	..
Manchester	Dec. 6–13	3	..
Italy, Palermo	Dec. 6–20	25	..
Mexico, City of Mexico	Dec. 14–28	4	1
Russia, Moscow	Nov. 29–Dec. 6	4	..
St. Petersburg	Dec. 6–13	16	3
Turkey, Constantinople	Dec. 7–14	..	1

YELLOW FEVER.

Colombia, Panama	Dec. 22–29	4	..
Ecuador, Guayaquil	Dec 13–20	..	12
Mexico, Tampico	Dec. 20–27	..	14
Vera Cruz	Dec. 20–27	14	4

CHOLERA—INSULAR.

Philippine Islands, Manila	Nov. 2–15	184	124
Provinces	Nov. 1–15	252	170

CHOLERA—FOREIGN.

Egypt, Alexandria	Dec. 1–13	82	64

PLAGUE—UNITED STATES.

California, San Francisco	Dec. 11	1	1

PLAGUE—FOREIGN.

Mexico, Ensenada	Dec 31, 1902	Officially reported.
Mazatlan	Dec. 31, 1902	Officially reported.

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Original Articles.

A CONTRIBUTION TO THE PATHOGENESIS OF THE URÆMIC STATE; THE PROBABILITY OF ITS PHYSICO-ELECTRIC SUBSTRATUM.

BY HEINRICH STERN, PH.D., M.D.,
NEW YORK.

ALTHOUGH it is universally understood that uræmia can only arise on the basis of renal insufficiency, there is a discrepancy of opinion as to the nature of its immediate causative factor or factors and to the mode of action of the retained metabolic substances.

Various excrementitious matters, such as carbamid, ammonia and its carbonate, creatin and creatinine, leucin, urochrom, pigmentary substances, and the potassium salts, alone or by their concerted operation, have been held responsible for the production of the uræmic state. The action of the retained substances is considered to be chemicotoxic by the vast majority of clinicians and investigators.

Abundant evidence, however, has been furnished that none of the retained, known products of metabolism are in themselves toxic to any degree. Ignoring for the present hypothetical toxalbumins and unidentified organic molecules, we find that the most pronounced poisonous qualities are yet divulged by the retained potassium salts. As a matter of fact, however, their quantity in the serum, even if complete anuria has prevailed for some time, is too insignificant to give rise to the grave manifestations which we designate as uræmic. Besides, the symptom-complex of potassium poisoning is not exactly alike to the one of uræmia, and, furthermore, there is no conclusive proof at all that the amount of potassium in the ash of uræmic blood is invariably increased.

Senator, in his work on renal diseases,[1] as regards the etiology of uræmia, occupies the same standpoint as did Meissner, Voit, Fleischer, and others before him, namely, that it is not the result of the retention of one specific urinary constituent, but of a number or of all such substances. Practically the same view is held by Bouchard,[2] according to whom uræmia is not the consequence of a single toxic principle, but the product of all those retentia which normally enter into the composition of urine.

Strauss,[3] the latest exponent of the chemicotoxic theory, who, after the example of v. Korányi,[4] tries to fix the origin of uræmia upon retained organic molecules derived from albumin disintegration, opines that his conception of the etiology of uræmia is more precise than that of Bouchard. With this I cannot concur, because he was neither able to describe the exact nature of these organic molecules, nor did he offer proof of their supposed specific toxicity; Bouchard and his followers, I think, stand upon a less hypothetic basis when they declare that we do not find in the blood of uræmia other factors than those exhibited in the normal state.

The physico-toxic theory of the causation of uræmia is based upon the frequently observed fact that there exists an augmentation of the molecular concentration of blood serum in uræmia, and upon the additional assumption that this higher concentration is due to accumulation of normal products of retrograde tissue-metamorphosis.

If there occurs no synchronous decline of the general metabolic processes, or if no, or but insufficient, vicariousness is displayed by other emunctories when the excretory activity of the kidneys, the organs paramount in depressing the osmotic tension of the blood, is diminished or totally suspended, the crystalloid substances rapidly accumulate in the serum, causing it to be hyperosmotic.

That most instances of uræmia are characterized by augmented molecular concentration of the blood serum is demonstrated by the determination of the latter's freezing-point. The freezing point of normal blood-sera lies between -0.55 and -0.57°C. A further depression of the freezing-point is indicative of the retention in the blood of abnormal amounts of soluble molecules. In nephritis *without uræmic manifestations* the mean freezing-point of the blood, calculated according to the findings of v. Korányi, Kossler, Lindemann, M. Senator, Rumpel, and Strauss, is situated between-0.58 and -0.59°. The average freezing points of the blood in various types of nephritis *with uræmia*, calculated from results obtained by aforementioned investigators and by Strubell and Kümmell, lie between -0.61 and -0.67°.

Lindemann,[5] who is of the opinion that the increased osmotic pressure of the blood is expressive of the prevailing disturbance in uræmia, was the first to maintain that most uræmic phenomena could be accounted for by the hyperosmotic condition of the blood.

I had given a somewhat similar interpretation to the various investigations some time before I heard of Lindemann's publication. My first communication upon this subject, entitled "Osmotic Pressure and Its Relation to Uræmic Manifestations,"[6] was, however, not read until the meeting of the American Medical Association at St. Paul, in June, 1901.

The phenomena occurring in the blood after injections of large amounts of concentrated salt solutions are the same as those in uræmia; they make their appearance together with the higher concentration of the blood when the elimination of the accumulated substances from the blood, on account of the resorptive qualities of the tissues, does not occur any longer.[7]

Novi[8] observed tonic and clonic convulsions in dogs after intravenous injection of a 10-per-cent. sodium chloride solution, in such amounts that the blood possessed twice its former molecular concentration, and he maintains that the origin of these convulsions is due to withdrawal of water from the cortex cerebri, a view, although expressed as early as 1887, practically concurs with the more recent teachings of osmosis.

In a rabbit, weighing 1,320 grams, I have observed convulsive phenomena after intravenous injection of 60 c.c. of a 15-per-cent. solution of NaCl. Cryoscopy showed $\vartheta = 0.72$, a marked depression from the normal.

The great number of molecules dissolved in the

plasma causing its hyperosmosis, tend to diffuse toward the less concentrated body liquids. During the uræmic state, the intercellular liquid in certain tissues may already possess a greater molecular concentration than the serum itself. Ultimately, all the fluids of the body present a similar degree of concentration.

The point of attack and the origin of the uræmic convulsive phenomena, according to the experiments of Landois[8], is situated without any doubt in the psychomotor centers of the cortex cerebri. This investigator, who found that extractive substances and salts applied upon the psychomotor centers of the cortex cerebri in dogs give rise to pronounced convulsive attacks resembling minutely the eclamptic or uræmic convulsions in men, maintains that the prodromic stage of uræmia is formed by the "continuous irritation" of some part of the nervous system by the crystalloids and other excrementitious material in the blood. He does not, however, account satisfactorily for the mode of production of the "continuous irritation," which, viewed in the light of osmology, may be an expression of the hyperosmotic condition of the blood and liquids in the brain.

Against this etiological conception of uræmia it could be maintained, as Strauss (*loc. cit.*), for instance, has done, that there are cases in which no analogy had been observed between the degree of molecular concentration and the intensity of the uræmic manifestations. While this contention is true enough, there are, on the other hand, very few instances of uræmia on record in which the freezing point of the serum was not depressed below -0.58°. Cases of chronic uræmia in which the freezing point of the blood serum was situated between -0.56 and -0.58°, that is, at the normal degree, are not only infrequent, but should be excluded from this consideration, for the reason that they are often spurious (many clinicians too readily designate as uræmic any and all nervous phenomena occurring during the course of chronic nephritis), and that the individual attacks are often very slight, which may be indicative of but little altered osmotic condition in the blood plasma or of a quickly passing hyperosmosis.

The not-existing parallelism between the degree of molecular concentration and the intensity of the uræmic process could be rather a question of personal equation, as in all other bodily conditions, than an exceptional or specific phenomenon. While hyperosmosis of the serum is the rule in uræmia, Korányi, and his followers consider it a concominant phenomenon and not its etiologic factor. Apart from the few instances in which uræmia had terminated lethally when Δ had been -0.57° and lower they draw attention to the fact that Δ had been found considerably depressed in a variety of disorders in which uræmia had not appeared. Looking, therefore, upon uræmia as a chemicotoxic process they assume that the specific poison consists of derivatives of perverse albumin catabolism; that is, of large almost insoluble or insoluble molecules, which, if at all, participate but very slightly in osmotic tension, and do not materially depress the freezing-point.

Among fourteen cases of uræmia following the chronic interstitial or the mixed form of nephritis which came under the observation of Strauss there were three, viz., one of mild, chronic uræmia, one of chronic and one of acute uræmia, in which the freezing points of the respective sera were normal. In the case of mild chronic uræmia the amount of retained nitrogen was about twice as large as in the normal; in the two other instances it was excessively increased. Although the more or less depressed freezing-points concurred with an increase of retained nitrogen, in the remaining eleven instances there appeared to be no parallelism between them. For instance, in a case in which Δ was -0.68°, the retained nitrogen amounted to 266 milligrams in 100 c.c., and in another in which Δ was found to be -0.69° the retained nitrogen amounted to 122 milligrams, that is, less than half of the former.

Furthermore, the promulgators of the theory according to which uræmia originates from the circulating derivatives of the albumin molecule, like the adherents of the physico-etiological theory, cannot demonstrate a direct parallelism between the substrate and the resulting phenomena; that is, in this instance, between the amounts of retention nitrogen and the severity of the uræmic manifestations.

Accepting, however, augmentation of retained nitrogen in uræmia as a proven fact, there is no evidence that an eventual serotoxicity is caused by accumulation of products of normal nitrogenous decomposition alone, or by such of altered albumin catabolism, or that its eventual poisonousness is of a purely chemical nature.

The albumin molecule is a complex molecule. Being soluble to a very slight degree only, if at all, it does not participate in depressing the freezing-points of the serum or other body liquids in which it is contained. On the contrary, the complex nitrogenous molecule not influencing osmotic tension of the liquid and representing the principal non-electrolyte of the blood-serum averts complete dissociation of the electrolytes and thereby further depression of the freezing point.

The non-electrolytes do not only interfere with dissociation; that is, they do not only limit the number of ions, but also retard their movement. The presence of non-electrolytes, therefore, disturbs and diminishes the conductivity of the electrolytes; that is, the electrical conductivity of the watery liquid in which they are contained.

In uræmia the large amount of retained nitrogenous material prevents dissociation of the total electrolytes, and reduces the electrical conductivity of the existing ions. In the concentrated serum of uræmia the excess of albuminous retentia increasing the friction of the ions diminishes or prevents their motility. The proportion of non-dissociated, neutral molecules to the active, the ions is excessively large. While the ions as independent molecules participate in increasing osmotic pressure and in depressing the freezing point, the excessive high osmotic tension of uræmic serum is not due to its ions, but to its contents of neutral molecules. The ions alone, in the number in which they usually occur in uræmic serum, would neither increase its osmotic condition to any extent, nor would they materially depress its freezing point.

Determination of the freezing point of uræmic blood discloses therefore but one fact, namely, that of its high molecular concentration, its hyperosmosis, it does not reveal the presence of excessive amounts of nitrogenous substances, nor is the freezing point of the serum, *per se*, an indicator of its degree of electrical conductivity.

Dissociation of electrolyte molecules into ions occurs in the ratio of the dilution of the watery solution. The larger the amount of water the more readily ensues this process, the greater the proportionate number of ions and the electrical conductivity. Molecular conductivity is entirely independent of molecular concentration. The greater the amount of the dissolving agent within a certain limit, the greater the conductive properties of a given amount of electrolytes.

In acute uræmia, when complete anuria prevails, the dissolving agent occurs in larger absolute amounts; relatively, however—that is, in proportion to the total retained excrementitious substances, it is not increased.

The conductivity of human blood serum increases with its dilution. In other words, the more concentrated the serum the less its conductive qualities. Uræmic serum consequently displays a low degree of electrical conductivity.

Viola[10] investigating the relation of serum dilution to serum conductivity found the following:

DILUTION.	PHYSIOLOGICAL CONDUCTIVITY (in reciprocal Ohms).
Undiluted Serum	111.8
1 Serum + 1 Water	125.61
1 " + 3 "	141.76
1 " + 7 "	151.06
1 " + 15 "	154.02
1 " + 31 "	162.62
1 " + 63 "	160.98
1 " + 127 "	164.26
1 " + 255 "	158.41
1 " + 511 "	152.57
1 " + 123 "	130.56

The principal non-electrolytes of the blood serum are the albumin substances and their derivatives, of which it contains about 7 per cent.; all other non-conductors, such as glucose, lecithin, cholerestin, etc., occur in too insignificant quantities to interfere materially with the conductivity of the serum. During the uræmic state, the nitrogenous products of catabolism in the serum are found to be greatly augmented; the other non-electrolytes are never found increased to such a degree as the albumin derivatives are. In coma diabeticum, on the other hand, it is likely that the hyperglycæmic condition stands at the foundation of a diminished electrical conductivity of the serum.

Bugarszky and Tangl[11] found that the addition of 1 per cent. albumin to the blood serum caused an average diminution of 2.5 per cent. of the latter's electric conductivity. (They also demonstrated that about 7 per cent. of the serum electrolytes consisted of NaCl, that Na_2HP_4O does not exceed 3 per cent. and that the remainder consists almost entirely of Na_2CO_3. Thus it evinces that the electrolytes of the blood serum are mostly inorganic salts; the organic salts occur in such small and varying amounts that, normally, they do neither diminish nor augment the electrical conductivity of the serum to any extent.)

The experiments of Bugarszky and Tangl leave no doubt that the albumin molecule diminishes the physiological conductivity of the blood serum; being acquainted with the fact that addition of carbamid, for instance, to a solution of NaCl prevents the latter s complete dissociation, we may go a step further and assume that all the complex organic molecules retained in the blood serum occasion its diminished state of electrical conductivity.

Diminished electrical conductivity of the serum seems to be the direct etiological substratum of the uræmic attack; the lowest conductivity of human blood yet found, 98.29, was demonstrated in the serum of a case of uræmia gravis cum coma (Viola, *loc. cit.*). In healthy individuals the same observer found the conductivity of the serum between the extremes 106.18 and 119.*

Infusion of water, or under certain conditions, of artificial serum, with or without preceding abstraction of blood, dilutes the serum in such a manner that it may exhibit greater conductive properties. This therapeutic evidence of the reduced conductivity of uræmic serum is obtained in a certain proportion of cases only, preeminently in such on the basis of parenchymatous nephritis. In others, therapeutic measures avail nothing whatsoever. A number of reasons may be assigned for this, viz., dilution of the serum may not have been sufficient; albuminous retentia may have been present in too large a quantity; normal electric conductivity may have been suspended for too long a period, or secondary changes may have taken place. As a general rule, the less retention nitrogen in the serum the greater the chances of reestablishing its normal conductivity by dilution, that is, by enhancing dissociation of the retained molecules. Thus, it seems the uræmic phenomena in parenchymatous nephritis can be more readily and frequently subdued than in the interstitial form; one reason, and probably the most formidable, for this is, that in the former the retained nitrogen never or hardly ever exists in the enormous amounts in which it is found in the interstitial type.

The occurrence of greater amounts of retention nitrogen in the serum of uræmia on the basis of interstitial nephritis will, in a measure, explain its greater "virulence." While the retained nitrogen without any doubt reduces the physico-electric qualities of the serum, and while the co-ordinate and successive manifestations commonly designated as uræmic may be accounted for by the diminution or partial suspension of electrical conductivity in the serum, the accumulated albumin derivatives possibly call forth a secondary intoxication, which may be particularly noticeable when certain uræmic sera are intravenously injected into animals. This procedure, however, does not absolutely demonstrate the chemicotoxicity of the uræmic blood in the organism whence it is derived. Manipulation of of the blood, and may it be conducted under ever so many precautions, always changes its physical condition, and is never without influence upon its chemical nature. Diminished conductivity of the serum is such an inevitable and potent factor in the production of uræmic phenomena, that its importance overshadows the eventual occurrence of a secondary toxicosis.

An additional fact was pointed out by Bugarszky and Tangl, namely, that temperature elevation of 1° C, causes an increase of 2.21 per cent. in serum conductivity. Recalling that in most instances of uræmia, especially in those accompanied by deep and prolonged coma, the body temperature is considerably lowered, we understand again that diminished conductivity of the blood serum stands at the foundation of the uræmic syndrome. The influence of temperature upon the degree of electrical conductivity, however, is not only observed in pathological states like urænia, but in all phases and conditions of protoplasmatic life. With few exceptions, the higher the temperature the greater the dissociation of electrolytes, the greater again the chemical activity and the evolvement of heat, but if beyond a certain degree the greater the danger for the continuance of the life of the organism. The lower the intraorganic temperature the smaller, as a rule, the dissociation of electrolytes, the slower the vital processes. A temperature below a certain degree is inimical to the maintenance or production of a proper conductivity of the fluids of the protoplast or total organism, and consequently to the continuance of vital functions.

Recapitulating the principal points dwelled upon

*Viola mentions also a case of "chronic nephritis with uræmia" in which the conductivity of the serum amounted to 125.19. It is not stated whether uræmia in this instance was of a chronic nature, which seems most likely. As he designated the other case as "uræmia gravis cum coma," we may conclude that in the instance of chronic nephritis with uræmia the uræmic phenomena were of a mild character.

and derived at in the foregoing, it is made evident that the uræmic state arises on the foundation of diminished electrical conductivity of the serum, or at least, that insufficient serum conductivity is a potent contributing factor toward its production.

1. None of the retained known products of metabolism are in themselves toxic to any degree.

2. In uræmia there is a higher molecular concentration of the blood serum, which is due to the accumulation of normal products of catabolism.

3. Hyperosmosis of uræmic serum is evidenced by determination of its freezing point. The freezing points of normal blood sera lie between -0.55 and -0.57° C., those of uræmic blood sera are depressed to between -0.61 and -0.67° C.

4. The point of attack and the origin of the uræmic convulsive phenomena is situated in the phsychomotor centers of the cortex cerebri; the hyperosmotic condition of the blood and liquids in the brain may occasionally furnish the stimulus to the uræmic attack, but there is no analogy between the degree of molecular concentration and the intensity of the uræmic process.

5. In uræmic serum there occurs invariably an abnormally large amount of retained nitrogen. There is no parallelism between the degree of freezing point depression and the amount of retained nitrogen.

6. Non-electrolytes do not only interfere with complete dissociation, that is ionization, but also retard ionic movement. Their presence, therefore, lessens the electrical conductivity of the watery liquid in which the electrolytes are contained.

7. In uræmia the large amounts of retained albuminous derivatives exhibit most potent non-electrolytic qualities.

8. The ions as independent molecules participate in augmenting osmotic tension and in depressing the freezing point; the excessive high osmotic pressure of uræmic serum is not due to its ions, but to its contents of neutral molecules.

9. Determination of the freezing point of uræmic serum discloses the fact of its high molecular concentration, but not the degree of its electrical conductivity.

10. Dissociation of electrolyte molecules into ions occurs in the ratio of the dilution of the watery solution. The more concentrated the serum the smaller its conductive qualities.

11. The conductivity of the blood serum of healthy individuals varies between 106.18 and 119.12. The lowest conductivity of human blood yet found, 98.29, occurred in a case of uræmia.

12. Intravenous injection of water for therapeutic purposes dilutes uræmic serum in such a manner that it may exhibit greater conductive properties.

13. Normal conductivity of the serum is more readily and frequently re-established if the uræmic state has developed on the basis of parenchymatous nephritis than if it occurs as the consequence of interstitial nephritis. A most potent reason for this is the fact of the existence of smaller amounts of retained nitrogen in the parenchymatous than in the interstitial type of the affection.

14. In most instances of uræmia, especially in those characterized by deep and prolonged coma, the body temperature is considerably lowered. This fact again contributes toward reduction of serum conductivity. Elevation of temperature, on the other hand, as long as within well-defined limits, tends to increase the conductivity.

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REASONS FOR BELIEVING THAT THE ONLY WAY IN NATURE* FOR YELLOW FEVER TO BE CONTRACTED BY MAN IS FROM THE MOSQUITO.†

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This article is intended mainly for the busy medical man, who, from want of time and lack of opportunity has not kept up with the details of the remarkable revolution which has taken place during the last few years, in our knowledge of the etiology and prevention of yellow fever.

Havana, the chief focus and home of yellow fever, was constantly afflicted by that disease, never a month without deaths from it, from 1762 to September, 1901, a period of about 140 years. Eight months subsequent to the beginning of the American antimosquito sanitary work, which was based entirely upon the mosquito idea of the propagation of that disease, yellow fever had disappeared altogether from Havana, and since, up to the present time—an interval of fourteen months, embracing two autumns and a summer—not a single case of the disease has occurred in that city. The intervening summer was an unusually hot one, and the city contained an unusually large number (at least 40,000) of recently-arrived non-immunes—just the conditions, which under the former régime must inevitably have produced a severe epidemic of yellow fever.

Sanarelli's proposed solution of the yellow-fever problem, of which we had such high hopes four or five years ago, has been proven untenable by numerous high authorities and skilled investigators. The United States Army Yellow-Fever Commission, composed of Major Walter Reed and Doctors Carroll, Lazear, and Agramonte, United States Army, which visited Havana first in the early summer of 1900, investigated its claims and found that:

"1. The Bacillus icteroides, Saranelli, stands in no causative relation to yellow fever, but when present should be considered as a secondary invader in this disease.

"2. The mosquito serves as the intermediate host for the parasite of yellow fever."

This commission returned to the United States the same summer, two of its brave members having had yellow fever, from which one of them, Dr. Jesse W. Lazear, died, thereby adding one more noble

*Yellow fever can with great certainty be produced by inoculating non-immunes with blood taken from persons affected with that disease; but, for obvious reasons, this cannot be called a natural method.

†Read before the American Public Health Association, New Orleans, La., December 10, 1902.

name to the long roll of medical martyrs who have yielded up their lives trying to help their fellow-men.

The latest utterance I have read about the Bacillus icteroides, that of Dr. Porthier, a member of the recent "United States Public Health and Marine-Hospital Commission on the Investigation of the Yellow Fever and Mosquitos in Vera Cruz," is, in part, as follows:

"The Bacillus sanarelli was doomed. The work of Reed and Carroll as to the transmission of yellow fever by the *Stegomyia fasciata* has been entirely corroborated." (*Journal of the American Medical Association*, November 8, 1902, p. 1207).

In 1881 Dr. Charles J. Finlay, a scholarly scientist, a British subject, born in Cuba, and a resident of Havana, promulgated the theory (now an established fact) of the transmission of yellow fever by the mosquito, and singled out the guilty species, now called *Stegomyia fasciata*. For many years subsequently he conducted experiments and published numerous articles attempting to convince the medical profession of the correctness of his views. In one of his contributions, read at Buda-Pesth in 1894, he recommends the following measures against the propagation of yellow fever through mosquitos, which, from our present point of view we may call prophetic:

"1. To prevent those insects from stinging yellow-fever patients.

"2. To destroy, as far as possible, the mosquitos which have been infected.

"3. Finally, to consider any place unsafe so long as the last mosquitos which have stung yellow-fever patients may be alive in it."

The beginning of this philosophic work of Finlay antedated by two or three years any of the mosquito-malarial theories and demonstrations. It occurred about the same time (but altogether independently) as the discovery by Sir Patrick Manson of the transmission of the *filaria nocturna*—the worm which causes elephantiasis Arabum—by mosquitos.

The brilliant work of Ronald Ross—1895-1899—Grassi, Marchiafava, Celli, and others, especially that of the first-named scientist, establishing the cognate fact of the conveyance of malaria by the anopheles mosquito, had great influence in leading to the demonstration of the transmission of yellow fever by mosquitos.

The clear-cut, scientific observations and classical contributions of Surgeon H. R. Carter, U. S. Marine Hospital Service, showing the interval (about two weeks) which occurs in houses between the first (infecting) case and the first group of cases secondarily infected; so interesting and impossible to explain by the fomites theory, are now readily understood in the light of our present knowledge of the elaboration of the yellow-fever poison in the body of the mosquito—that process requiring not less than twelve days.

The Army Medical Commission, presided over by Walter Reed, First Vice-President of this association for the present year, whose recent untimely death—an incalculable loss to the medical profession and to humanity—we are now mourning, returned to Cuba in the autumn of 1900, and resumed their mosquito-yellow-fever investigations. The reasons given by Major Reed for taking up the mosquito problem were:

"1. Finding that Sanarelli's bacillus had nothing to do with the causation of yellow fever.

"2. The unsatisfactoriness of the proof of the propagation of the disease by fomites.

"3. The perfect demonstration by Ronald Ross, and the Italian observers, that the anopheles mosquito is the intermediate host and conveyer to man of the malaria parasite.

"4. Carter's establishment, published in May, 1900, of the two to three weeks' interval between the first (infecting) case of yellow fever in a house or ship and the subsequent outbreak or group of cases."

This commission's subsequent work continued during the remainder of the autumn, and following winter, 1900-1901.

They produced thirteen cases of yellow fever by having non-immunes stung by contaminated mosquitos (*Stegomyia fasciata*). Three other cases were produced by direct inoculations of the blood of yellow-fever patients.

These experiments were conducted in such a manner as to make it impossible for the patients to have contracted the disease in any other way. Each case was diagnosed positively as yellow fever by the official yellow fever commission of Havana, composed of such eminent experts as Finlay, Gorgas, Guitéras, and Albertini. The function of this commission was to make diagnosis of all cases reported as suspicious of being yellow fever.

The famous paper read by Major Walter Reed before the Pan-American Medical Congress, Havana, February, 1901, describes his flawless procedures which leave no possible room for doubt that yellow fever is contracted by man from the mosquito. Nevertheless, the medical profession of Havana remained unconvinced, and similar experiments, with similar results, were repeated during the succeeding year inside the city of Havana, at Las Animas Hospital, of which I was at the time the director. An "Inoculation Station" was established in that hospital, under the immediate charge of Dr. John Guitéras. Eight experimental cases were then produced at Las Animas. The diagnoses were verified by the Yellow Fever Commission of Havana. During their illness the patients were unrestrictedly visited by the leading physicians of Havana.

Thus, it will be seen that twenty-one well-marked cases of yellow fever—Reed's thirteen and Guitéras's eight—representing the different varieties and intensities of the disease, were unquestionably caused by the bite of contaminated mosquitos, within the established incubation period (one to six days), with almost mathematical precision. Three of these mosquito-borne cases proved fatal, and the necropsy revealed the characteristic lesions of yellow fever. The demonstration of the fact that yellow fever is produced by the mosquito was then, for the first time, accepted as complete by the physicians of Havana.

It now remains to consider whether or not yellow fever is capable of being produced in nature in any other way. This question is so important, and doubt in regard to it so natural, that I shall give in detail two sets of experiments—one (1) conducted for its elucidation at Quemados, by the United States Army Commission, the other (2), at Las Animas Hospital, by myself. In these two sets of experiments every possible effort was made to cause yellow fever by fomites, the result in each instance being a signal failure:

"1. There was erected at Camp Lazear (one mile from Quemados, and about seven miles from Havana) a small frame house with a cubic capacity of about 2,800 feet, tightly ceiled and battened, provided with small windows, so as to prevent a thorough circulation of air through the house, and with wooden shutters to prevent the disinfecting qualities of sunlight. The windows were closed by permanent wire screens with a 5 mm. mesh. The

vestibule was protected by a solid door and a wire screen door, and the inner entrance by a second wire screen door. In this way the passage of mosquitos into the room was effectually excluded. The average temperature was kept at 76.2° F. for a period of sixty-three days, and precaution was taken to maintain sufficient humidity of the atmosphere. On November 30 three large boxes filled with sheets, pillow-slips, blankets, and so on, contaminated by contact with cases of yellow fever and their discharges, were received and placed in the room. Most of these articles had been taken from the beds of patients sick with yellow fever in Havana. Many of them had been purposely soiled with the excretions of patients. These soiled sheets, pillow cases, and blankets were used in preparing the beds in which the members of the hospital corps slept. During sixty-three days this building, thus furnished, was occupied by seven non-immune persons. Three of them occupied the room each night for twenty days. Later, a fourth box of clothing and bedding was added, some of it purposely soiled with the bloody stools of a fatal case of yellow fever. Two of them occupied beds from December 21 to January 10, every night wearing the very garments worn by yellow-fever patients throughout their entire attacks, making use exclusively of their much-soiled pillow-slips, sheets, and blankets. At the end of twenty-one nights they went into quarantine (as had the former three) and were released five days later. Two other non-immunes occupied the same beds for twenty days more. The attempt, therefore, which was made to infect this building and its seven non-immune occupants during a period of sixty-three days was an absolute failure; all seven were released from quarantine in excellent health."

Later on some of these same men were bitten by yellow-fever mosquitos, and promptly came down with yellow fever.

These fomites experiments have been pronounced inconclusive by many medical men upon the grounds, chiefly, that they were conducted during the winter season, and in the country, outside the city.

The following extract from my "Report of Experiments with Yellow-Fever Fomites at Las Animas Hospital, Havana, Cuba, September-November, 1901," read before the International Sanitary Congress, Havana, February 10, 1902, sets forth the principal details and results of the second set of experiments, in which the objections urged to the first set are removed.

"2. Two rooms were selected in buildings constructed of masonry, about 150 meters apart, both within the hospital enclosure. These rooms were thoroughly renovated, provided with doors and windows of wire gauze—mosquito proof—being further protected by vestibules of the same material. All the cracks and rough places in the walls, ceilings, and floors were smoothly sealed; and an abundance of pyrethrum powder burned in the rooms, in order to preclude the possibility of the presence of any mosquitos. One of these rooms was called the observation room, and the other the experimental room.

"The observation room was fitted out with furniture, utensils, bedding, and clothing, which had been thoroughly disinfected, so that there could be no suspicion of extraneous contamination.

"In the experimental room were placed numerous bundles containing clothing, bed clothes, and bedding, which had recently been used in the sick rooms and on the persons of patients ill with yellow fever; much of it badly soiled with discharges and excreta of said patients. These articles had been used by Venturo Trillo Ramos and Juan Lago, at the private hospital La Benefica, Havana (usually an infected place), and by patients in the hospital at Columbia Barracks, Quemados, Cuba. All these cases had been diagnosed as yellow fever in their respective hospitals, and confirmed as such by the Yellow Fever Commission of Havana. The cases of Juan Lago and Vicente Real were fatal, the latter having presented, during its course and at the autopsy unmistakable appearances of malignant yellow fever.

"Eight men, newly arrived on the island, five Spanish, two Italian, and one English, all healthy, by no possibility immune, were procured from the immigration station, Triscornia, across the bay from Havana, as subjects for our experimentation.

"Two of these men were placed in the observation room on September 27, and confined there for more than a week. At the end of that period they were transferred to the experimental room, where they were kept for seven days. They were then released and given light work in the hospital grounds. When they were removed from the observation room, two others of the subjects were placed therein for seven days—afterward taking their turn in the experimental room for the same length of time. In this way, all eight of the men, after rigid physical examination, went through the observation and experimental rooms, two by two, emerging thereform in good health, and remaining so until all possibility of having contracted yellow fever had passed away.

"While in the experimental room the subjects used, upon their persons for sleeping, the night shirts, pajamas, bedding, bed-clothes, etc., above described, soiled with fecal dejections, black vomit, and blood. From time to time other packages, containing similarly soiled fomites, were introduced, and the subjects required to shake them frequently within the room. While in the observation room, the men were not allowed to leave it, except for necessary exercise, and then under guard. While in the experimental room, they were not allowed outside under any condition. Their food was carried to them, and there were guards over them night and day.

"A careful clinical record was kept of each man during the fourteen days he was kept in the observation and experimental room. The temperature, pulse, respiration, appetite, etc., of all eight continued practically normal throughout.

"At the beginning of these proceedings written invitations were sent to the physicians of Havana, requesting them to visit Las Animas at their pleasure to observe the progress of the experiments.

"I beg leave to call especial attention to the following facts in connection with those experiments, viz.:

"1. They were conducted in the city of Havana itself, within whose beautiful limits, until recently, Cuba's yellow sorrow had run riot continuously for 139 years.

"2. They were conducted in buildings, similar in construction and material (mamposteria) to those occupied by people of the poorer classes of the city—damp, poorly lighted, badly ventilated, floors on the level of the ground.

"3. They were conducted at the season of the year when, in this latitude, the dreaded scourge is at its worst, and does its most deadly work. Said period comprising the latter part of September, the whole of October, and the first part of November—the height of the yellow fever season at Havana.

"Military-Governor Wood, with his characterisically clear perception, appreciated, from its very beginning, the promise and importance of the mosquito-yellow-fever work in Havana. He gen-

erously provided the funds for the experiments and for the large expenditures, sometimes $35,000 a month, subsequently and consequently required by Major Gorgas, the Chief Sanitary officer, for the successful conduct of the antimosquito crusade. Major Reed, in the paper referred to above, expresses sincere thanks to 'Major-General Leonard Wood, U.S.V., without whose approval and assistance these observations could not have been carried out.'"

For 140 years prior to the late Spanish-American war, Havana had never been free from yellow fever; the annual number of deaths from that disease having averaged from 500 to 1,000, some years as many as 1,600—largely among the Spanish soldiers, great numbers of whom were imported every year up to 1898. During the first two years of American occupation the sanitary authorities devoted themselves energetically to putting the city in good hygienic condition, and especially to measures then considered most effective against yellow fever, such as the destruction and disinfection of fomites and localities supposedly infected by that disease. The result was a rapid decrease of all infectious diseases, except yellow fever, and an enormous diminution of the general mortality rate. Smallpox, which had been a terrible scourge under the Spanish administration, disappeared entirely in July, 1900, and has not returned since. Nevertheless, the amount of yellow fever in the city did not diminish along with other fevers, showing that ordinary sanitary measures had no effect upon it. There was more yellow fever in Havana during December, 1899, than in any December for several previous years. In 1900 there was a sharp epidemic, and in December of that year there were twenty deaths from yellow fever in the city. In January, 1901, there occurred twenty-four cases in Havana. In February, 1901, Major Gorgas, having fully accepted the demonstration of the propagation of yellow fever by mosquitos, turned all the energies of himself and his department to (1) The protection of yellow-fever patients from mosquitos. (2) The prevention of the infection of mosquitos by yellow-fever patients. (3) The destruction, by fumigation, etc., of all possibly-infected mosquitos, and (4) The abolition of all water barrels, pools, and other breeding places of mosquitos in Havana.

Practically no attention was paid to fomites, of which at the time there must have been a great abundance in the city. No attempt was made to get rid of fleas and bed-bugs, by which Havana is, at all times, infested. The result of this concentration upon the mosquito, and neglect of every other supposed cause of yellow fever, was a rapid subsidence of that disease until within less than eight months the last case had occurred in the city; after which yellow fever disappeared entirely. Not a case of it has occurred in Havana since September 27 1901; although during the summer and autumn just ended patients sick with yellow fever, contracted in Mexico and Central America, were frequently carried through the heart of the city from the ships by which they had been imported, to the yellow-fever hospital. During their transportation from ship to shore, and along the streets, they were kept carefully covered with mosquito netting, and upon arriving at the hospital, were placed in wards made mosquito-proof by wire-gauze screens. In the same wards were treated, at the same time, non-immune patients, sick with other diseases, and they were attended by non-immune nurses. That yellow fever is contracted solely from the mosquito is now so firmly and universally believed in Havana, that no one has the slightest fear of patients affected with that disease, provided the said patients be protected from mosquitos and the mosquitos from them.

It is contended by the opponents of the mosquito doctrine that the disappearance of yellow fever from Havana may not have been due to Major Gorga's active anti-mosquito measures; because yellow fever had frequently disappeared, for considerable periods, from Santiago and other Cuban cities. But the conditions were quite different in Havana and the smaller cities. In the latter, the number of non-immunes was always very small, and the epidemic of yellow fever in one of these soon ceased, on account of the consumption of susceptible material; whereas, in Havana, the commercial, military, and yellow-fever center of the island, the number of non-immunes was always large, thousands of immigrants coming into it every year, constituting an uninterrupted and inexhaustible stream of fresh material for keeping up yellow fever in an epidemic form.

All of the many able, cultivated, trained American medical officers—among them such men as General Wood, Surgeon-General O'Reilly, Major Kean, Major Gorgas, Captain Stark, Surgeon Carter, and Surgeon Glennan, and others, who were in Havana, and who had personal knowledge of the mosquito-yellow-fever experiments and demonstrations made there, were, without exception, completely convinced that yellow fever is transmitted to man exclusively by the mosquito. This is exceedingly strong evidence, to my mind, of the correctness of the proposition stated in the title of this paper. Had our distinguished colleagues, who do not agree with us, been on the ground as we were, and seen with their own eyes, as we saw, the exactness and completeness of the proofs, I believe they would have been convinced, as we were.

The idea, held by some able and prominent medical men, that yellow fever may be transmitted by bed-bugs, fleas, and other suctorial insects, is, in the light of our present knowledge of insects and disease, highly improbable. Bed-bugs and fleas are found all over the world, in all climates, and at all seasons of the year; whereas, yellow fever is restricted to certain tropical and sub-tropical regions, and prevails only in the summer and autumn.

Another highly significant fact, in this connection, is that while yellow fever was melting away like ice under a summer sun before Major Gorgas's anti-mosquito operations, the city of Havana was infested with bed-bugs, fleas, etc., galore; no attention being paid to them by the sanitary department, and that the same prevalence of these blood-suckers has continued throughout the subsequent fourteen months, during which the city has remained free from yellow fever.

The transmission of yellow fever by bed-bugs, fleas, or any other living entities, other than mosquitos, would be in violation of an established law governing the propagation of parasitic diseases, of which there are a great many. Each of said diseases, common to man and lower animals, is shared by man with only one other animal. In order to get from one human being to another, its parasite has to pass from man to the intervening animal and thence back to another human being—one variety of tape-worm from man to the pig, and from the pig back to man; another variety of tape-worm from man to the ox, and from the ox back to man; the germ of malarial fever from man to the anopheles mosquito, and from this insect back to man. Very many other similar instances might be cited. Each parasite has its own limited cycle, out of which it cannot live. As Ronald

Ross states: "All these are not theories or fancies, but hard facts, won by science at the cost of immense labors carried out by many scientific men during many years."

Although the germ of yellow fever has not been found (no more has that of smallpox), yet, the scientific and circumstantial evidence is practically positive that it is an animal parasite, whose cycle requires a certain length of time, and is very similar to that of the malarial parasite. We know that the yellow-fever germ goes from man to the stegomyia mosquito and from the stegomyia back to man. No instance has ever been advanced in which there seemed to me even a possibility that yellow fever had been transmitted by bed-bugs, fleas, or flies. Certain it is that no such case has occurred in Havana during the past fourteen months, in which yellow fever has been absent from that city, although, as shown above, unequaled opportunities for such an occurrence have there been constantly in existence.

Carter, in a very able contribution (Yellow Fever Institute Bulletin, No. 11) sums up as follows:

"For the belief that yellow fever is conveyed in nature *only* by a host, and doubtless a mosquito host, we have (1) The analogy of other diseases conveyed by insect hosts. (2) That all facts observed about the propagation of yellow fever agree with the necessary deductions of this theory. (3) No other theory explains all the facts observed of its propagation."

The fact that so many, perhaps all, of the peculiarities and problems of yellow fever, impossible to understand formerly, are explainable and capable of solution by what we know of mosquitos and their relation to disease, is highly interesting and important. A few of these are:

Its singularly restricted area; its dislike for altitude, upper stories, plateaux, mountains, etc.; its partiality for the sea-coast and low-lying districts; its incommunicability from man to man; the meaning of "place infection"; the interval, two to three weeks, between first (infecting) case and subsequent group of cases (Carter); its frequent appearance at sea several weeks after vessels had left port; its arrest by frost and cold weather; its survival through winters; its absence from Asia and India, etc.

Of the problems elucidated by the discovery of the mosquito origin of yellow fever, I cite the knottiest of them all, the second outbreak on board the U.S.S. *Plymouth*, in 1879 (utterly inexplicable to me under the fomites, or any other, theory). The *Plymouth* sailed from New England early in October, 1878; arrived at St. Thomas, W. I. (a yellow-fever stronghold), on October 21, where she went alongside the wharf and coaled ship, remaining until October 25. The officers and stewards were allowed to go on shore during this time. On the 25th she went to Frederickstadt, Santa Cruz. November 4, while at Frederickstadt, a case of yellow fever appeared on board. Between the 4th and 7th seven cases occurred on board. On the 7th the *Plymouth* started north; after which date no fresh cases occurred in the ship. On December 1 she reached Portsmouth, N. H., where the weather is usually cold at that season of the year. From Portsmouth she went to the near-by city of Boston, where she was emptied of her crew and stores, opened up and frozen out during January and a part of February, 1879. The vessel had been several times fumigated with burning sulphur. February 12, 1879, she was recommissioned, and, on March 15, started back to the West Indies. March 19, "the damp berth-deck became very warm; a tropical condition prevailed." March 21, immediately after reaching the tropics, and before she had touched at any port, yellow fever broke out among her crew.

The solution afforded by the mosquito doctrine is simple and satisfactory: The *Plymouth* left the West Indies on November 7, 1878, with fresh yellow-fever cases, and, doubtless, with numerous contaminated mosquitos, on board. As soon as she entered winter weather, about December 1, the infected mosquitos went into hibernation and remained torpid until they re-entered the tropics, when some of them became active and stung certain of the men, thereby giving two of them yellow fever.

That mosquitos hibernate is a well-known fact. Theobald, in his standard monograph, states that mosquitos hibernate in the extreme cold of the arctic regions; that the gravid females seek shelter as soon as the weather becomes cold, lie dormant all winter, and deposit their eggs in early spring. Howard, the highest American authority upon the subject, says in his capital work ("Mosquitos," page 6): "Mosquitos hibernate in the adult condition." In conversation with this distinguished entomologist in Washington the other day (November 22, 1902), Howard used these words, which I took down verbatim: "The stegomyia hibernates in the adult stage. I have a strong suspicion that it hibernates in the egg stage also."

Too much admiration cannot be accorded to Major Gorgas for the superb manner in which he accomplished the deliverance of Havana from yellow fever. In planning and conducting this creative work, without any precedent to guide him, he showed not only consummate administrative and executive ability and foresight, but also genius of a high order. After it was finished it was impossible for us to look back upon it and point out any particular in which the work could have been improved.

At the recent meeting of the Conference of State and Provincial Boards of Health of North America, at New Haven, Conn., it was resolved concerning Major Gorgas's sanitary redemption of Havana, that, "we regard (it) as one of the most brilliant achievements of the application of sanitary science to public health work ever accomplished."

The Meaning and Significance of Leucocytosis.—Robert N. Willson says that the term leucocytosis must include every increase in the absolute number of the leucocytes of the blood examined, as well as every increase in the percentage counts of the various leucocytic forms. A leucocytosis, of whatever nature, must always be regarded as a sign of clinical importance, but never of such weight as to influence against equally convincing physical signs. A high percentage of the polymorphonuclear forms in the absence of an absolute leucocytosis indicates the presence either of pus or of some grave inflammatory process, together with a low vitality of the patient. Single counts of the leucocytes, or single estimations of the leucocytic percentage, are often misleading, while a persistent series of observations will seldom fail to aid in the diagnosis and treatment of the condition. A gradual, but steady rise in the total count of leucocytes above the customary number, usually indicates the presence of an active and augmenting inflammatory influence. When this increase reaches large proportions it may be looked upon as an indication of the presence of an active leucocytic process (serous or purulent effusion, localized pus collection, pneumonic exudate, etc.), provided the clinical picture also bears out the suggestion.—*Proceedings of the Philadelphia County Medical Society.*

ANKYLOSIS OF THE CRICO-ARYTENOID ARTICULATION, DUE TO ACUTE INFLAMMATORY CAUSES.*

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THE condition known as ankylosis of the crico-arytenoid articulation is one which has been recognized and fairly understood for years. Various distinguished writers have exploited it, some of them in comprehensive articles. Either they have not expressed themselves with sufficient emphasis as to certain of its features, or else the subject has failed to attract the general attention which its importance deserves. Nothing is more common than to find that a case of laryngeal ankylosis has been mistaken for one of paralysis, and that to prove the existence of the latter fruitless efforts have been made to demonstrate some condition capable of producing pressure upon or injury to the recurrent laryngeal nerve.

It should be more generally known that ankylosis of the arytenoid is not exceedingly rare, that it may result from comparatively simple causes, and that it may be present in an otherwise healthy subject.

Laryngeal ankylosis may exist under varying conditions. It is not the intention of the writer of this article to deal with those cases in which the fixation of the arytenoids is bilateral, nor with those complicated with extensive cicatrization of the larynx due to former destructive lesions. In the latter cases the condition is obvious and diagnosis easy. The cases which present especial difficulty, however, are those in which there is no visible suggestion in the larynx of former disease, and in which, between simple fixation of one crico-arytenoid joint on the one hand and a genuine paralysis of the muscles controlling its movements on the other, no apparent difference can be discovered. It is this type of the affection in which confusion arises and in which radical errors of diagnosis are commonly made.

The majority of cases of laryngeal ankylosis have been supposed to be due to perichondritis resulting from syphilis, gouty or rheumatoid arthritis, cancer, and tuberculosis. The exanthemata, diphtheria, and various traumatisms may also be followed by it. Many cases, however, are the result of inflammatory conditions of a more simple nature, and it is in such instances, as well as in cases following the exanthemata, that errors of diagnosis appear to be most commonly made. Occurring as the immediate effect of a violent acute local inflammation, there should seldom be any doubt as to the true character of the lesion. When, on the other hand, a case presents itself long after the date of the original causative attack, the differential diagnosis between ankylosis and paralysis is not always easy, especially when a clear history of acute laryngeal inflammation has not been obtained. From among a number of cases seen by the writer at various times during a considerable period of observation those herewith presented have been selected as being especially illustrative. Any acute inflammation of the posterior region of the larynx attended with infiltration may cause a temporary fixation of the crico-arytenoid joint. Thus, in the following case is shown one of the processes by which such a condition may be produced.

CASE I—*Acute Laryngitis, Temporary Fixation.*—Male, aged twenty years. This patient had a violent acute pharyngitis, with follicular tonsillitis. Examination of cultures failed to demonstrate the presence of diphtheria. Following this there was an acute laryngitis attended with much swelling of the left arytenoid, which, with the whole of the left side of the larynx, was almost immovable, with the vocal band in the median line. There was considerable œdema, pain, and dysphagia. Under ordinary treatment the inflammation subsided and the natural movements of the left side of the larynx were completely restored.

Such cases as this are by no means uncommon. It is easy to understand that under more violent or longer-continued inflammation, a genuine perichondritis might be excited, through which the fixation might become established to a permanent degree.

CASE II—*Phlegmonous Pharyngitis Causing Unilateral Crico-arytenoid Ankylosis.*—Male, aged forty years, a native and resident of Yucatan, referred to me by Dr. Desvernine of Havana. Laryngoscopic examination showed fixation of the right side of the larynx in the cadaveric position. Patient had syphilis twelve years ago, but had lately been under treatment with no effect in ameliorating the condition of the throat. Tuberculosis was excluded, nor was there evidence of old pleuritic thickening, nor any distinct evidence of disease of the greater vessels on the right side of the thorax. This latter feature of the case was investigated with greatest care, the patient finally having a radiograph of the chest taken by Dr. Williams of Boston without any positive results. Leprosy is common in Yucatan, but there was present no symptom whatever of it. There was no infiltration, the failure of motion was not such as is commonly seen in epithelioma of the larynx, there was absence of lancinating pain, of swelling outside the larynx and of glandular involvement. The hoarseness had existed for a number of weeks. After an elaborate series of investigations had been brought to a close this patient finally remembered to explain that several months before he had suffered from a violent phlegmonous inflammation of the pharynx, in the course of which the right tonsil was greatly enlarged and suffocation was threatened. Had this fact been elicited at the outset much labor and loss of time would have been spared, for this case is precisely similar to the others of its class herein recorded. There was no paralysis, but there was ankylosis originally due to an acute perichondritis. In this case the patient was advised to reassure himself as to the existence of serious organic trouble, to return home, and to carry out the plan of treatment rationally indicated.

CASE III—*Unilateral Ankylosis Following Diphtheria.*—Female, aged forty years. Twenty years before my first examination she had a severe attack of laryngeal diphtheria. Since that time her voice has been altered in quality, vocalization has always been more or less difficult and on many occasions the patient has been aphonic. At times she has suffered from obstructed breathing, especially when the pharynx and larynx have been congested from colds or other causes, and on several occasions the dyspnœa has been severe. Laryngoscopic examination showed fixation of the right arytenoid in the cadaveric position. Careful investigation failed to reveal any cause of pressure upon the right recurrent laryngeal nerve, or any evidence that it had been in any way injured or diseased. The fixation of the joint was absolute. The treatment carried out in this case has been followed by excellent results. It has consisted in attention to the general condition of the patient and in immediate measures to stop a beginning cold or, if this has failed, to reduce as far as possible the violence of its symptoms. Although this patient has been obliged to reside in a particularly irritating climate she has been able to fill an

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important social position with conspicuous success. Not always, however, with entire comfort to herself. She has been advised as to the nature of her trouble, and the importance of any sign of further closure of the glottic aperture.

Since recording the above, four years ago, the patient has recently been examined. During this time she has passed the climacteric. The condition of the throat is now in every respect vastly improved, all congestion and thickening in the soft tissues of the larynx has disappeared, the vocal bands appear to be of normal whiteness, the voice is fairly strong and of good quality. The position of the right side of the larynx remains unaltered. While the excursion of the left arytenoid is exaggerated on account of the position of the right vocal band beyond the median line, this very fact is an advantage in the matter of breathing, as the glottic aperture is thereby distinctly increased in diameter. This patient reports a remarkable increase in the power of chest expansion during the past five or six years. She is in perfect health.

Case IV—*Unilateral Ankylosis, Following Diphtheria.*—Female, aged nineteen years. When a child had a severe attack of laryngeal diphtheria. This was followed by permanent hoarseness of the voice. Examination of the larynx showed fixation of the right crico-arytenoid joint; the arytenoid was immovable. There were no signs of paralysis of the recurrent laryngeal. The voice was hoarse, rasping and weak. The patient had never experienced any marked difficulty in breathing. This, like the preceding case, was one of ankylosis of the right crico-arytenoid joint, due to violent inflammation of the larynx caused by diphtheria.

Case V—*Complete Ankylosis of Right Crico-arytenoid Articulation Following Typhoid Ulceration of the Larynx.*—Male, aged thirty-five years. The patient suffered from an attack of typhoid fever attended with numerous severe complications and sequelæ. About the sixth week of the progress of the enteric disease the voice became hoarse, and pain and difficulty in swallowing began to be present. Examination of the larynx revealed intense congestion throughout the whole of its interior and in the neighborhood of its upper limits, most marked upon the right side. This congestion increased rapidly, the focus of the inflammation being apparently inside the larynx and toward the right of the posterior commissure. At this point an ulcer quickly developed. The latter was peculiar in character and distinctly different from any of the lesions commonly met with in this locality. It was about three-eighths of an inch in diameter, deep, destructive, and surrounded by a zone of fiery inflammation. In view of the nature of the general attack, the peculiarities of the lesion and the liability of various parts of the upper air tract to infection during the progress of typhoid fever, the diagnosis, typhoid ulceration of the larynx was obvious. The progress of the laryngeal disease was rapid and severe, and from beginning to end the symptoms were such as to excite the greatest apprehension. Following the first appearances of congestion in the larynx, tumefaction of all its soft parts took place to such an extent as to imminently endanger the patient's life. Thus all of the neighborhood of the posterior commissure and the arytenoid cartilages, the false vocal cords and the epiglottis quickly became œdematous, the œdema advancing day by day until dyspnœa became urgent. Meanwhile, as the result of the severe and long-continued illness, the patient's general condition was most grave, and any attempt at tracheotomy would have been attended with serious results, the heart action being particularly feeble and uncertain. It was thought best to watch the case with unremitting care, to control the local conditions as well as possible by local means, and in case of necessity, resort to intubation. The duration of the urgent laryngeal symptoms was about ten days. At the end of this time they began to show signs of improvement, the laryngeal ulcer took on a more healthy aspect, the surrounding œdema subsided, and the general comfort of the patient was increased. Although the symptoms present during the height of the attack gradually improved, the patient remained aphonic. During the early part of the attack, as the inflammation progressed, the movements of the arytenoids became restricted, especially upon the right side; here they finally ceased, the vocal band being fixed a little to the right of the median line. With the subsidence of the inflammation the loss of motion upon the left side gradually disappeared, and the full excursion of the arytenoid in abduction was re-established. Not so with the right; from the time when the inflammation had reached its height all motion was absolutely lost. The aphonia, however, began to disappear as the soft parts regained a more natural condition. A lapse of several years finds this patient in perfect and robust health. The chest expansion has markedly increased. The right side of the larynx is still fixed, but the voice is of good strength, and quality, excellent carrying power, and capable of almost incessant use. During the early part of the convalescence a physician was consulted who mistook the case for one of abductor paralysis. Reasoning that since pressure upon the recurrent from an aneurysm is usually on the left side, and that here the supposed paralysis was upon the right, he therefore, informed the patient that he was probably developing a mediastinal tumor. The effect of this was great shock and discouragement, from which it is evident that when fixation follows the history of violent acute inflammation of the larynx, the possibility of ankylosis should always be kept in mind.

Case VI—*Bilateral Fixation Following Typhoid Fever.*—Male, aged twenty-three years, United States. About two years ago he had a severe attack of typhoid fever. Was unconscious for a month, during one week of which time he was comatose. Had hemorrhages from the bowel. During his illness urgent dyspnœa occurred necessitating tracheotomy. Since then and up to the present time has never been able to dispense with the tube. His power of speech is good, the voice simply showing a roughened quality. During the day he is able to breathe with the tube plugged, but when asleep suffers from dyspnœa, unless the tube is open. The vocal bands cannot be normally separated and are in a position resembling that present in abductor paralysis. To this effection the condition was attributed. This case is evidently one of ankylosis following typhoid involvement of the larynx. The patient is otherwise strong and well and gives no evidence of any condition which would lead to paralysis of the recurrent laryngeal nerves.

The six histories above quoted represent fairly the type of cases especially referred to in this paper. Thus case No. 1 illustrates the simplest condition of its kind. Before the inflammation had become sufficiently violent, or had continued long enough to cause a marked perichondritis and permanent fixation, resolution began, and the normal function of the part was quickly restored.

Case No. 2 is similar to No. 1 in kind, but differs from it in the severity and duration of the inflammatory attack. In this the final result was permanent disability. Cases 3 and 4 were without reasonable question due to a severe inflammation of the larynx

attending an attack of laryngeal diphtheria. In both of these cases the fixation of the arytenoid was not discovered until years after it had taken place. In case No. 5, due to typhoid ulceration, the exact condition was recognized from the outset. Nevertheless, it seemed impossible to devise any means by which the permanent fixation of the joint could be avoided. With an inflammation so violent, long-continued and profound, destruction of the delicate mechanism of the crico-arytenoid articulation was inevitable.

In all of the above cases the disability was unilateral. In all breathing was accomplished with a fair degree of comfort and success, excepting temporarily in one or two instances when the patient suffered from congestion of the larynx. Case No. 6 was bilateral. In it the continuous wearing of a tracheal cannula has been necessary.

It is evident that the differential diagnosis between crico-arytenoid ankylosis and paralysis of the recurrent laryngeal nerve may, in some cases, be very difficult. In many instances it must rest upon a careful process of exclusion. In cases of recent paralysis the absence of fixation of the joint may be proved by pressing against the arytenoid cartilage with a laryngeal probe, and thus causing it to move about. In ankylosis no marked change of position would be possible. This test is invalidated, however, when the paralysis is of long standing, by reason of the tendency in such cases to gradual fixation of the joint from disuse. While actual fixation from whatever cause may amount, practically, to one and the same thing, fixation from peripheral inflammation does not necessarily imply a grave underlying cause. Paralysis, on the other hand, may be due to the presence of some deep-seated disease of serious importance, such as thoracic aneurysm, mediastinal growth or central nervous lesion, and thus be attended with extreme danger. The statement has been made that in incomplete unilateral ankylosis of a vocal cord there is some perceptible inward movement of the arytenoid on phonation, while in simple paralysis of one vocal cord without ankylosis the arytenoid cartilage on the paralyzed side during phonation is displaced by the sound and over-adducted arytenoid. Attention to this point sometimes enables one to distinguish between a paralyzed vocal cord and simple fixation of the cord due to disease of the crico-arytenoid articulation, for in the latter case the healthy arytenoid approaches, but does not displace, that on the affected side. Remembering that a paralyzed vocal cord becomes more or less fixed from disuse the diagnostic point has greater positive than negative value. Actual fixation of the joint, the history of some severe local inflammatory condition and the absence of signs of thoracic, mediastinal, or central disease, should fairly establish the diagnosis of crico-arytenoid ankylosis. It is unnecessary to say that the prevention of crico-arytenoid fixation in cases in which this condition is threatened, is most desirable.

Just how it may be successfully accomplished, however, is not easy to say. Beyond the means in ordinary use for the control of the causative inflammation, there are no methods known which are especially adapted to reach this particular end. Certain prophylactic measures, however, have occurred to the writer as worthy of mention. Thus, in typhoid fever, thorough and systematic cleansing of the nasal cavities and mouth is productive of marked benefit. Probably few perforations of the nasal septum from typhoid ulceration occur in patients thus carefully treated. Typhoid ulcer of the larynx proverbially occurs in cases in which prostration is extreme and in which the patient, through mental hebetude, has been unable to free his throat from accumulated secretion. Greater attention to this detail, as above suggested, might reduce the number of bad results, both as to the risk of ankylosis and even to life in these almost uniformly fatal cases. In diphtheria the statistics of ankylosis are likely to be materially lessened since the introduction of antitoxin has shortened the progress of the disease and brought its laryngeal manifestations under so much better control. There is no excuse for laryngeal ankylosis to occur after smallpox, since, with vaccination, there is no excuse for the disease itself. When it is present, however, the same suggestion might be advanced as the one given already for typhoid disease.

Simple severe phlegmonous inflammation of the pharynx is at once commonly seen and hard to deal with. When a tendency to fixation appears during such an attack it is not only important that the most effective means possible to subdue the inflammation should be used, but diligent pains should be taken during its subsiding stages to cause complete resolution and speedy relief of all remaining local congestion. Thus, the patient should not be dismissed at once, but should be kept under observation and under the use of topical applications as long as the latter can be of benefit. When fixation has become established as the result of inflammation of a more or less chronic character, or of lesions attended with much thickening and deformity of the surrounding parts, and especially when it is bilateral, the indications may require radical measures in order to overcome the resulting stenosis and enable the patient to live, even to the permanent wearing of a tracheal cannula. Where this is the case the wearing of a cannula with a valve attachment is useful, in that it imposes a certain amount of exercise upon the larynx, and thus tends to improve the voice and increase the breathing space. Again, in certain exceptional cases attempt may possibly be made to enlarge the glottis by means of various kinds of dilators. By far the best of these is the O'Dwyer tube, introduced in graded sizes and worn for considerable lengths of time. Generally speaking, however, and in particular with regard to the class of cases referred to in this paper, attempts at dilatation have not yielded encouraging results, the mechanical difficulties present being of so serious a nature that no known method seems to meet them.

The general opinion with regard to their management is that if the breathing space be sufficient, the best policy is to subdue any existing inflammation as quickly and as thoroughly as possible and then to avoid all interference, especially of a mechanical nature, which might tend to further irritate the parts and continue the inflammatory process in the joint.

A conservative feature of these cases seems to be that in most of them the fixation is not directly in the median line but a little to one side of it, the vocal band being in the so-called "cadaveric position." While this imposes more work upon the opposite and movable vocal band in the act of phonation, it creates a wider glottic space and thus lessens the danger of dyspnœa.

It must always be remembered that undue labor is thrown upon the movable joint, both in breathing and in phonation, and that therefore the patient should both observe moderation in the use of the voice and also that he should study carefully the best methods for economizing its production.

Much help has been gained in such cases, under good teachers in vocalization through courses of vocal gymnastics properly selected for the strengthening and developing of the vocal muscles.

An interesting point in connection with the cases reported herewith is the marked increase in chest expansion noticed in several of them. The effort

necessary to produce a given volume of tone is much greater than normal In order to compensate for this the victim of laryngeal ankylosis should practise gymnastic exercises calculated to strengthen the chest and increase its expansion.

Another important factor is the avoidance of all causes of local irritation, whether from climate, surroundings, or occupation. Laryngeal congestion of every sort should, if possible, be prevented, and when present should be relieved as quickly as possible. Acute catarrhal attacks should be at once treated. Causes of laryngeal congestion, such as nasal stenosis, diseased conditions of the tonsils and elongation of the uvula should be removed, and every effort made to strengthen the throat and overcome any existing tendency to taking cold.

Under fairly favorable conditions a large majority of the patients whom I have seen have not been prevented from carrying on the ordinary affairs of life. In a number of instances they have been persons engaged in pursuits which have required more or less constant speaking, several of them having been in public life. In one or two cases the laryngeal fixation had been in existence long before it was recognized, the patient not having been aware of any loss of function beyond slight huskiness of the voice. Most of these patients have enjoyed excellent health, and their success in life has been very little impaired. Supposing such a person to be within easy reach of good medical aid, in case of accidental dyspnœa, it is probable that as an insurance risk he would make a reasonably safe candidate.

Extensive articles upon this subject have been published by Sir Morell Mackenzie (MEDICAL RECORD, January, 1879), and by F. Semon (*Medical Times and Gazette*, September 18 *et seq.*, 1880). In recent American treatises upon diseases of the throat little or nothing is said of it. Excellent presentations of the subject are given by P. Watson Williams, in his textbook upon "Diseases of the Upper Respiratory Tract" (Longmans & Co., 1901), and by W. E. Casselberry in the new edition of "A Reference Handbook of the Medical Sciences." Vol. V, 1902 (Wm. Wood & Co.). The condition is certainly of sufficient importance to warrant more exact knowledge and more careful attention than the authors of our many recent works upon diseases of the throat have shown.

Sequelæ of Typhoid Fever as Related to the Eye, with Especial Reference to the Accommodation.—George H. Price discusses the condition of paresis or paralysis which so often follows typhoid fever. From clinical and from pathological studies made, the condition can be assumed to be as follows: The axones from the motor nerves of the ciliary ganglion distributed through the ciliary nerves to the muscular apparatus residing in the ciliary body, which is quite vascular, are subjected to the typhoid bacillus carried by the blood, until there is set up a neuritis, which, extending back to the ganglion, induces changes in the nutrition of these cells, which may go on from simple disturbance to complete destruction of the cells. Since the author has studied the pathology, as reported by Nichols, he is of the opinion that the most reliable means of combating the condition lies in some preventive measure; that is, some internal medication during the progress of the disease which will prevent, if possible, the complication to such a marked extent of the nervous system. During convalescence he would suggest that the patient refrain from any near use of the eyes, so as to prevent any taxing of the nerve supply and muscular mechanism while it is yet unable to stand this strain, and which would keep up the irritable condition.—*Nashville Journal of Medicine and Surgery.*

THE RELATIONS AND TREATMENT OF FOLLICULAR CONJUNCTIVITIS AND TRACHOMA.

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THE acts of the United States Government excluding immigrants suffering from contagious eye diseases, and of the various local boards of health refusing school privileges to children afflicted in the same way, have given a new importance to the differential diagnosis of two diseases which, while resembling each other very closely at certain stages, may be very different in their cause, contagiousness, and amenability to treatment. This becomes still more important when, in addition to negative measures, such as the denial of privileges to the diseased, we come, as we must eventually if we are logical, to compulsory, positive measures involving operation under an anæsthetic.

Most textbooks on ophthalmology give differential descriptions of follicular conjunctivitis and the early stage of trachoma, but a comparison will show how absolutely useless most of them are for clinical purposes, and to one familiar with dispensary work the confusion of school inspectors, and even of trained ophthalmologists is as obvious as it is explicable.

Fuchs, who has written one of the most widely-read textbooks on the subject, insists on a distinction between the two diseases, and his contribution to clarity is this:

"It still remains to speak of follicular conjunctivitis with regard to trachoma. The former is found chiefly in children, while trachoma is seldom met with in children, but the two diseases are very similar in that lymph follicles occur as characteristic formations in both. . . . But these characteristics are so obscured that even experts cannot, in many cases, make the diagnosis with certainty, and the subsequent course of the disease alone affords the desired information. Even in the histological structure no thorough-going distinction can be found between the follicles and trachomatous granulations. . . . It is therefore easy to understand that these two diseases have been repeatedly confounded with each other, and a number of authorities explain follicular catarrh as being a kind of trachoma distinguished by its mildness and freedom from danger. But to such a view the following objections must be raised: It is not yet certain whether follicular catarrh among confined bodies of men is propagated by infection like trachoma or is merely the result of the contamination of the air by dust, exhalations, etc. On the other hand, it is quite satisfactorily established that under certain circumstances follicular catarrh can arise without any infection whatever. The prolonged instillation of atropine is followed in many persons by the development of a typical follicular catarrh with numerous follicles. But trachoma can never originate without infection. A further and more important distinction between the two is the course. Follicular catarrh is not associated, or only to an inconsiderable extent, with papillary hypertrophy of the conjunctiva, it never leads to shrinking of the conjunctiva or pannus, or any of the other sequelæ. It is a disease perfectly devoid of danger, and one which, without any treatment, finally gets well and leaves no trace behind."

If these facts are so, and they agree with the experience of most ophthalmologists, trachoma is rare among children. Most of the patients who are being excluded from our schools are suffering

from a disease which gives no subjective symptoms, is in many cases at least non-communicable, disappear eventually with or without treatment and leaves no trace behind. If these facts are true, there is no adequate ground for the alarmist statements about the enormous increase of trachoma in the schools. A systematic examination has simply revealed many cases of a harmless disease of which the patient was utterly unaware, and which may or may not be contagious. These unfortunate children are not threatened with any lifelong disability from blindness, and our hospitals can be relieved of the burden of providing for a multitude of children who are not likely to suffer any danger from being treated at home.

Follicular conjunctivitis is simply the reaction through the lymphatics of the conjunctiva to local irritation, and the irritation may be chemical, mechanical, or bacterial in its nature.

In certain individuals the continued instillation of several substances, such as atropine, eserine, hyoscyamine, etc., will be followed by a conjunctivitis marked by the development of follicles in the conjunctiva of the lids, and especially of the fornix. On the lids they are small, round granules, not larger than pinheads, because they are restricted by the close adhesion of the membrane to the lid, but in the loose tissue of the fornix they are much larger, resembling frog spawn or grains of boiled sago. When the lower lid is everted, they often appear to be arranged in parallel rows like beads. The microscope shows that these granulations are simply collections of adenoid tissue. This is evidently not an infectious process, for it occurs in the presence of sterile solutions, and results evidently from chemical irritation, subsiding gradually after discontinuance.

Recent investigations have shown that on the street level bacteria are from seven to forty times more numerous in the slums than in more sparsely settled neighborhoods, and the disproportion of dirt is even greater. It seems perfectly natural that the strumous child who spends his days in the dusty street and his nights in the smoke and indescribable atmosphere of the tenement should have a follicular catarrh, while the child of the well-to-do escapes. The development of lymph follicles in his conjunctiva seems as natural and common as the development of his other lymphatic enlargements, and is not any more likely to be the result of special infection than they are. Follicular conjunctivitis occasioned in this way gives rise to no particular symptoms, is frequently only noticed at the physician's examination, and is certainly not contagious.

But bacterial irritation may also cause symptoms which are identical in every respect, even to the microscopic anatomy with those caused by chemical and mechanical irritation. It is probable that any one of several bacteria might cause a similar reaction which would vary in its effect and contagiousness according to the virulence of its cause. This would explain the very great diversity of opinion amongst bacteriologists as to the cause of this disease. The conditions under which we find the disease occurring agree with the theory of its cause. It occurs most frequently in children who are of the so-called strumous type, who are pale and anæmic and have glandular enlargements in all parts of the body. It is particularly prone to occur among those who are crowded and dirty. It seems to have a special affinity for the Jews, the Italians, and the Irish. These facts might be construed as indicating contagion. On the other hand, it is said to be equally frequent among children of the dusty plains, who are certainly not crowded, and it is almost unknown in the pure atmosphere of the mountains.

Trachoma must be sharply distinguished from this trivial affection. According to the textbooks, it appears either in the granular form which may be indistinguishable clinically or microscopically from folliculitis, or in the papillary form with hypertrophy of the conjunctiva which takes on a velvety appearance. As a rule, the two forms are said to be mixed, the papillation occurring mainly on the lid and the granules in the lesser tissues of the fornix. This seems to be the whole source of confusion between the two diseases. The essential feature of trachoma is the hypertrophy of the conjunctiva. Without this there can be no future development of scar tissue and the disease is a trivial one. The occurrence of lymphoid masses indistinguishable from those of folliculitis should be considered as an epiphenomenon and not an essential part of the disease. A general enlargement of the glands occurs in constitutional syphilis, but few argue nowadays that general adenopathy alone is enough to base a diagnosis on. So trachoma is a disease causing much irritation and consequent hypertrophy of lymphoid tissue, but this same hypertrophy may be due to entirely different causes, as we have seen, and, by itself, is utterly insufficient as a basis for diagnosis. Such a diagnosis is mere guesswork, with the probabilities much against its correctness. Until bacteriology finds a specific cause for trachoma, we should depend on the presence of true conjunctival hypertrophy.

The subjective symptoms of real trachoma are noticeable. The patient complains of gluing of his lids, photophobia, a sensation of sand in the eye, the upper lid is partly dropped, and there is more or less purulent discharge. In a fresh case the whole eye looks red, but in a chronic case the redness may be hardly noticeable and the discharge very slight and watery. In a portion of the cases injury to the cornea follows, either ulceration or pannus. The cornea becomes hazy and irregular, and gradually a growth of vascular new tissue begins at the margin and spreads toward the center, especially under the upper lid. This eventually leads to a permanent opacity. When the thickening of the conjunctiva has reached a certain height, a process of cicatrization begins and continues till the hypertrophic tissue has been replaced by a thin, white scar, and it is from the contraction of these scars that some of the most troublesome sequellæ come. The commonest results which are in direct proportion to the amount of scar tissue are ptosis, entropion and ectropion. As regards vision, the permanent opacities of the cornea are most to be dreaded. It is these results which ophthalmologists and sanitarians have in mind when they advocate such paternal care over diseased eyes, but though the results pictured are sufficiently dreadful they must follow a very small percentage of cases, for real trachoma is comparatively rare among those born in this country. Trachoma is certainly a contagious disease of which numerous epidemics are recorded, but pathologists have been unable to agree on an exact cause: there may be several organisms. In Egypt, which was its original home, the gonococcus has been found in a large number of acute cases and very similar appearances have been observed in chronic gonorrhœal infection of the eye. Several observers have isolated organisms closely resembling that of Neisser. On the bacteriologist, however, we must eventually depend, for his are the only tests which will determine for us the degree of

contagion, the prognosis, and the appropriate treatment of any given case.

The confusion of diagnosis between the two diseases has led to an equal confusion in the treatment. It has been considered almost an ideal result in true trachoma to get finally a white thin pliable scar, not capable of contracting unduly, or of causing irritation of the corneal surface, and too many men have been led by the pursuit of this ideal to treat with caustics like bluestone and strong nitrate of silver follicular conjunctivitis which would not develop scars naturally even if left entirely without treatment. It should be remembered that in this disease the essential element is lymphatic hyperplasia, and the treatment I have found most successful has been based on the treatment of lymphatic enlargements in other portions of the body. First, so far as possible, the cause of irritation, whether chemical, mechanical, or bacterial, should be removed. This often involves, not only frequent irrigations of the conjunctiva with boric-acid solutions, but should also consider, so far as possible, the physical conditions and surroundings of the child. Most of them are better for the use of cod-liver oil and iodide of iron. Locally, I have obtained by far the best results by applying with a swab, at least three times a week, a solution consisting of

℞ Ichthyol..... ♏ xv.
Tr. iodi..... ℥i.
Glycerin..... ℥i.
Sig. Apply to conjunctiva with brush.

Such treatment seems to me to be rational and productive of better results than any other method I have tried. As the conjunctiva improves, this solution is brushed in with increasing vigor. It is much less painful than either the bluestone or the silver nitrate. On the alternate days an instillation of the following is made at home:

℞ Zinc sulph..... gr. i.
Vin opii..... ♏ viii.
Aquæ..... ℥ss.
M. Sig. One drop in each eye t. i. d.

Of course the result depends in a great measure on the home surroundings and care of the child, but I have frequently seen a typical frog spawn conjunctiva become perfectly normal in three weeks. The use of the roller forceps I consider certainly as a great time saver, even though it generally involves some after-treatment. In children, however, their use requires a general anæsthetic. Expression is not a necessary part of treatment, and the vast number of cases must be treated without it.

The treatment of real trachoma is a very different matter, and since one cannot predict in a given case the height to which the conjunctival hypertrophy will reach, he is equally unable to say whether the disease has been modified by his treatment or has simply reached its natural limit. In the same way the development of scar tissue is in direct proportion to the preceding hypertrophy, and may or may not have been influenced by treatment. Bearing in mind that in many cases a germ analogous to the gonococcus has been found, it would seem that in the acute cases the use of silver preparations was rational. In chronic cases it has frequently happened that the results of an acute inflammatory process such as that caused by the accidental inoculation of urethral pus or the deliberate use of an infulsion of jequirity has been followed by improvement. If mangling the conjunctiva with trachoma forceps does any good, I believe it is in this way. Personally, I have made use of the ichthyol, iodine, and glycerin mixture above alluded to, and if the results have not seemed to me better than under other plans of treatment, neither have they seemed any worse.

117 East Twenty-sixth Street.

The Prognostic and Therapeutic Importance of Arterial Pressure.—Ch. Jourdain and G. Fischer state that the chief factors in the production of variations in arterial pressure are first toxic, then nervous, and finally mechanical. The pathological results of the changes in the arterial pressure are first, *Functional*, due to changes in the action of the heart, in the blood vessels, and in the blood mass; infectious diseases, anæmia, pleuritic exudations, icterus, etc. These changes are temporary merely. Second, *Essential*, produced by permanent causes, by anatomical conditions of the circulatory apparatus (confirmed arteriosclerosis, valvular lesions, interstitial nephritis). The functional changes have a very great importance in prognosis; the essential merely confirm a diagnosis. As to treatment, the best remedies in hypotension consist of vasomotor medication, and above all, in the subcutaneous injection of saline solutions. In hypertension, a lacto-vegetable diet is of prime importance, with general and abdominal massage. The latter is indicated chiefly in hypertension of the portal system. Several successive bloodlettings are frequently of value.—*Revue de Médecine.*

Purulent Mediastinitis.—Professor Kopistein states that the etiology of cases of this affection may be classed under three heads, injury, surroundings, and infection, or, more properly, metastases. The diagnosis is admittedly very difficult, depending largely on the previous history, but the presence of pain and fluctuation may assist. The prognosis under any circumstances, is bad, as death by sepsis or by perforation of an important organ, determines the fatal result. The treatment must, of necessity, be largely empirical, until pus has formed and the diagnosis been conclusively proved. The first step would be a "Priessnitz" compress over the sternum. Galenus suggested trepanning the sternum and exploring for pus. When fluctuation appears in any of the intercostal spaces it should be early opened and the abscess evacuated, enlarging the opening, as far as possible. With this object Heyfelder has practised resection of the sternum in fifteen cases with the best results. Milton has sewn through the sternum in the middle and chiselled a portion out on both sides.—*Medical Press and Circular.*

Cæsarean Section Ten Minutes after Death of the Mother; Child Alive.—W. J. Fletcher, J. S. Webster, and W. J. Wilson report the case of a woman who died of cerebral hemorrhage. As the fetal heart could be heard, cæsarean section was rapidly performed, the cord cut and let bleed for awhile, artificial respiration resorted to, and the lungs inflated by blowing in the mouth. After forty minutes' steady work the child was breathing freely. It lived twelve hours. The result might have been better for the child if delivered sooner, as suggested by Dr. Fletcher, but the friends would not at that time consent to the section.—*Canadian Journal of Medicine and Surgery.*

A Report of Thirty Cases of Œdema, Apparently Epidemic in Character.—Halsey Dewolf describes these cases in detail, and says that the most reasonable theory which presents itself in explanation of this unusual epidemic of œdema is as follows: A period of severe bowel disturbance occurring in these patients rendered them susceptible to some common infection, possibly acquired from the milk; this infection, spreading from the gastrointestinal tract, produced pathological changes in the blood and blood vessel walls, besides affecting to a greater or less degree the kidneys; as a result of which changes there appeared the œdema.—*Archives of Pediatrics.*

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THE STUDY OF MAN.

MR. ARTHUR MACDONALD of the United States Bureau of Education, who is favorably known as a writer on criminal sociology and allied subjects, has recently mapped out a plan for the study of man with reference to bills to establish a laboratory for the study of the criminal pauper and defective classes.

The study of man to be of most utility must be directed first—thinks Mr. Macdonald—to the causes of crime, pauperism, alcoholism, and other forms of abnormality. To do this the individuals themselves must be studied. As the seeds of evil are usually sown in childhood and youth, it is here that all investigation should commence, for there is little hope of making the world better if the causes of social evils are not sought at their beginnings.

The most rigid and best method of study of both children and adults is that of the laboratory with instruments of precision in connection with sociological, pathological, and abnormal data as found in children in criminal and defective classes and in hospitals.

It has consequently been proposed to conduct such investigations under the United States Government, by the establishment of a psychophysical laboratory, as the collection of a large number of such data concerning a mass of individuals, and the computation, tabulation, and publication of the results could not easily be undertaken by an individual or by a university, because of the expense involved.

Bills or amendments to establish a laboratory to study the criminal pauper and defective classes have been introduced into Congress by Senators Hoar, Nelson, Bacon, McComas, Quay, Penrose, Money, and Pettigrew, and by Representatives Ray and Henry. The general purpose of these bills is a sociologic and scientific study of the abnormal classes, it being understood that such study is a development of work already begun under the Federal Government.

Mr. Macdonald, in referring to university laboratories, states that a large number of these have been established, but that their usefulness is limited, insomuch as they were intended mainly for pedagogical purposes. Therefore he argues that there is need of a different kind of laboratory, one not pedagogical, but sociological and practical, and of more utility to society directly.

The study of children is naturally of the first importance, but is, as yet, only at its beginning. It is not definitely known, for instance, whether a child inherits his mental and physical characteristics, or whether environment is the chief factor in the formation of good or evil habits.

If it could be ascertained, more or less accurately, whether there were mental and physical characteristics peculiar to unruly children in school and criminal children in reformatories, or to dull school pupils and feeble children—characteristics distinguishing such children from the normal child, we might foresee special dangers to these children, and thus protect many from temptations and conditions that otherwise would ruin them. As such knowledge as this can only be gained by a patient scientific study of large numbers of children of all classes, the establishment of a psychophysical laboratory by the National Government would be a great public benefit.

Mr. Macdonald, in the book which he has published recently advocating this scheme, relates many instructive and useful facts bearing on child study. He says that all boys and girls show the same percentage of brightness, but the girls have 5 per cent. less dulness, and so, in general, may be said to be a little brighter than the boys, but this may be due to the fact that girls reach maturity sooner than boys.

Children of American parentage are brighter than children of foreign parentage or children of foreign and American parentage. This seems to indicate that a mixture of nationalities is not always advantageous in its effect upon the offspring.

Children of the non-laboring classes are mentally superior to those of the laboring classes, indicating that the advantages of good social conditions are favorable to mental brightness. On the other hand, boys of the non-laboring classes show a much higher percentage of sickness and nervousness than boys of the laboring classes, indicating that easier social surroundings are not always conducive to health.

While almost all children, boys especially, are lazy at times, there are, nevertheless, a number of children who seem to be chronically lazy. Dull boys have the highest percentage of laziness. Comparing all boys and girls the boys were found to be more lazy by far than the girls. Again, boys are much more unruly than girls, and, in general, show a much higher percentage of defects than girls. A general conclusion as to all children with abnormalities is, that they are inferior not only in mental ability, but in weight, height, and circumference of head to normal children.

The above data were founded upon investigations of 20,000 Washington school children, by Mr. Macdonald. The writer expresses his conviction that a thorough study of any human being cannot be made without instruments of precision. Such an investigation of living man is one of the most recent tendencies of science. Instruments of precision have been employed more extensively, perhaps, in the study of the abnormal, as illustrated in criminology, but it is time, thinks Mr. Macdonald, that they were used in the investigation of normal man.

Among the many interesting facts mentioned is that referring to the influence of poverty on nutrition. According to Leharzik, growth is regular,

and all deviation tends to produce disease, as disease also produces deviation. A large head is frequently accompanied by a contracted chest; here mental action may be slow—probably from deficient supply of purified blood. Boys of small frames often have rather large heads, and are deficient in repose of character. City-bred children are usually more vivacious, but have less power of endurance than children reared in the country.

In the report of the Anthropometric Committee of the British Association for the Advancement of Science are given the results of observations in over 50,000 individuals. It is shown how the growth lessens as we go lower in the social scale; there is a difference of five inches in average statures between the best and worst nurtured classes in the community.

Dr. Paul Hasse, in 1880, measured 2,806 children in Gohlis-Leipzig. Comparing the poor with the well-to-do classes, the results showed that for boys of the same age the height varied from 0.7 to 4 cm. in favor of the well-to-do classes; for girls it varied from 1.7 to 4.1 cm. in favor of the well-to-do. The children of the well-to-do classes excel, also, in weight, for the same age; for boys the excess runs from 0.3 to 4.7 pounds; for girls from 1.6 to 4.6 pounds. In general, the difference between the classes is not so great as in other places, as in Freiburg and Turin, except in Boston, where the difference between the classes is less marked.

Hasse also gives data concerning the weak or defective children, who generally cannot attend school regularly. Such children are usually abnormally developed, or have some chronic ailment. In the primary schools 9 per cent. belonged to this class. A striking fact is this, that in many cases these children in certain years were over normal—that is, were taller and heavier than other children.

This suggests, says the author, "that there is a certain normal relation between mental and physical development, the finding of which is one of the aims of anthropometry."

It is only within the past few years that the study of man upon scientific lines has been seriously considered as possessing any practical value. In Europe, and especially in Italy, anthropometry has come to be looked upon with consideration by all the leading scientists, and although occasionally one hears criticism of the method, yet upon the whole public opinion is veering round in favor of the new science.

There are always some individuals who distrust and sneer at new things, upon general principles, but the value of the study of man is now acknowledged on all sides.

Mr. Macdonald says, with much truth, that the day has come when opinion, theory, or speculation must give way to first hand knowledge. The value of opinion depends upon such knowledge, an ounce of which is worth a pound of theory. A great deal of the opposition to investigations of this nature also may be due to the mistaken idea that psychophysical studies tend to materialism or are liable to undermine morality and religion, but such unfounded opposition is gradually ceasing, and where it does exist it is due either to ignorance or to mistakes that may often occur in the introduction of new methods.

ANTISEPTICS IN THE TREATMENT OF DYSPEPSIA.

Dyspepsia is the most common complaint to which the human race is subject, or at least it is the affliction which most frequently attacks that large portion of the people of the earth termed civilized. Indeed, affections of the digestive tract are one of the outcomes of civilization, a penalty which we have to pay for our artificial mode of living. Persons living in a primitive manner are not even aware that they have a digestion. Rich food, overeating and drinking, late hours, insufficient exercise, a sedentary life spent in badly-ventilated houses fully account for the trials of the civilized stomach, and for the large number of unhealthy-looking, weazened, spiritless individuals, who may be seen on any day in the streets of the present time town.

Dyspepsia is without a doubt the disease of the age, and especially the one which has its headquarters in the United States. The fact, too, must be borne in mind that there is no malady, even of the gravest nature, which causes more distress to mind and body than obstinate and long continued dyspepsia. This functional complaint often does more to render life a burden than many of the most deadly diseases.

The remedial agents used in the treatment of dyspepsia are many and varied. The dyspeptic is frequently dosed by medical men with drugs by the score, while he is the principal supporter of quacks and patent medicine manufacturers and vendors. Of course, the sane treatment of ordinary dyspepsia is by means of careful dieting, exercise, fresh air, and a thorough application of all hygienic measures.

Dr. Guthrie Rankin writes in the *British Medical Journal* on dyspepsia and its general treatment, and particularly of the use of antiseptics as therapeutic agents. He says in part: "As regards medicinal treatment, limits of space will not permit any full discussion of the vast multitude of drugs that have been recommended and employed for the alleviation of dyspeptic troubles. I desire only to direct attention to those which, by a long process of elimination, I have personally found most useful, and particularly to point out the special value which I believe attaches to their combination with antiseptics."

Referring to atonic dyspepsia, the writer says: "In the large majority of cases of this form of indigestion, early and marked relief is afforded by the administration of a combination of dilute hydrochloric acid, pure carbolic acid, strychnine, and ginger. The hydrochloric acid supplies what is deficient in the scanty and feeble gastric secretion; the carbolic acid counteracts the tendency to excessive fermentation; the strychnine stimulates the muscular activity of the stomach walls, and the ginger acts as a carminative, and also as a stimulant to salivary secretion. The addition of a small quantity of glycerin to the mixture renders it more palatable."

With regard to therapeutic remedies for acid dyspepsia, Dr. Rankin says: "Alkalies are specially indicated in this form of indigestion. They should be administered two or three hours after food, and are, in my experience, increased in efficacy if combined with an antiseptic. Of all alkalies none is more useful than bismuth. The carbonate is probably the most suitable preparation of the drug. It should be given in 30 or 40 gr. doses, and may be associated with salol in 10 gr. doses, with sodium

sulphocarbolate in 15 gr. doses, or with carbolic acid in 2 gr. doses. To these may be added strychnine, ginger, or ammonia, together with a suitable quantity of one of the pharmacopœial solutions of morphine, if there be much pain. In most cases the following formula may be depended on: Bismuth carbonate, 30 grs.; aromatic spirits of ammonia, half a drachm; carbolic acid, 2 grs.; solution of strychnine, 5 minims, with, in addition, if there be pain, solution of morphine, 10 mimims. Bismuth salicylate is another valuable preparation, which contains within itself antiseptic and alkaline properties, and may be given in doses of from 10 to 15 grs. When the acidity, despite this bismuth mixture, gains the upper hand, temporary relief will always be obtained by sipping a wineglassful of very hot water in which 20 or 40 grs. of sodium bicarbonate have been dissolved."

With respect to drugs in the treatment of nervous dyspepsia, the author says: "It is desirable in all cases belonging to this variety of dyspepsia to increase the quantity and variety of food as rapidly as possible, and it is especially necessary to get the patient to take as much fat in a digestible form as he is able to assimilate. The stomach discomfort depends upon nerve exhaustion, and is only a local manifestation of a constitutional state, which will not benefit from the routine treatment by acid or alkalies. In this, however, as in other forms of indigestion, fermentative processes play a considerable part in the causation of the patient's discomfort, and again, therefore, antiseptics ought to be administered as part of the medication. Dr. Rankin thinks that the most reliable for affording relief are zinc valerianate and arsenic."

That antiseptics should have a good effect upon those suffering from dyspepsia would seem to be justified by the facts of the case. Nervous dyspepsia is the form of the complaint from which the greater number of dyspeptics in this country suffer, and the advice given by Dr. Rankin that persons in this condition should eat well and vary their diet is excellent.

After all, diet is the chief factor in curing dyspepsia, although some drugs are great aids in effecting this object.

FORMALIN IN SEPTICÆMIA.

The recovery of a woman suffering from puerperal septicæmia, and whose life was hanging by a thread, has attracted much attention in medical circles recently. The patient, a negress, was admitted to Bellevue Hospital on December 25, and had given birth to a child eight days before. When admitted she had a temperature of over 104°, and within twenty-four hours this had risen to over 107°. A bacteriological examination of the blood confirmed the diagnosis of blood-poisoning, and, in fact, the case was looked upon as hopeless. Dr. Barrows, the assistant to Dr. Polk in the obstetrical ward, then asked if he might try an injection of formalin solution, and, upon the request being granted, made an intravenous injection of 500 cubic centimeters of a solution of 1 to 5,000 of formalin into the woman's right arm. The effect of this treatment appears to have been magical. Soon after the injection the temperature began to fall, and by the next day was 101°. On the second and third days after the injection, however, the temperature again began to rise, and a bacteriological examination showing that the blood still contained streptococci, formalin solution was injected a second time, but into the veins of the left arm, the quantity being increased to 750 cubic centimeters, when the temperature fell and the pulse dropped to normal within a few hours.

Since the above case was thus treated, a white woman suffering from septicæmia at the Hahnemann Hospital has been subjected to the same methods, and with equally satisfactory results. Formalin has been used for some time in the treatment of tuberculosis. Its active principle, formaldehyde gas, has been administered by inhalation to consumptive patients, but, owing to the harm done to the lung tissue by the fumes, the outcome has been disappointing. The strong chemical agent has acted in the cases noted above with neutralizing effect, its antitoxic properties have antagonized the poison of the blood to such a degree that its harmful action has been arrested, and the opportunity given for the recuperative powers of the system to have fair play.

The discovery of Dr. Barrow—if it stands the test of time—is assuredly of the highest value, indeed, if formalin fulfils the expectations formed of its germicidal effect in cases of septicæmia, its first use will mark an epoch in the history of medicine. At the same time it is well that the matter should be regarded from a conservative standpoint, and that hopes which may prove elusive should not be raised until a number of patients suffering from septicæmia have been treated successfully by the method. The initial experiments have been most encouraging, and incline one to the belief that at length a specific for blood-poisoning may come within the bounds of practical medicine.

The Yeast Treatment of Gonorrhœa in Women.

A curious and interesting revival into the arena of modern practical therapeutics of a treatment practised by Hippocrates and Dioscorides, is afforded by the above mode of therapy. Rediscovered by Landau in 1899, the method has recently received at the hands of Otto Abraham a critical overhauling. This author studied the subject, apparently with great care, from the chemical, bacteriological, and clinical standpoints. and,as far as we can judge from his careful detailed experiences, in the *Monatsschrift für Geburtshülfe und Gynäkologie* for December, 1902, it would seem as though the yeast treatment might not unlikely take a permanent place in therapeutics. Chemically, after numerous experiments, Abraham found the most active form of yeast to be the living cells plus asparagin. Bacteriologically, too, he found that this combination exerted the maximum effect in destroying gonococci in cultures of gonococcal vaginal mucus. Clinically, 40 patients were examined who presented the following conditions: Acute vulvitis, 9 times; urethritis, 3; Bartholinitis, 3; colpitis, 10; erosions of portio, 12; endometritis cervicis blenorrhoica, 34; and endometritis corporis blenorrhoica, 3. Vulvitis, colpitis, and erosions were the conditions most rapidly influenced; after one or two days the pruritus and burning lessened, the flow became clearer and lost its purulent character, and after a few days vanished. Even dollar-sized erosions healed in four to eight days on an average. Two cases of Bartholinitis required incision; the other subsided without it. Urethritis was entirely unin-

fluenced. Of the thirty-four cases of endometritis cervicis, thirty were completely cured within five to twenty-three days. The flow shortly became clearer and thinner; in the first days it increased in quantity, then rapidly subsided. Of the three cases of endometritis corporis one was entirely cured, which shows the possibility of influencing the body of the uterus from the vagina, at least with yeast which may, so to speak, multiply its way in. Of the six refractory cases of endometritis (cervicis four, corporis two), three were afterward cured by the insertion of a "pencil" consisting of yeast, asparagin, and gelatin, into the cervical canal. In all the cases, even those last mentioned, the treatment was effected without any unpleasant results, or any untoward reaction; only two patients complaining of slight itching during the first days. The patients were examined for gonococci before, during, and after treatment. Of the forty, twenty-eight showed gonococci before treatment; after it the most careful search failed to detect any. Other cocci and bacteria in the vaginal mucus, staining with Gram's method, decreased in number and colorability. The gonococcicide action of the yeast is chemical, and due to an enzyme. The yeast cells do not live long in the vagina; three days after the discontinuance of treatment they could no longer be found. Whereas former observers have used the yeast by injections of fluids containing it, Abraham introduced a decided improvement by employing a suppository of yeast, asparagin, and gelatin; and in the case of cervix uteri, a "pencil" of the same ingredients, but of firmer consistence. A suppository is inserted at night and the napkin put on, and in the morning the vagina is syringed out.

Watercress and Cancer.

Cancer has been attributed at one time or another to the consumption of tomatoes, salt; arsenic, or rather, to write accurately, it has been suggested that these articles might be contributing causes. A correspondent, a short time ago, wrote to the London *Daily Chronicle* stating his belief that cancer might be caused by eating watercress, because he had found fresh-water shrimps and some worms in a specimen of this vegetable which he had purchased.

The letter to the *Chronicle* has given rise to a somewhat animated discussion, and among others who took up the matter was Mr. George R. Sims, the well-known writer who contributed to his own journal, *The Referee*, some well-matured thoughts anent the subject.

Dr. Andrew Wilson then entered the lists, and in both journals ridiculed the idea that there could possibly be any connection between watercress and cancer. Dr. Wilson truly says: "Some people do not realize what scientific proof implies and means. To suggest even a relationship between cancer and watercress, you would require to have a series of cases in which cancer followed the continuous consumption of the plant, and then you would require to eliminate all other causes. These 'scares' are the annoyance of scientific minds. I hardly know how many I have done my best so explode—including the idea that the healthful tomato can cause cancer. We are busy searching out the exact cause of the disease. Till that difficult task is accomplished you may advise your readers to treat with scorn all such suggestions as those I have mentioned." Dr. Wilson is certainly perfectly right to advise the public not to be led away by senseless scares concerning the cause of cancer, or of any other disease. But at the same time this is by no means the first occasion on which raw vegetables, which would comprise watercress, have been laid under suspicion as a possible cause of cancer. Some of the most eminent German investigators have given as their opinion that there may be some relationship between uncleanly raw vegetables and the disease. If it be granted that cancer is of parasitic origin, then might not the germ be taken into the system by means of eating raw vegtables.

Dr. Lyons of Buffalo, some time ago, made investigations into the relative frequency of cancer among the different nationalities of that city, and found that the malady was most frequent among the German population, notorious for consuming uncooked vegetables in large quantities. Of course scientific proofs are wanting to substantiate the theory, and that vegetable-eaters in Buffalo are more subject to cancer than the rest of its citizens may be nothing more than a coincidence. Nevertheless, if such were found to be the case in other parts of the world, a strong *a priori* argument would be established that there is a decided relationship between cancer and uncleanly raw vegetables.

The Outlook for Consumptives.

Dr. Robin of the French Academy of Science delivered at the Sorbonne, on January 7, a lecture which has created a sensation among all classes of society in France. Dr. Robin—the pith of whose remarks is given in the New York *Tribune* of January 11—is reported to have said that all that has so far been accomplished in the great fight against tuberculosis has been in vain, and that medical science and philanthropy have started on altogether the wrong tack. Dr. Robin does not hesitate to assert, and his position is supported by data which seemed irrefutable to such high authorities as Brouardel, Grancher, and Landouzy of the Paris Faculty of Medicine, that tuberculosis when once firmly established in the system is practically incurable. The only efficacious way to fight tuberculosis is, said the lecturer, by preventive measures.

The *Tribune* report proceeds as follows: "The discoveries just made by Dr. Robin and his colleague, Maurice Binet, enable the stage of predisposition to tuberculosis to be determined with mathematical accuracy. It is to this preliminary stage of tuberculosis that all efforts should be directed, the absolute remedy or preventive being easily attained by the air cure, by abstention from alcohol, and by complete mental and physical rest. Dr. Robin maintains that the sanatoriums, upon which millions have been uselessly expended, are, from a financial point of view, impracticable, and therapeutically simply chimerical. Dr. Robin supports his argument on the financial head by pointing out that, supposing only one hundred thousand beds were provided for the half million persons suffering from tuberculosis in France, and each bed cost $1,000 for initial endowment, we have at once $100,000,000 needed at the very outset, without counting incidental expenses."

The views of the well-known French authority are by no means novel, nor are they confined to himself and his followers. There are many medical men in every country of the world who believe that after a certain stage pulmonary tuberculosis is incurable. The disease may be arrested for a time and its victim benefited by fresh air and suitable diet, but if the malady has gained a firm foothold in the lungs the case is—in the opinion of probably the majority of physicians—practically hopeless—that again prevention is assuredly the means whereby consumption will be extirpated, if it ever is extirpated, is no

new doctrine. By providing the working classes with large well-ventilated and hygienic dwelling houses, more will be done to check the spread of tuberculosis than by any other methods.

Pulmonary tuberculosis is, however, curable in its early stages, and it is those who are thus afflicted who benefit from sanatorium treatment, and for whom these institutions are really needed. The assertion made by Dr. Robin that sanatoriums are useless, because it would cost too much to erect sufficient of these to accommodate all consumptives will not bear dissection. Even if but a fifth or sixth part of the consumptives could have the advantage of sanatorium treatment, it would be for their good and for the gain of the community at large, because in crowded districts the disease is spread through close personal contact.

The methods of prevention of pulmonary tuberculosis are these: Improving the conditions of life everywhere, and especially in cities. Early diagnosis of the disease, in order that the sufferer may undergo curative treatment under the most favorable auspices, and that as a source of spreading infection he may be removed to a place where he will be no menace to his fellow creatures.

Degree of Doctor of Public Health.

The memory of the practitioner of medicine who has pursued his professional labors for the past thirty or forty years need not be particularly acute to recall the tremendous strides which have been made in medicine within his recollection. "Stupendous" is an apt term with which to typify this progress. Nor has the advance been limited to any one branch of the subject, but all have partaken of the change. A specialist in 1860 was a *rara avis*, a pathologist then dealt in fields which were as fertile with expectancy as they were barren of established facts; a chemist had a knowledge of metallurgy as first title to his ability and as prior right to his appellation; a successful teacher at a medical school was recognized primarily by the extent of his practice. How changed to-day! In his individual capacity the citizen has derived the great benefits which have followed in the wake of the changed and improved conditions, but has the general public in its entirety reaped the reward which should ensue by reason of advanced and advancing knowledge of medicine and its allied branches? We fear not, and it rests with the profession to so alter the status of affairs that the full meed of benefit should accrue to the general public. The hygienists and the sanitarians who fill our public offices, as such, are, as a rule, men who have not been properly fitted for their vocation. The field of medicine is now so vast that no one human mind can encompass its various truths. Specialists are so largely in evidence in medicine to-day, because of the immensity of the proposition which stares him in the face who would acquire it all. Just as the best colleges to-day select as chemists and physiologists and bacteriologists, and many other specialists, men who devote themselves exclusively to these given fields and to the exclusion of the practice of medicine, so should graduated and licensed physicians be educated to fill the commanding posts of health officers—those who have been trained and educated with this purpose solely in view. Our medical schools should have courses, post-graduate, devoted exclusively to instruction in sanitation and hygiene, there to educate men who, when proficient therein, should after from two to three years of graduated study be given the additional degree of Doctor of Public Health. None others should be eligible to the position of Health Officer, and their remuneration should be such as to make them independent of income derived from other medical work or practice. In this manner will the public derive the full benefit of the increased knowledge in these subjects to which it is entitled. To-day the politician decides who shall thus serve the public and how often does it happen that a "pull" lands in such office the one who of all those applying is least capable of serving.the best interests of the community. By the means proposed the public, knowing otherwise, would demand a competent man. We would suggest that the Regents of the University of the State of New York announce the recognition of this proposed title, and that a test examination be offered the profession next year, prepared by men competent to act as a board of examiners for those desirous of being Doctors of Public Health. In the meantime the Legislature should specifically authorize the Regents to confer this title.

Successful Transplantation of Ovaries.

No subject opens wider vistas in experimental physiology than this. In the *Monatsschrift für Geburtshülfe und Gynäkologie* for December, 1902, Walther Schultz gives his results and a full résumé of previous work. So far this has not touched the wider anatomical, physiological, and psychological questions (whether castrated males with implanted ovaries develop the female form of pelvis, show preference for males, etc.), but has related only to the possibility of success in transplanting, and the changes occurring in the transplanted tissues. The possibility of transplantation is now demonstrated beyond question. Both in young and in almost grown animals, the ovaries become attached in their new position, whether this be the peritoneal cavity of the same female, of another female, or of a male, of the same breed or of a female of a different breed. Schultz's main conclusions are: on other females of the same breed, transplanted ovaries of mammals can give off eggs and form corpora lutea; on males of the same breed, such ovaries can develop ripe eggs up to forty-two days, and show such after 117 days; on females of other breeds such ovaries exhibit, in the first eight days, no difference from ovaries transplanted on females of the same breed; the mode of healing and development corresponds in the animals investigated to the phenomena described by Ribbert; and, in ovaries transplanted on to males, eggs can be demonstrated in the root, and tube-formed processes crowding from the germinal epithelium downward into the tunica albuginea. At the same time, according to Ribbert and Schultz, changes take place which at least simulate the embryonic condition—mitosis appears in the cells of the germinal epithelium, and from it root-like, or tube-like processes grow downward into the tunica albuginea. In these processes Schultz was able to demonstrate eggs. The transplanted ovarian tissue appears not to be injuriously influenced either by the blood of the male or by anything (secretion or other influence) from the testicles; at least no such influence was noted in the somewhat short time covered by the experiments. Transplantation does not operate to produce any unusually rapid growth in ovarian tissue, as might possibly be expected, considering that it is tissue freed from its normal connections. The author suggests that it is imperative that this subject be followed up by such experiments as implantation of ovaries in a female of another breed whose ovaries have been previously removed, and that breeding experiments be then carried out with the male of that breed. And we might mention many other experiments which crowd on us, but they are too obvious.

News of the Week.

The Plague.—The national convention of delegates from the State Boards of Health of Connecticut, Colorado, Texas, Louisiana, Minnesota, Maryland, Illinois, New York, and Pennsylvania, called to consider the danger threatened by the possible introduction of the bubonic plague into the United States, assembled in Washington on Monday, January 19. Each State was represented by one delegate. The slow course of the disease in San Francisco continues unchanged. The port of Panama has declared a quarantine against steamers from that city. Dr. E. Licéaga, President of the National Board of Health of Mexico, reports that during the month ending January 15 there were 116 deaths from bubonic plague at Mazatlan. No report has been received from Fusenada, Lower California, since December 25, but that up to that time only two deaths from the plague had occurred there. It is asserted that the plague was taken to Mazatlan from San Francisco, and not from China, as was originally reported. It is reported from Durban that there have been seventeen deaths from the plague in Natal. In addition there were on January 20 thirty-five cases known to the authorities, one being in the person of a European.

Sale of the Florida Quarantine Stations.—The United States Treasury Department has purchased from Florida the State's quarantine stations at Pensacola, Charlotte Harbor, Fernandina, Miami, and Mayport, at a cost of $32,000. This sale was in obedience to a joint resolution of the Florida Legislature of 1901, after an appraisement. The Federal Government took over the quarantine system in July, 1901, and has been operating it since. but the title to the property remained in the possession of the State.

Superintendent of the Health Department Hospitals.—Health Commissioner Lederle of New York City has appointed Dr. George Taylor Stewart, ex-Superintendent of Bellevue Hospital, to the position of Superintendent of Hospitals of the Board of Health, with a salary of $2,500 a year. In his new position Dr. Stewart will be in charge of the Riverside, Willard Parker, the Reception Hospital, and the Kingston Hospital in Brooklyn.

Closure of a Hospital.—The Williamsburg Hospital closed its doors last week because of a lack of funds and the high price of coal and foodstuffs. The institution was located at Bedford avenue and South Third street, and the charity patients were yesterday transferred to the Eastern District Hospital, and the private patients to their homes. The ambulance was sold to the Bushwick Central Dispensary. The hospital was established as the Brooklyn Throat Hospital, and in 1895 the name was changed to the Williamsburg Hospital.

A New Eye, Ear, and Throat Hospital in Philadelphia.—The will of Dr. Bushrod James, which was probated last week, devises to the city of Philadelphia $55,000, several pieces of real estate in the city, and several lots at Island Beach, N. J., for the purpose of establishing in Philadelphia a free hospital for the treatment of diseases of the eye, ear, throat, and lungs. The will directs that the $55,000 be invested as an endowment fund. The proposed hospital is to be called the Washington James Eye and Ear Institute.

Bequests to Charitable Institutions.—Under the will of the late Isaac T. Carpenter, each of the following institutions will receive $1,000: The Woman's Hospital, New York Society for the Relief of Ruptured and Crippled, German Hospital and Dispensary, New York Eye and Ear Infirmary, Mount Sinai Hospital, New York Infirmary for Women and Children, New York Homœopathic Infirmary for Women in the City of New York, Home for Incurables, and the Nursery and Child's Hospital. In addition to these hospitals, some twenty asylums, homes for the aged, and aid associations receive equal amounts.

The Hospital Saturday and Sunday Collections have been unusually large this year, and from the returns already received it is believed that the total amount will far exceed that of any previous year. The collection last year amounted to $80,000.

Governor Odell and the State Hospitals.—The tenth annual report of the State Charities Aid Association to the State Commission in Lunacy, of which advance sheets have just been issued, reviews at considerable length the legislation of the year 1902 affecting the State Hospitals. The legislation carried out the recommendations of the Governor, to which the Charities Aid Association was opposed. The new powers conferred on the Governor are summarized, and the conclusion is reached that "the welfare of the insane is now virtually in the hands of the Governor, and it is he who must be held not only ultimately but, in large measure, directly responsible for this huge department of the State's service."

Typhoid Fever and Smallpox in Philadelphia.—There were reported to the Philadelphia Board of Health 217 cases of typhoid fever for the week ended January 10; there were reported 144 cases for the week ended January 3; and a total of 906 cases for the nine weeks ended January 10. The great increase in this number has been coincident with a low water-supply, the disease being most prevalent in parts of the city in which the water is supplied by direct pumpage. An increased number of cases of smallpox was reported to the Board of Health for the week ended January 10, namely, thirty-three, as compared with fifteen for the preceding week. There was but one death from the disease in the two weeks.

Philadelphia Pediatric Society.—At a stated meeting, held January 13, Dr. Theodore Le Boutillier presented a girl of nine years with an aneurysm of the transverse portion of the aortic arch. The child had had an attack of whooping-cough at the age of nine days and a second attack at the age of four years, and to the effects of which the conditions present were attributed. The physical signs comprised abnormal pulsation, at times of an expansile character, over the upper portion of the sternum, with thrill on palpation, an increased area of dulness on percussion, a loud blowing murmur with the first sound of the heart an accentuation of the second sound. The symptoms were disproportionately slight. Dr. Samuel McClintock Hamill delivered the Annual Address of the Retiring President. After first reviewing the work of the society for the preceding year he delivered a most interesting and appreciative memoir of the late Dr. Frederick A. Packard, one of the original and also one of the most active members of the society and a former president.

Philadelphia County Medical Society.—At a stated meeting, held January 14, a resolution was adopted endorsing a bill presented to the Congress of the United States for the payment to the widow of the late Major Walter Reed, Surgeon, U. S. A., of a pension equivalent in amount to the pay received by Dr. Reed at the time of his death. Dr. Mordecai Price reported a case of Cæsarean section in a woman who had been in labor for forty-eight hours, delivery being prevented by a contracted pelvis. The opera-

tion was performed in order to save the life of the mother, as the child was already dead. The patient made a good recovery. Dr. John V. Shoemaker presented a communication entitled "A Clinical Description of a Case of Tubercular Leprosy." The patient had been thought to be suffering from mycosis fungoides, but the clinical manifestations were suggestive of leprosy, and examination of a bit of affected tissue and of the blood disclosed the presence of lepra-bacilli. Dr. L. Napoleon Boston read a paper entitled "The Lepra-bacillus in the Circulating Blood," in which he described the findings in the case reported. Dr. Judson Daland read a paper entitled "Observations upon Leprosy Occurring in Japan, Iceland, and Norway." The discussion was participated in by Drs. H. W. Stelwagon, M. B. Hartzell, Jay F. Schamberg, and Matthew Woods.

The Enno-Sander Prize of the Association of Military Surgeons of the United States.—The announcement is made that this prize for 1903 will be awarded to the author of the best essay on "The Differential Diagnosis of Typhoid Fever in Its Earliest Stages." Competition is open to all persons eligible to active or associate membership in this association. The first prize consists of a gold medal of the value of $100; the essayist who secures first honorable mention will receive a life membership in the association. The board of award will consist of Dr. Austin Flint of New York, Col. Calvin DeWitt of the Army, and Prof. Victor C. Vaughan of Ann Arbor. Full information concerning the contest may be obtained from Maj. James Evelyn Pilcher, Carlisle, Pa., the Secretary of the association.

Dr. W. B. Whierry, associate in bacteriology at the University of Chicago, has received an appointment to the post of bacteriologist in the government laboratories at Manila, P. I.

Medical Society of the Missouri Valley.—The semi-annual meeting of this society will be held at Council Bluffs, Iowa., on Thursday and Friday, March 19 and 20, under the presidency of Dr. J. M. Barstow of Council Bluffs. The feature of the first day will be a symposium on "Syphilis," to which contributions have been promised by Drs. R. C. Moore, A. C. Stokes, and F. E. Coulter. On the second day will be a symposium on "Typhoid Fever," the names of the contributors to which have not yet been announced. Membership in this association includes practitioners in Iowa, Nebraska, Missouri, Kansas, North Dakota, and South Dakota. Council Bluffs is the birthplace of the society, and it is hoped that the meeting will, on this account, be largely attended The secretary of the association is Dr. Charles Wood Fassett of St. Joseph Mo.

Missouri State Medical Association.—The annual meeting of this association will be held at Excelsior Springs April 21, 22, and 23, 1903, instead of May 19, 20, and 21, 1903, as previously announced.

The King's Tuberculosis Sanatorium.—The issue of the *Lancet* of January 3, 1903, is devoted to a presentation of the three prize essays on the construction of King Edward's Sanatorium for Tuberculosis. The essays are printed in full, and are accompanied by carefully made plans drawn by the architects associated with the medical essayists. The first prize, of the value of £500, was awarded to Dr. Arthur Latham of London, with whom was associated, as architect, Mr. William West of London. The second prize, of the value of £200, was awarded to Dr. F. J. Wethered of London, with whom were associated, as architects, Messrs. Law & Allen of London. The third prize was given to Dr. E. C. Morland of Croydon, with whom was associated, as architect, Mr. G. Morland of Croydon. Honorable mention was also made for essays of great excellence of Drs. P. S. Hichens of Northampton, Turban of Davos, Jane Walker of London, and J. P. Wills of Bexhill.

Academy of Medicine of Toledo.—At the annual meeting of the Academy of Medicine of Toledo and Lucas County, held this month, the following officers were elected: *President*, Dr. Julius H. Jacobson; *Vice-President*, Dr. S. S. Thorn; *Secretary*, Dr. H. E. Smead; *Financial Secretary*, Dr. Charles P. Wagar; *Treasurer*, Dr. W. W. Grube; *Board of Censors*, Drs. Wm. H. Eisher, O. Hasencamp, W. J. Gillette, John A. Wright, and S. W. Beckwith; *Members of the Library Board*, Drs. S. S. Thorn, Harrison Hathaway, W. J. Gillette, Park L. Myers, and A. L. Steinfeld; *Committee on Legislation and Public Health*, Drs. W. C. Chapman, C. L. Van Pelt, and W. G. Dice.

The First Surgical Division of Bellevue Hospital.—Dr. R. W. Taylor has been appointed consulting surgeon, Dr. J. R. Hayden attending surgeon, and Dr. J. R. Whiting assistant attending surgeon, Genitourinary Department, at Bellevue Hospital.

Legal Registration of Nurses.—One of the measures likely to be presented early in the legislative session at Albany has for its purpose the registration and licensing of trained nurses. This proposed legislation had its birth in the city of Rochester, and has received the encouragement and support of prominent members of the medical profession. A board of five examiners, appointed from among names presented to the Regents by the State Association of Nurses, is, under regents' rules, to conduct examinations of all eligibles, the successful ones to receive license as *registered nurses*. This measure will not attempt to restrict others not so licensed from following this vocation, but will debar them from using the title "Registered Nurse," just as at present none other than persons so licensed by the regents are permitted to advertise themselves as "certified accountants." We know of no objection to this proposed law, and if, as it is claimed, it will enable the public and the profession to differentiate the experienced and the inexperienced nurses, the bill deserves to pass.

Pathological Society of Philadelphia.—At a stated meeting, held December 18, Dr. T. S. Githens reported a fatal case of anthracosis. The patient was a young man employed as a barber, who had formerly worked in the coal mines and presented symptoms suggestive of pulmonary tuberculosis, although tubercle bacilli were not found in the sputum. Death resulted from exhaustion, and post-mortem examination disclosed fibrosis of the lungs with deposits of carbonaceous material in the interstitial tissue, in the alveolar and bronchial cells, and in the lymphatic glands, and obliteration of the pleural cavities. Dr. J. K. Walker exhibited a gallstone of unusual size, which he had removed by operation. The presence of the calculus in the gall-bladder being suspected from the symptoms and physical signs, that viscus was exposed and incised and the stone removed. The foreign body measured about 9 by 6 cm., and weighed 550 gms. Dr. S. Rhoads showed a bronchial cast expectorated by a patient suffering from pulmonary tuberculosis, and referred to a number of similar cases recorded in the literature. Dr. A. A. Eshner reported a case of polyarthritis complicated by choreiform symptoms and vegetative endocarditis. The patient was a young man, seventeen years old, who suffered from pain, swelling and stiffness in numerous joints, with elevation of temperature and acceleration of pulse and respiration. Under observation the patient became

restless and emotional, and he finally developed rather violent, involuntary, incoordinate, jerky movements. Death took place as result of exhaustion. Post-mortem examination disclosed the presence of vegetations on the leaflets of the aortic and mitral valves, but no lesion of the central nervous system was found on macroscopic and microscopic study. Dr. Eshner entered upon a brief discussion of the etiology of the various forms of arthritis, including acute rheumatism, and of that of chorea, and he pointed out the relations existing between these several disorders.

Obituary Notes.—Dr. Susan R. Pray died at her home in Brooklyn on January 14, after an illness of two months' duration. She was born in Brooklyn forty-five years ago, and was a graduate of the Woman's Medical College of the New York Infirmary in the class of 1882. After graduation she practised in Brooklyn for three years, and then went to China as a missionary for the Woman's Foreign Mission Board of the Methodist Episcopal Church. She was in China two years, when her health failed, and she had to return to Brooklyn. She was a member of the American Medical Association, of the American Public Health Association, and of the New York State Medical Association. She was for thirteen years connected with the Health Board of Brooklyn.

Dr. George W. Harding died at Ahmednagar, India, on January 13, of septicæmia. He was born in India, the son of the late Rev. Charles Harding, a missionary of the American Board at Sholapur. He was a graduate of Oberlin College and of the Rush Medical College. Dr. Harding and his wife joined the Marathi mission two years ago.

Dr. Robert H. Goldsmith, aged seventy years, died suddenly of heart disease in Baltimore on January 14. He was a graduate of the University of Maryland School of Medicine in 1852. He was not only a practitioner of high standing, but was noted as well for his philanthropy, being connected with numerous charitable institutions.

Dr. Frederick J. Bancroft of Denver died on January 17 in San Diego, Cal., from heart disease. He was born in Connecticut in 1834, and was graduated from the Medical Department of the University of Buffalo in 1861. He was well known as a railway surgeon of wide experience, and had also made many contributions to the literature of climatology.

Dr. James McCullough of Watertown, N. Y., died of apoplexy on January 13, at the age of forty-eight years. He was a graduate of the New York University Medical College in 1880.

Dr. Hilbert B. Tingley, a prominent physician in the Borough of Queens, was killed on January 14 by falling under the railroad cars, while attempting to board a moving train. He was forty-five years old, and was a graduate of the Medical Department of the University of Baltimore in 1889. He had practised at Rockaway Beach for many years, and was known as the poor man's doctor, because of his readiness to respond to charitable calls day or night without hope or expectation of a fee.

Dr. Jacob L. Heller died from pneumonia at Philadelphia on January 12, at the age of thirty-six years. He was a native of Roumania, came to this country in 1885, and was graduated from Jefferson Medical College in 1892.

Dr. Albert Waring Atwater of St. Regis Falls, N. Y., died at Burlington, Vt., on January 9. He was born in 1861, and was graduated from the University of Vermont Medical College in the class of 1885. He came from a line of physicians, his father and grandfather having passed their lives as practitioners of medicine in Burlington.

Correspondence.

FIRST EGYPTIAN CONGRESS OF MEDICINE.

(From Our Special Correspondent.)

(*Continued from page 108*)

Cairo, January 2, 1903.

The subject of ankylostomiasis aroused a much livelier and more real interest among the visitors than that of bilharziosis did. This is not to be wondered at, when it is recalled that the latter has a purely local (*i. e.* African) interest, whereas the former has a distribution which can now be truly called world-wide, and, as recent experience shows, must be remembered in seeking for the cause of obscure cases of anæmia, even in America and England.

Perhaps the most important contribution to the Section of Medicine was the demonstration given by Professor Looss, of the manner in which the ankylostoma larva enters the body. It will be remembered that last year Dr. Looss published the statement that this larva can certainly enter the body through the skin. He had himself become infected with the disease, by larvæ which entered through the skin of his hands; and in the case of a patient, upon whose leg water containing ankylostoma larvæ was placed a short time before the limb was amputated, the worms were afterward found in the hair follicles of the skin, and others below the skin in the subcutaneous tissues. The narration of these experiences failed to convince many scientists; so, in order to persuade these sceptics that skin infection does really take place, Professor Looss brought before the Congress still further proofs of his views. A native servant (who had been employed in the Kasr-el-Ainy Hospital for six years, and had been quite free from any suspicion of the disease), volunteered to submit himself to the test. For four weeks Dr. Looss, from time to time, examined this man's fæces for ankylostoma eggs in vain; he then applied to the skin of his arm some water containing ankylostoma larvæ; on the seventy-first day after this application a few (an average of two per specimen) ankylostoma eggs were found in the fæces, and the number of eggs has been increased at each examination up to the present moment (one month later), when the average number of eggs in each microscopic preparation has risen to thirteen.

Yet another experiment was made to demonstrate this mode of infection. Dr. Looss roughly clipped the hair on the side of a healthy dog's thorax, and loosely applied to this skin area (still covered with short hair) a mixture of fecal matter mixed with charcoal, in which larvæ of the ankylostoma worm of dogs had been bred. Nine days afterward all the symptoms of ankylostomiasis made their appearance, and on the following day the dog died. Post-mortem examination revealed the typical aspect of ankylostomiasis-anæmia, and in the intestine large numbers of young worms, which had reached just that state of development to be expected after being ten days in the body. This experiment was repeated on another healthy dog, with a result absolutely identical in every respect with that of the first. Professor Looss has thus been able not only thoroughly to convince himself that ankylostoma infection does take place through the skin, but has gathered together a mass of positive evidence which must convince every reasonable sceptic of the truth of his contention.

Dr. Looss is now conducting experiments which aim at reproducing as nearly as possible the natural conditions in which the ankylostoma-infection takes place. He applies to the feet (of healthy human volunteers) Nile mud containing the larvæ, with a view to the determination of the route taken by the parasite to reach the duodenum.

Major Gorgas of the United States Army Medical Corps gave an interesting account of the investigations carried on chiefly in Cuba, to elucidate the mode of transmission of yellow fever, and also of the means adopted to check the spread of this disease in tropical America, and especially in Havana.

Dr. Kartoulis (Alexandria) read a very interesting and important communication dealing with the etiology and treatment of tropical dysentery, and abscess of the liver. He discussed the differences between the endemic and epidemic forms of dysentery. The former occurs in the tropics, having been found in various parts of Africa, the East Indies, and the Asiatic Islands generally, in China, in South America, and in parts of the United States. It is always due to the presence of amœbæ—protozoons of the class of rhizopods. The epidemic form of dysentery is not confined to warm climates, but may occur in cold countries like Japan and parts of Europe; it also occurs in the Antilles. It is caused by the bacillus of shiga. In the subsequent discussion it was stated by Professor Chantemesse (Paris) that he and Widal discovered this bacillus (in the excreta of soldiers returned from Tonkin) in 1888 *i. e.* ten years before Shiga called attention to it in Japan

Recently, he had compared this organism with specimens derived from various countries (Germany, the United States, and France), which had been isolated by Kruse, Flexner, Pfuhl, and Duval, and found them to be identical. Professor Chantemesse candidly admitted the inconclusive nature of his early discovery of this bacillus as the cause of epidemic dysentery, which Shiga afterward demonstrated.

After describing his well-known experiments, in which he produced typical endemic dysentery in cats, by the injection of dysenteric stools containing the characteristic amœbæ, and failed to produce the disease by injecting dysenteric fæces containing only saprophytic amœbæ, Dr. Kartoulis discussed, at length, all the objections which have been urged against this mode of causation of the disease. To the satisfaction of all his hearers, he refuted, by means of reports of cases and experiments, all the statements of various writers purporting to disprove his view that tropical dysentery is not caused by the amœba of Kartoulis.

He expressed his emphatic belief that these "dysenteric amœbæ" are the sole cause of tropical or "amœbic" dysentery. Moreover, he found that tropical abscess of the liver is due, in 75 per cent. of the cases, to amœbic dysentery. Non-dysenteric abscess of the liver in tropical countries is due, in great part, to intestinal lesions, and only a small number of cases are pyæmic in origin. Alcohol and, more rarely, malaria give rise to an inflammatory hepatitis, which predisposes to suppuration without being the direct cause. The actual suppuration is, of course, due to pyogenic microbes.

After trying a great number of remedial measures, Dr. Kartoulis has finally adopted, as a routine measure for the treatment of tropical dysentery, and as a prophylaxis against abscess of the liver, abundant lavage of the intestine, with an aqueous solution of tannin (0.50 per cent.). The lavage is performed twice on the first day. Purgatives are of no importance.

Professor Chantemesse (Paris), in the subsequent discussion, said that the only important omission in Dr. Kartoulis's excellent report was his failure to mention his own (Kartoulis') great merit in discovering the undoubted cause of amœbic dysentery.

Dr. Voronoff (Cairo) discussed the surgical treatment of abscess of the liver. He advocated the necessity of a large resection of the ribs, suturing the pleura and peritoneum, and curettage of the abscess cavity. A lively discussion ensued as to the desirability of curetting the lining of the abscess, the followers of the French teaching advocating, and the Germans, especially Dr. Goebel (Alexandria), condemning this proceeding.

Professor Fornario (Cairo) read an exhaustive communication on malaria in Egypt, and also discussed many points of general clinical interest in this disease, more especially with reference to its influence on the heart, liver, and kidneys.

He came to the conclusion that, although malaria is common at Alexandria, the sea-coast, and fringing the Suez canal, it also occurs in other parts of Egypt—for instance, Cairo, Assuan, and the Delta. Between September, 1899, and December, 1901, he had seen sixty-six cases of malaria.

In Egypt, as in Europe, the disease presents itself in various forms. In Cairo the tropical form (tertian or quotidian) occurs almost exclusively; at Ismailia (Suez Canal) it is the simple tertian and quartan form.

Many cases occur with all the symptoms of malaria, and react to quinine, and yet examination of the blood has failed to demonstrate the plasmodia.

In the malarial fever of Egypt it often happens that the enlargement of the spleen is very slight, or even not present. On the contrary the liver undergoes great enlargement, and hence the differential diagnosis of abscess of the liver and malarial fever sometimes crops up.

The kidneys are very often affected, but the trouble is usually not serious.

In addition to displacements of the heart, caused by hepatic and splenic enlargements, dilatation of the heart, in malaria, is much commoner (not only in Egypt, but also in Italy) than is usually supposed, and may give rise to serious complications.

Professor Tessier (Lyons) gave a full account of the pathological anatomy and means of diagnosis of malarial nephritis. It especially attacks the epithelium of the tubules, and in most cases is not serious. However, it often becomes chronic, and is then "mixed," both anatomically and clinically. Such cases are usually the result of some concurrent cause, such as alcoholism, syphilis, la grippe, or the puerperal state, and the prognosis is then much graver than it is in the simple malarial form of nephritis. An important sign of the gravity of the affection is the presence, in the urine, of certain albuminoid substances of the group of albumoses, giving a violet-purple coloration, with a few drops of liquor cupropotassæ, after coagulation by heat.

Many other papers dealing with malaria were read, and there was considerable discussion. In the course of the discussion Professor Mariani (Genoa) stated that malaria is transmitted by anopheles, but not in all cases.

Dr. Walter Innes (Cairo) described the distribution of the anopheles mosquito in Egypt.

Professor Chantemesse (Paris) presented a long report on the serum-therapy of typhoid fever. He described the results of the application of his antityphoid serum to a large number of patients in French hospitals, and claimed for it that it helped man to resist the fever, and exercises in him the same preventive and curative effects, which experiments has shown it to possess in animals submitted to the typhoid virus. The result is a greatly lessened mortality, and a curative influence on local affections. The serum is anti-infectious and antitoxic, but, above all, it excites the activity of the phagocytes, and also of the leucopoïetic organs, which produce the phagocytes. The serum is especially valuable early in the disease.

Drs. J. Courmont and Ch. Lesieur (Lyons) stated that the bacillus of Eberth can be demonstrated in the blood of typhoid-fever patients in the early stages (*i. e.* up till the twentieth day) of the disease. As the bacillus can be demonstrated in the early stage of every true case of typhoid fever, before the Widal test is applicable, this fact is of the utmost importance for purposes of diagnosis. To isolate the bacilli, he inoculates 300 c.c. of bouillon with 2 to 4 c.c. of the patient's blood. As the result of a discussion, in which Professor Mariani described, at length, his researches in Professor Maragliano's clinic at Genoa, Dr. Courmont admitted that much still remained to be done in this field of research before its full scope could be thoroughly appreciated.

Dr. Ibrahim Pasha, the president of the Congress, read an interesting paper on tuberculosis in Egypt. He said that the Egyptian climate is not favorable to phthisical patients, accustomed to a warmer climate, but exercises a beneficial influence on European patients coming from places not of high altitude. The most favorable season is from October to April. At other times of the year the heat and the khamseen winds exert a deleterious effect.

Professor Maraglano (Genoa) read a very long communication on the treatment of tuberculosis, and laid some stress on the beneficial effects accruing from injecting into the human blood steam "defensive materials" prepared from the blood of healthy animals, such as the horse.

Dr. J. P. Langlois called attention to the efficacy of the impure sulphurous acid produced under pressure, and at a high temperature in the Clayton apparatus for disinfecting ships. It kills all kinds of infectious germs, rats, and insects, and does not appreciably affect the most delicate merchandise, nor exercise any deleterious influence on human beings.

Dr. Schuman-Leclercy (Carlsbad) described the beneficial effects obtained in a series of cases of severe diabetes by substituting, as far as possible, vegetable albumin for animal albumin in the food. He made an elaborate series of tests, both in cases fed on vegetable albumin, and a control series fed on the usual diet, and found a great gain in weight in the former group.

In the Section of Ophthalmology the whole time was taken up in discussing Egyptian ophthalmia and trachoma, which work such fearful havoc in this country. Dr. E. C. Fisher brought forward certain prophylactic measures, by means of which it is hoped that the frequency of these complaints may be lessened. These consist chiefly in the enforcement of the obvious hygienic measures: Supplying the villages with pure water, by means of wells, rather than permit them to use the polluted river water; removing cattle and horses away from the houses, so as to lessen the plague of flies, and endeavoring to instil into the people's minds the dangers of neglect of the elementary rules of hygiene.

Dr. Guzet (Lyons) described the application of photography to the study of certain ocular affections, and exhibited an admirable series of photographs of intraocular structures.

A large number of very interesting communications, of a nature which does not readily lend itself to condensation into the form of abstracts, were read in the various sections. In this class I might refer to several memoirs on native practice of medicine, the therapeutics of the ancient Egyptians, and similar topics; Dr. Engel (Cairo) gave an historical account of leprosy, especially in this country; Dr. Bitter (Cairo) described, in great detail, and with elaborate statistics, the course and means adopted for coping with the epidemics of cholera and plague in Egypt; Dr. Sandwith (Cairo) also described the clinical features of Egyptian pellagra, and Mr. Reginald Harrison (London) gave an account of the geographical distribution of urinary calculi—to mention only a few of the many interesting papers.

At the closing séance Professor Nothnagel (Vienna) gave a very interesting address, in which he urged the constant

and strenuous striving after the prevention of disease, and the highest aim and the ultimately attainable goal of medical practice. The address contained nothing strikingly new, and yet the happy expression of views, which every thinking practitioner must have, consciously or unconsciously, formulated for himself, formed a not inappropriate "corrective" at the end of a successful congress, when, for the moment, novel ideas and strange suggestions may have tended to dim the clear, guiding light of modern medical striving.

Progress of Medical Science.

The Boston Medical and Surgical Journal, January 15, 1903.

Vesical Appearances in Renal Suppuration. — Edgar Garceau describes a case the great interest of which lies in the two following points: First, that a suppurating kidney may exist in the body and that the corresponding ureteral eminence in the bladder may not be at all diseased. Second, that long-continued boracic acid vesical injections will and do, in these cases, reduce the intensity of the cystitis to almost nil. The diagnosis of a suppurating kidney in similar cases must be made by seeing purulent urine exuding from the corresponding ureteral orifice. In most cases of suppurative inflammation of the upper urinary passages, lesions will be seen at the site of the corresponding ureteral eminence, but as this sign is sometimes totally wanting, it is evidently not positive.

A Case of Retinal Hemorrhage in a Patient of Seventy-three; Treatment by the Faradic Current; Complete Recovery.—Hasket Derby began the treatment with the Faradic current in this case on October 17 and used it ten minutes at a time, three times a week, up to May 26. Small doses of iodide of potash were also administered during all this time. The peripheral hemorrhages began to be absorbed much more quickly than the macular. The patient's original vision was reached May 26 and treatment was suspended. In the following September not a single spot of hemorrhage was to be found in the fundus, a very slight grayish discoloration alone marking the site of the more extensive blood patches. The author says that the recovery may have been due to other causes than the use of the current, but it is surely an unusual instance of a *restitutio ad integrum* in a person of over seventy, of very full habit, and in an aggravated case. He hopes that other practitioners will apply the treatment and report the result. He also calls attention to the analgesic properties of the Faradic current, especially in iritis and iridochoroiditis.

The Treatment of Hay Fever.—Lorenzo B. Lockard considers the treatment of this affection under two heads—prevention and palliation. Preventive treatment must be both local and constitutional; the former may be summarized by saying, "Correct all abnormalities; if none exist, cauterize lightly the mucosa of those areas which are known to be particularly susceptible." The general treatment should be begun at least four weeks before an expected attack, and is given with three objects in view: an increase in elimination and decrease in production of uric acid; the correction of any existing neurosis; the removal of constitutional or local abnormalities. As for palliation after the attack is fully established, the author operates or cauterizes when such procedures are indicated by the local conditions. In all cases he administers nitro-muriatic acid (not the dilute) three to five drops after meals and before retiring. In only a few cases has it completely failed. Upon omitting a single dose, however, the symptoms recurred. For the nasal discomfort, adrenalin chloride is a remedy of great power. It is more efficaceous than cocaine, does not lose its power, no matter how frequently used, and has no deleterious local or constitutional effects. The adrenalin should be followed by an oily spray.

Journal of the American Medical Association, Jan. 17, 1903.

Syphilis of the Larynx.—C. M. Robertson describes the usual lesions and clinical appearances of specific lesions in the larynx, but nothing new is offered. A diagnostic table of the signs of syphilis, carcinoma, and tubercle is added. For internal treatment he combines mercury with iron and phosphoric acid. When the iodides are indicated he advocates the combination of iodide of potash with bromide of sodium, thereby is the tendency to iodism greatly lessened. Topically he prefers, as a cauterizing agent for specific ulcers, iodine crystals in creosote (to saturation).

Epilepsy; Its Psycopathology and Medicolegal Relations. —H. A. Tomlinson says that we have practically no anatomic basis for the psycopathology of epilepsy. It is probable, however, that those individuals who become epileptic do so because of some primary defect in the development of the brain which renders the cortical cells in the motor area abnormally unstable, so that causes of disturbance occurring in infancy, during the period of second dentition, or at puberty, may be sufficient to give rise to these explosive discharges of excessive motor activity, which we know as convulsions, and which have a tendency to become habitual. The fact that, in children, disturbances in the alimentary canal are the most common sources for the origin of the conditions which give rise to the convulsive outbreak, suggests that, as a result of the autointoxication, there are developed changes in the nutrition of the cortical cells, resulting in increased irritability and the production of these undue and untoward manifestations of motor activity. As to the medico-legal relations of epilepsy, we must determine, in case of a given act, bringing the epileptic within cognizance of the law, first, the nature act; next, how far it was habitual under similar circumstances; then the extent to which the epileptic was capable to, and did appreciate the significance of the act or acts, with relation to his environment. Finally, how and to what extent he might be able to appreciate his relationship to his fellows and control his conduct so as not to jeopardize their welfare; and in order to determine these facts we must understand his position in the family, community, society, and those abnormal conditions resulting from his disease, which might interfere with his relations to those about him.

The Mortality Following Operations for Pus in the Pelvis.—H. Robb offers the following conclusions: (1) The mortality following operations for suppurative diseases of the tubes and ovaries can be kept under 5 per cent. (2) The death rate is largely influenced by *a*, the virulence of the specific organisms present; *b*, the individual resistance of the patient; *c*, the time and manner of carrying out the operative technic. (3) The microorganism most to be feared is streptococcus pyogenes, but it must be born in mind that this organism varies considerably in virulence. (4) Abdominal drainage following operations for pus in the tubes and ovaries is seldom called for, as the organisms are generally dead. Drainage becomes necessary only when it has been found impossible to remove the suppurative structures, or where perforation of the bowel from the separation of dense adhesions is to be feared. Under these circumstances the best route is by the vagina. (5) The employment of sterile salt solution for irrigating the pelvic cavity will satisfactorily remove the pus or its products, and the filling of the abdomen with salt solution will dilute and promote the rapid absorption of any inflammatory products that may be left behind. (6) The elevated position for twenty-four hours following the operation, with the abdomen filled with salt solution, tends to prevent the intestines and omentum from coming in contact with the immediate field of operation, and as a result adhesions are not so likely to form between the viscera and the incised surfaces. (7) Should symptoms of infection follow the closing of the wound in pus cases, we have, as a rule, sufficient time to reopen the abdomen and wash out the infective material that may have been left behind, or that may have been introduced at the time of the operation. (8) Operations for pus in the tubes and ovaries from the standpoint of the pus *per se* are not surrounded by more danger, as a rule, than those in which a purulent focus is not present.

Medical News, January 17, 1903.

The Treatment of Acute Suppuration of the Middle Ear.—Wendell C. Phillips draws the following conclusions: (1) In acute middle-ear suppuration early and free drainage is of the utmost importance. (2) Patients should remain in bed until acute symptoms have passed. (3) Free purgation (preferably by means of calomel) should be resorted to. (4) Microscopical examinations of pus should be made. (5) Local treatment should consist of cleanliness and free drainage. (6) Proper internal medication should not be ignored. (7) Prolonged attempts to abort suppuration of the mastoid cells are to be condemned. (8) Early operative interference in mastoid suppuration prevents the more serious complications and gives far better hearing results. (9) Uncomplicated cases of acute suppuration of the middle ear, when properly treated, always recover in from two days to three weeks. (10) The reponsibility for preventive treatment must be largely assumed by the family practitioner. He should appreciate the importance of this when caring for grippe, the exanthemata, or other infectious intranasal conditions, and also the early and complete removal of diseased adenoid tissue.

Complications of Chronic Suppuration of the Middle Ear.—Robert Lewis, Jr., deals with those phases of the subject which are concerned with the etiology of the complications of chronic purulent otitis media, and of the frequency and serious nature of these complications.

First, there are those which relate to the parts primarily involved. The membrane tympani may be wholly or partly destroyed; the mucous membrane lining is partly or wholly replaced by granulation tissue and polypi; similar changes often occur in the adjacent related cavities; one or more of the ossicles are carious or destroyed; or there may be necrosis of the tympanic walls. Again, there are complications involving other auditory structures, as a necrosis of the petrous part of temporal bone with destruction of the auditory nerve; a cholesteatomatous mass in the mastoid antrum; or a mastoiditis of those parts of the mastoid process which have escaped eburnification. The result is an impairment or loss of hearing. The third group of complications involve other organs than those of audition. For example, one of the sinuses at the base of the brain may become involved in a septic inflammation, with the formation of a septic thrombus; the internal jugular vein or the carotid artery, even, may also be involved in a similar inflammation. There may be a pachymeningitis. or a laptomeningitis. or, from extension of the septic infection, an abscess cavity in the substance of the brain. Facial paralysis may follow an erosion of the Fallopian canal. There may be septic pneumonia or pleurisy or a metastatic abscess of liver or spleen or some other part of the body. A septic synovitis or gastroenteritis, or even a general pyæmic condition, may develop. There are many paths along which infection may travel from its original focus. Every case of chronic purulent otitis media must be treated as a disease that must be eradicated, no matter how simple the case may appear.

New York Medical Journal, January 17, 1903.

Topical Bloodletting as a Derivative and Revulsive Remedy in Congested and Inflamed Hemorrhoidal Blood Vessels and in Other Affections.—W. Bodenhamer refers to the older practices of venesection and arteriotomy, and deplores the fact that they have become so obsolete, for he does not believe that there are any other measures so valuable as these in pleurisy, pluropneumonia and sunstroke. Leeches applied to the ano-rectal region are beneficial not only in maladies of these parts, but also in chronic affections of the liver, spleen, colon, and contiguous organs. In hemorrhoidal prolapse the leeches should be applied not directly to the parts but at some distance. Similarly in certain affections of the feet it is better to abstract blood from the arm, In hemorrhoidal cases the best region for application, in the author's opinion, is the lumbar. From five to fifteen leeches may be applied daily, according to the condition of the patient, until he is relieved. After the acute inflammation has been subdued, operative measures may be considered in those instances in which the tumors have become regularly organized.

Intestinal Indigestion and Its Relation to Arterial Sclerosis and Renal Disease.—L. Weber gives the clinical histories of three cases exhibiting the sequence of events named in the title. Commenting on the fact that children with cholera infantum and similar acute and subacute gastrointestinal affections frequently suffer and die from acute nephritis, he says that he sees no reason why similar poisons continuously supplied should not produce chronic renal changes, especially those characterized by interstitial inflammation. The mode of action of these poisons is probably that brought forward by Ribert, who has maintained that the noxious agents coursing with the blood current do not attack the parenchyma directly through the capillarics. but get into the lymph spaces, and, in flowing from the periphery toward the hilum of the organs develop their irritating and deleterious influence upon both parenchyma and interstitial tissue. By the peculiar tractlike way in which the lymph channels and lymph nodules are arrayed beneath the capsula propria and within the cortical substance of the kidney, the focal distribution of the inflammatory process would then be explained. With reference to the treatment of these cases, the author says that it is self-evident that the administration of small doses of the iodides t. i. d. constitutes part of the treatment of established sclerotic disease; when disease of the kidneys is threatened through gastrointestinal indigestion, careful diet, intestinal antisepsis, *i. e.* calomel in very small doses, frequent cleansing of the colon, regulation of the patient's life, etc., will be of direct benefit and of the first order in our therapeutic measures.

The Mechanics of Flat-foot; Causative, Preventive, and Curative.—E. M. Thompson defines flat-foot and assigns as causes, rheumatism, rachitis, paralysis, general muscular weakness and trauma, either direct or indirect. The astragalus or keystone of the arch is the keynote of the condition. When we find a case of flat-foot, it is because this bone is dislocated downward, forward, and inward, owing to the stretching, tearing, or suturing of the inferior calcaneoscaphoid ligament. The scaphoid being now free, is "popped" outward by the pressure of the astragalus and superincumbent weight of the individual, the foot is abducted and everted; the middle cuneiform slips downward and the internal cuneiform slips outward, thus bringing pressure upon the plantar vessels and nerves, and giving rise to acute pain, which is transmitted to the legs and thighs, and even to the back via the anterior tibial, musculocutaneous, and external plantar nerves, all of which supply the mediotarsal joint. Many œdemas of the lower extremity are doubtless due to this cause. The following rules are given for reducing the dislocation: Grasp the foot firmly and extend it sharply on the tarsus (this increases the space between the internal cuneiform and the astragalus). Then forcibly invert and abduct the foot and flex it again to 90°, maintaining the adducted and inverted position. This will bring the scaphoid back into place and reestablish the relations of the arch. With the foot held in this position adhesive plaster straps are applied firmly, by attaching one end over the instep and bringing the other end over the outer side of the foot, under the sole, and upon the inner side of the foot, crossing over in front of the ankle-joint and up around the calf in a spiral manner to just below the knee. A second, third, and fourth strap are applied in the same manner. Short straps may be applied anteroposteriorly around the heel, crossing at the instep to hold the foot more firmly, but these are not essential. Plaster of paris is applied in aggravated cases (in which an anæsthetic is used) in the same manner and after the same method of reduction. This dressing holds the foot in varus, or inversion. The adhesive plaster straps must, of course, be a temporary dressing or be renewed frequently. They are usually employed while steel insoles or braces are being made.

American Medicine, January 17, 1903.

The Etiology of Endocarditis, with Especial Reference to Bacterial Agencies.—Sanford Blum gives the following classification of endocarditis with reference to its etiology: (1) Congenital and infantile endocarditis may be due to defective development, to reparative processes as suggested by Parrot and to other causes (unknown). (2) Endocarditis due to known bacterial agencies, *e. g.* streptococcus staphylococcus, tubercle bacilli, pyocyaneous bacillus. (3) Endocarditis of probable bacterial origin, associated with definite diseases, presumably of a bacterial nature, but of which the bacterial agents are still undiscovered, *e. g.* rheumatism, chorea, syphilis, exanthems, etc. (4) Endocarditis due to mechanical or chemical results, *e. g.*, blows, strains, noxious excretory products in the blood, alcohol, atheroma.

A Contribution to Pernicious Anæmia.—O. E. Lademann states that the pathologic changes found in pernicious anæmia are by no means agreed upon, though the consensus of opinion is toward an "achylia gastrica" (Einhorn) as the existing lesion. It is still more unsettled as to whether the hæmolysis is due to the absorption of some toxic material in the alimentary tract, or whether it is a primary hæmatogenesis. The writer believes the former the more plausible, and upon this assumption he bases his therapy, which consists of daily irrigations of the intestinal tract. He does not believe that arsenic approaches a specific in pernicious anæmia. He reports a case in which the therapy consisted of daily lavage of the stomach with 1,000 to 2,000 c.c. of water and high enemas of 1,000 c.c. The diet consisted chiefly of milk, eggs, and milk preparations. Fowler's solution was given for twenty days.

Diphtheria Antitoxin in the Infectious or Bacterial Bronchopneumonia of Childhood.—Joseph O'Malley reports three of these cases. In all, defervescence occurred by lysis within eight to ten hours after the serum was used. The cases were unusually severe. The first time that the writer used the serum he did so because of the proximity of a case of diphtheria, thinking the bronchopneumonia was of bacillary origin, perhaps due to Klebs-Löffler bacilli. The remarkable results caused him to use the same treatment in bronchopneumonias complicating the exanthems. Since then he has used the serum in like conditions with uniformly satisfactory results. He has also used it in scarlet fever in which the anginal symptoms were pronounced, and he obtained a rapid amelioration of this and all of the other distressing symptoms. He believes that the serum is a most valuable therapeutic agent in a class of cases otherwise beyond ordinary therapeutic aid, particularly in bronchopneumonia complicating the bacterial diseases of childhood.

Philadelphia Medical Journal, January 17, 1903.

Two Erroneous Surgical Decisions in Intestinal Perforation from Typhoid Fever.—John B. Roberts discusses these cases, reported above, in a most instructive paper, and concludes, from their careful study, that: The occurrence of pain and the increased rate of pulse and respira-

tion are probably the most valuable early diagnostic symptoms of perforation. The count of leucocytes seem to have little value, unless it be hereafter proved that a count of the polymorphonuclear leucocytes has diagnostic significance. A sudden fall in temperature is not a necessary accompaniment of perforation.

Two Cases of Perforation in Typhoid Fever, in One of Which an Operation Was Performed.—James Hendrie Lloyd and Thomas Luther Coley present this paper. In the first patient, a man fifty-two years old, the fever from its outset was not regarded as severe. There was no difficulty in controlling the temperature. There was no diarrhœa, nor more than a slight degree of tympanites. He disliked milk, but no symptoms followed its administration till noon on the thirteenth day of the disease, when a sudden attack of pain with vomiting occurred. With the onset of the pain there was neither a drop in the temperature nor appreciable change for forty-eight hours in the pulse or respiration. With the increase of tympanites, the liver dulness could be well made out, and there was no exquisite or even general pain on abdominal pressure. The leucocyte counts, which were made during the afternoon of the day in which the pain occurred, varied between 7,200 and 8,000. It is questionable whether these figures should be regarded as a leucocytosis, even admitting the leukopenia, which is present in typhoid. From the time of this attack of pain the patient grew worse, and in five days he died. The perforation was found nine inches from the ileocæcal valve, and was one-eighth of an inch in diameter. In the second patient the fever and tympanites were both greater in degree than in the first case. At the time of the first attack of vomiting the temperature was 100°, respirations 44, pulse 120. Four hours later there was a second attack of vomiting, at which time the temperature was 102°, pulse 116, respiration 36. The general character of the temperature-curve was very similar to that of twenty-four hours before, with the difference that at that time the respirations were 20 and the pulse 88 and 90 respectively. The difference in the respiration rate, at which time the perforation probably took place, is suggestive. The symptoms in these cases gave small indications of the presence of extensive perforations and fecal accumulations in the abdominal cavity. More extended observations in similar cases are greatly needed, for the early recognition of perforation is imperative if the patient is to be saved by surgical intervention.

The Lancet, January 10, 1903.

The Diffusibility of Scarlet-fever Virus.—J. Rutherland believes that the scarlet-fever virus has a low diffusibility—that is, the poison is not carried from the sick by healthy persons who themselves escape but infect others. He has never found a satisfactory explanation of this mediate contagion. From observation of various outbreaks, he was cognizant of no less than eighty-two different sets of circumstances, each of which was, so far as our present knowledge goes, in every way calculated to promote the transmission of infection in the manner specified, yet no such transmission occurred. This absence may be due, he thinks, to the weight of the desquamating scale containing the virus, the drying and rapid devitalization of the latter, or some cause or condition as yet unsuspected. This matter is quite distinct from the intensely contagious nature of the disease, for the author has seen only one single instance of a susceptible child escaping after contact with a desquamating case.

Intravascular Antisepsis.—Injections of various compounds have been made by J. M. Fortescue-Brickdale. From his first series of experiments he concludes: (1) Perchloride of mercury, oxcycyanide of mercury, and protargol cannot be injected intravenously into rabbits in sufficient strength to produce an antiseptic effect lasting over several days. (2) A mixture of chinosol and formic aldehyde is too toxic, even in minute doses, to be of use for practical purposes. (3) Chinosol or formic aldehyde can be injected intravenously so as to produce a solution which would have an inhibitory action *in vitro*. (4) Sodium taurocholate can be injected in small doses, but that toxic effects manifest themselves after a few days. In a second series of experiments, the effects of injections of the foregoing substances on infected animals were investigated. Conclusions are as follows: (1) Rabbits injected daily with non-toxic doses of oxycyanide of mercury, formic aldehyde, chinosol, protargol, or taurocholate of sodium are not thereby protected from the usual effects of a previous inoculation of virulent anthrax; and (2) chinosol and formic aldehyde in large doses (toxic) so depress rabbits infected with the pneumococcus that they die sooner than an untreated animal.

An Improved Method for the Microscopical Diagnosis of Intermittent Fever.—R. Ross calls attention to the difficulty in detecting the malarial organisms from the obscuring effect of the massed corpuscles. He, therefore, washes out the hæmoglobin from the capsules. His method is described as follows: A large drop of blood, amounting to, say, 20 mm., is taken up on the glass slide or cover-glass and is slightly spread out by means of a needle or lancet—that is, it is spread over an area which can be covered by an ordinary cover-glass. It is then allowed to dry, either naturally or over a flame (without heating so much as to fix the hæmoglobin). The result is that we have a thick dried film of blood in which about 2 c.mm. of blood (instead of the 1 c.mm. generally used) are disposed over an area which is not larger than the area of blood usually examined by the ordinary processes. As soon as the film is perfectly dry, he lays upon it, by means of a glass rod, a quantity of aqueous eosin solution sufficient to cover the film of blood. The solution is the one which is usually employed in order to obtain the Romanowsky effect. It is allowed to remain upon the film of blood for a period up to about a quarter of an hour. This period should be inversely proportionate to the strength of the solution. As the film of blood has not been fixed, the solution of eosin will take out the hæmoglobin of the dried corpuscles, and, at the same time, will stain the residual mass consisting of the stromata of the corpuscles, the leucocytes, blood-plates, and parasites. After the solution has remained upon the film for the period required it is washed off by a very gentle stream of water. As the film has not yet been fixed to the glass, it is most essential here to use no strong current of water, or else the whole of the residual mass will become detached from the surface of the glass. As soon as the eosin solution has been washed out a weak solution of the methylene blue, which is employed for the Romanowsky stain, is allowed to run over the film, just as was done for the eosin solution. The blue is permitted to remain only for a few seconds, the time varying inversely with the strength of the solution. Especial care must be taken not to stain the preparation too dark a color. Next the blue is washed off very gently in its turn and the preparation is complete. We can now dry the stained film and mount in Canada balsam, or examine it directly by placing a drop of cedar oil upon it for the immersion lens; or we can mount it in water, place a cover-glass over it, and examine as usual.

British Medical Journal, January 3, 1903.

Purpura Hæmorrhagica Following Sea Bathing.—Edward Tonge reports the case of a boy of five years who had had perfect health up to the time when he took his first sea bath. The day after, his temperature was 101.2° F., and he was suffering from vomiting, sever pain in the lumbar region, and a slight petechial rash on the chest. The next day he became anæmic, there was a hæmatoma in the left popliteal space the size of an egg and various ecchymoses. The temperature was normal. The urine and stools contained blood. A slight systolic murmur was heard in the left axilla. A week later the whole left side of the body was convulsed. Convalescence was delayed for two months, but he recovered.

The Diagnosis and Treatment of Various Forms of Septic Synovitis.—F. C. Wallis, in speaking of the differential diagnosis between septic synovitis and rheumatic fever, calls attention to the fact that profuse sweating is invariably present in an attack of rheumatic fever. Two symptoms which are nearly always present in septic conditions, and upon which he depends to a considerable extent in making his diagnosis, are the dry, harsh, unpleasant condition of the skin, and more particularly the restless, distressed, unhappy mental condition which exists in these patients. Monarticular synovitis, coming on suddenly in young people without any known reason, is always suggestive of gonorrhœa. If after a week of expectant treatment the joint still remains distended and shows no sign of amelioration, the joint should be opened and washed out with warm saline solution. The incision is then carefully closed. At the end of from ten to fourteen days of rest, when the incision is quite healed, the joint may gradually be used again, when massage will be beneficial. Synovitis may follow influenza. When associated with osteomyelitis the joint should be opened at once on account of the greater virulence of the microorganism, and the consequent rapid destructive changes. It may even be desirable to drain the joint for a day or two. In synovitis due to streptococcus infection, the joint must be opened freely, drained and irrigated often. The question of a movable joint is of secondary importance. The chief object is to keep the limb and preserve the patient's life. In pyæmic synovitis the rapid production of pus is really a safeguard, for the physician is then apt to open the joint promptly, drain and irrigate it—treatment which tends to preserve the limb. No joint can be properly washed out through a trocar, and no harm can follow early excision and irrigation when properly done.

Fourteenth International Medical Congress.

To Be Held in Madrid, April 23-30, 1903.

FORMER INTERNATIONAL MEDICAL CONGRESSES.

In the preparation of the following historical sketch free use has been made of the data upon the first nine congresses furnished by Sanitätsrath Dr. S. Guttmann, in the *Deutsche medicinische Wochenschrift* for 1890. As Dr. Guttmann remarks, on a general survey one observes that every one of these congresses has been organized under the most different conditions, and every one has presented an attempt at reform. Some of these reforms have been enduring, while others have lapsed, and have been replaced by new ones.

The *First Congress* was held at Paris in 1867. The first proposition of an international medical congress originated at the annual meeting of French physicians at Bordeaux in 1865. It was based upon the expectation that a great many physicians from all countries would find themselves together at the World's Exposition in Paris in 1867. The committee in charge of arrangements, under the chairmanship of Bouillaud, submitted a program of seven questions relating to anatomy, physiology, surgery, internal medicine, and public hygiene. The international character of the meeting was marked by the participation of delegates from various countries, and from many foreign learned societies, and by the nomination of six foreign vice-presidents, of whom Virchow was one. The Congress was held without any such ceremonies as official hospitalities and general festivities, which have come to occupy so prominent a place at these meetings. The Congress comprised 333 French and 589 foreign members. In his opening address, Bouillaud said: "We celebrate to-day a great fête, than which the history of medicine can cite no greater." Among the questions propounded were: Tuberculosis in different countries, and its influence on mortality; the possibility of proposing efficacious measures for the restriction of venereal diseases; the influence of alimentation, climate, race, and conditions of life in different countries, upon disease. The cost of publication of the proceedings of the Congress was defrayed by contributions.

During the second evening session, Dr. Pantaleoni, one of the delegates from Italy, expressed the wish that this international meeting of physicians might be the first of a long series, thus originating the idea of periodical international medical congresses. At a subsequent session, at which several nations were named as desirous of entertaining the next Congress, considerable doubt was expressed as to whether a congress could be got together without the extraordinary incentive of a universal exposition in one of the greatest cities of the world. Nevertheless, votes were taken, and Italy was unanimously selected as the country in which the second "Olympiad," as Bouillaud termed it, should be held. After consultation among themselves, the Italian delegates named Florence, the then capital of Italy, as the place of meeting.

The *Second Congress*, accordingly, was held at Florence from September 23 to October 2, 1869. Seven questions were propounded, among which were: Marsh miasm, the conditions favoring its developments, its effects, and the most efficient methods for combating it; the therapeutics of cancer; the treatment of gunshot wounds; the hygienic conditions of hospitals; the conditions favoring epidemics in large cities, and the means for prevention; the rights and duties of physicians in regard to legislation in different countries, and the ameliorations which can reasonably be expected therefrom. Evening festivities, an excursion to the hot springs of Monte Catari, and a resplendent banquet, tended to multiply and to knit more closely the international relations among the participants.

The *Third Congress* was delayed two years by political events, and by the desire to assimilate it to the time of the Vienna Exposition of 1873. The committee, consisting of Vienna physicians, under the chairmanship of Rokitanski, suppressed the chief provision of the program of the Congress of Paris, which limited the discussions of the Congress to purely scientific matters, and embarked upon a consideration of an admixture of legislative and hygienic problems. The Austrian Ministers of Commerce and of Foreign Affairs wished to avail themselves of the occasion to reach a conclusion upon the subject of quarantine, and all the questions provided in the program related to hygiene. The discussion is noteworthy as the first upon cholera. The establishment of quarantine by land and river, and the maintenance of sea quarantine were favored, and the Congress desired the formation of an international commission for the investigation of the cholera virus. Compulsory vaccination was also recommended to the European governments. While in Paris an international stamp had been impressed upon the Congress by the choice, from all countries, of a number of leaders for the discussions, the Organization Committee chose only Vienna physicians as leaders. The Congress preserved, however, its international character through the great number of delegates from the governments of the various countries, and by the naming of foreign presidents and vice-presidents, who were entrusted with the conduct of the discussions. In spite of the deviation which gave the Congress of Vienna rather the form of a hygienic congress, this Congress, on its part, incontestably contributed to progress by the limitation of work to one instead of two weeks, without a diminution in the number of the sessions held at Paris and at Florence. A second step taken was the permission granted for the use of additional languages.

The *Fourth Congress* was held from September 19 to 25, 1875, at Brussels, under the presidency of Dr. J. F. Vlemingkx. To Warlomont and Crocq the organization of the Congress was indebted for an essential reform in the arrangement of the sections along the lines of the various branches of medical sciences. The realm of medicine was thus resolved into a number of specialties which secured greater depth in the treatment of the questions raised. This process of division is a universal one. Its conditions lie not alone in the increase in the matter of the sciences, but as much in the refinement and complication of methods. In every way interest was heightened by this arrangement. The number of the questions prepared, and of the reports which were under discussion, was considerably increased. A further progress which marked this Congress was the exhibition of newly introduced and progress-marking instruments for study and practice, and an inspection of the sanitary arrangements of the city of Brussels. At this Congress also there were a number of delegates from the governments of the various countries. But instead of the foreign presidents and vice-presidents, there were numerous honorary presidents, both for the general meetings and for the sections, who, however, seldom

acted in place of the President of the Committee of Organization. The latter reëstablished that article of the statutes which preserved to the Congress its essentially scientific character. The principal topics of discussion were the prevention of cholera, the rôle of alcohol as a therapeutic agent, surgical anæsthesia, the organization of the public hygiene service, and the disposition of the criminal and dangerous insane.

The *Fifth Congress* took place at Geneva from September 9 to 15, 1877. The membership was less than 500. Prof. Carl Vogt was elected president. This Congress reëstablished the practice of the Congress of Paris of seeking leaders of the discussions in all countries. Professor Bouchard read an extensive paper on the etiology of typhoid fever, calling attention to its dissemination by the air and water, and he discussed the effect of sewer gas on the health of workers in the sewers. Professor Vogt spoke on the entozoa of man. Doctor Broadbent discussed cerebral localization. Professor Schiff maintained that the function of the spleen is not blood forming, but that it is accessory to digestion, furnishing necessary products to the pancreas. Professor Lombard spoke on malaria in Europe. Professor Revilliod discussed diphtheria and croup, maintaining their identity. Esmarch discussed the advantages and disadvantages of his well-known bloodless method of operating. Marey reported on the electric discharge of the torpedo eel, which he considered analogous to a muscular discharge. Professor Magnan gave his conclusions on the relation of alcohol to insanity. The practice adopted at Vienna of settling administrative and legislative questions by majority vote was discontinued, beginning with this Congress.

The *Sixth Congress* took place at Amsterdam from September 7 to 13, 1879. The membership was under 500. This Congress was marked by Lister's discourse on his antiseptic method of handling wounds, and also by Virchow's address upon the preliminary education of physicians. Professor Donders, the President of the Congress, spoke on the condition of medical science, and emphasized the importance of experimental physiology to its future growth. Dr. Sayre gave a demonstration of the value of his plaster-of-paris jacket in spinal diseases. Dr. d'Arsonval described an apparatus for the exact measurement of the amount of heat given off from the body. Hydrotherapy in fevers was discussed, and two fairly good papers on metallotherapy were read by Eulenburg, and by Drs. Proust and Ballou. Bright's disease was discussed at length, and Semmola advocated the view that the disease is general, and only secondarily local; that the action of moist cold on the skin is the only cause, this checking the respiratory function of the skin, whence result abnormal changes in metabolism and in the blood, and finally changes in the kidney.

The *Seventh Congress*, held at London, from August 3 to 9, 1881, had a membership of 3,182, and was of all the congresses up to that time the most successful. The notables of science from all lands were present, the entertainments were well planned and brilliant, the section work was diligently conducted, and the amount and value of the work done was great. The Lord Mayor's dinner at the Mansion House, the soirée at the Guildhall, and the conversazione given by the English members at South Kensington, were the chief social functions. An invitation was extended to the Congress to visit the International Sanitary Exhibition at the Parkes Museum. By a large majority, the committee decided to limit the invitations to the Congress to men, which brought out a protest from forty-three duly qualified medical women. Pasteur reported upon his investigations of chicken cholera, and upon protective inoculation against splenic fever. The latter paper the *Lancet* considered "the most valuable of all those delivered," and it hazarded the prediction that perhaps the Seventh Congress might be famous in history on account of it. Virchow spoke on vivisection as an indispensable aid in research, and made a powerful plea for perfect freedom of investigation, showing conclusively that our present knowledge of life is the result of experimentation, and that the only reliable and practical method for the increase of that knowledge is also experimentation. Professor Huxley gave a masterly address upon the relation of the biological sciences to medicine, in which *inter alia*, he spoke of Harvey as the last of the ancients rather than as the first of the moderns, and dated the modern era of medicine from the time of Descartes. In the Pathological Section the discussion on the relation of microorganisms to disease was opened by Lister. Professor Volkmann of Berlin read a paper on the results attained during the first ten years under the antiseptic method. Dr. J. S. Billings spoke on "Our Medical Literature," and the posthumous paper of Raynaud on "Scepticism in Medicine" was read.

The *Eighth Congress* was held at Copenhagen, from August 10 to 16, 1884. On the whole it was a success. The attendance was large (over 1,700 members registered), and the resources of the Danish capital were somewhat taxed, but Danish cordiality caused this Congress to be remembered as one of the most hospitable. Professor Panum of Copenhagen was the President. Pasteur described the results of his protective inoculation of dogs against rabies. Sir William Gull of London advocated international collective investigation of disease. Antiseptic methods came in for a full discussion, which was opened, in the absence of Lister, by Esmarch. Virchow spoke on metaplasia. Dr. Sayre demonstrated his plaster-of-paris jacket, which, being new to many, attracted much attention. Tommaso-Crudeli exhibited specimens of malarial blood showing anilin-stained inclusions in the red blood cells, which he regarded as the germs of the disease. McEwen described his operation for genu valgum, and several surgeons announced the relinquishment of their operations in its favor. Cancer of the rectum was thoroughly discussed, the subject being opened by Esmarch. Tuberculosis was not forgotten. Goldscheider gave an interesting address on the specific sensibility of the skin.

At this time was inaugurated the publication in the Medical Record of a special cabled report of the proceedings of the Congress.

The *Ninth Congress* was held in September, 1887, at Washington. The omens were not propitious, and the future historian of American medicine will, we imagine, get out his mantle of charity when he approaches this part of his subject. Dr. Guttmann's estimate of the importance of this Congress may be inferred from his giving the place and date of meeting, with the observation that the action of the American Medical Association in abrogating the Committee of Organization appointed at Copenhagen, and the arrangements it had made, injured the Congress, as the event proved, by causing many of the most prominent medical men in America, and nearly all of those in Europe, to stay away. Unfortunately, Dr. Guttmann is not far wrong. The process of "high dilution" to which, on their return, the distinguished men who had secured the Congress for America, were subjected, resulted in their speedy

retirement from the management of the enterprise. There was then given ample opportunity of learning that to have a "congress" it does not suffice to go to it, but that a successful one is dependent for its éclat upon the presence of the great ones of earth who, however much they may in deference to the regnant fashion of ostentatious humility, bow their acknowledgments of "the honor conferred on them," etc., know well enough that the obligation really lies on the other side. Certainly, the most patent thing about the Washington Congress was the extremely small number of distinguished foreigners present, and its consequently tremendously one-sided character, from an international point of view. The entertainments were, perhaps, as good as could reasonably be expected, considering that the Government did nothing, and that the meeting took place at a season when Washington is bare of people of prominence. A reception was given by President and Mrs. Cleveland at the White House, and at the Pension Hall there were given a banquet, by the American medical editors, and a buffet lunch for 5,000. A reception was also tendered to the Congress by the citizens of Washington. The Congress was opened by President Cleveland, and Dr. N. S. Davis was elected president. Compared with other Congresses the principal distinctive features of the medical work were the large number of papers, their almost exclusively "practical" character, and the large number taking part in the discussions. Indeed, the great number of the papers precludes the possibility of their analysis, and we can only name a few as *primi inter pares*. Dr. Körösi gave an exceedingly valuable critique of our actual knowledge of vaccination, and showed that compulsory vaccination in the United States might be expected to save 120,000 lives, with a debit of 300 infant deaths as the result of the operation. Dr. W. H. Welch spoke on the effects of vaccination during the incubation period of smallpox. The Section on Psychological Medicine listened to papers by D. Hack Tukee and J. B. Andrews on the care of the insane in the United States and Great Britain, and discussed the association of syphilis and general paresis and the subject of moral insanity. Dr. A. R. Robinson read a paper on alopecia areata, and demonstrated the presence of deep-seated microorganisms. Dr. G. A. Atkinson presented a report on the chemistry and pharmacology of the nitrites and nitroglycerin. Dr. August Martin spoke at considerable length on vaginal total extirpation of the uterus for cancer. On the whole, the scientific work of the Congress, while respectable, fell much below the average of the two preceding congresses.

The *Tenth Congress*, held at Berlin, from August 4 to 9, 1890, was successful, as regards both numbers and scientific work. At one time it seemed as though French physicians might stay away on account of political animosities, but the French Government appointing its official delegates, nearly 200 French physicians ultimately participated in the Congress. Some 7,000 members were registered, 683 of whom were from America. Virchow was unanimously elected president. Among the papers, the principal feature of the Congress was the address of Koch, in which he reviewed the progress of bacteriology, maintained the causal rôle of microorganisms in disease, and expressed the belief that we were on the eve of practical therapeutic developments, as he had succeeded in immunizing guinea-pigs against tuberculosis, and also in arresting the growth and multiplication of the tubercle bacillus after inoculation. Lister reviewed the theories of immunity, dwelling on Metchnikoff's theory of phagocytosis, and expressed himself a firm believer in antisepsis as against asepsis. Professor Bouchard propounded a theory explanatory of immunity and infection; organisms resist disease by phagocytosis and by reaction into a bactericidal state; when bacterial toxins paralyze the vasodilator center, local exudation, diapedesis, and phagocytosis become impossible, and the disease develops, to be limited later by the development of the more slowly accruing bactericidal state. Professor von Bergmann lectured on his aseptic methods, and Billroth presented his statis tics, for the ten years under antiseptic methods, of resection of the stomach and intestines. Mr. Victor Horsley's paper on brain surgery, and his demonstration of the cortical centers for the larynx, were well received. An interesting discussion took place on refractive errors, and the opinion was expressed that if they were properly corrected, there would be no asthenopia. The section organization was characterized as wretched, no lists being furnished of the members, and the program of the papers being very incomplete. The complaint was made that papers in English received scant attention. The exhibition held in connection with the Congress was extensive and interesting, embracing all kinds of instruments of precision. The social side was well planned and well taken care of. The most notable social event was, perhaps, the reception in the Rathhaus, where the tables were loaded, and wine was "on tap" for 5,000. One of the most enjoyable excursions was that to the Havel Lakes, given by the Laryngological Society of Berlin to the Laryngological Section. At the parting feast beer flowed freely, and about midnight Virchow was induced to make a speech, and was finally seized and carried around in triumph.

The *Eleventh Congress* was held at Rome, from March 29 to April 5, 1894. Prof. Giulio Baccelli was president. Over 7,600 members were registered, more than half of them from Italy, which led to the inclusion of Italian among the permissible languages, and gave occasion to a renewed discussion in the journals on the remedy for the confusion of tongues. The MEDICAL RECORD had previously offered the suggestion of modern Greek as the international language of science, but we regret to say there seems to be no prospect of its adoption. America contributed fewer than 200 members, most of them from Mexico. Virchow lauded Mascagni's substitution of research for mere interpretation of authority and hypothesis, in anatomical work. Professor Babes sketched the work of the Roumanian Health Institute, emphasized the immense service already rendered by bacteriology, and made an earnest plea for an educational propaganda, especially among legislators, for the enactment into law of advances in our hygienic knowledge. Prof. Michael Foster urged organized effort in science, saying that many untrained youthful enthusiasts frittered away their unguided energies, and holding that the remedy lay in an international bureau for the correlation of effort. Dr. Laache spoke of idiopathic hypertrophy of the heart, and degeneration of the cardiac muscle; the chief causes of the former were alcohol and over-athleticism: yet, though the latter was very common in Norway, at a discussion before the Christiania Medical Society no case of permanent heart injury was reported from this cause; and athletics, with gradual training, and in reason, offered the best means of developing the muscles and strengthening the heart. Dr. Jacobi delivered an address with the title, "Non Nocere," in which he deprecated the tendency to subordinate the scientific work to the social features, and emphasized as the principal sins of omission at critical junctures, the neglect of intubation and

tracheotomy, of venesection in pneumonia, and of treatment of asphyxia neonatorum and of the so-called chronic constipation of infants; and among those of commission, over-dosing, over- and underfeeding of infants, the use of sterilized milk as their only food, and the resort to craniotomy for macrocephaly and idiocy. The Medico-Hygienic Exhibition resembled our drug exhibits, but contained some features of the non-commercial class, such as models of hospitals, cemeteries, and crematories, and a description of Paglioni's Bureau for improving the health of Rome. There were the usual social festivities, which included the lighting up of the various ruins at night, and the throwing open of the gardens of the Quirinal. Nevertheless this Congress was almost unanimously voted a failure by the medical press of the world. The inconveniences were partly due to a preparation for some 4,000 guests, instead of which nearly double the number came; and partly to lack of management, for which the officers, of course, came in for their full share of censure. The arrangements for the meetings were defective, one of the principal buildings being three-quarters of a mile from the cars, and the cabmen, after the manner of their race, embraced the opportunity for outrageous exactions.

The *Twelfth Congress*, held from August 19 to 26, 1897, at Moscow, was one of the pleasantest of these gatherings, yet for no other did the prospects seem more gloomy. The proposed exclusion from the sections of the English language in favor of Russian, the question of the welcome which physicians of Hebrew faith might expect in Russia (which led Virchow to announce a contingent "boycott" of the Congress), and the enforced resignation of the Secretary-General, Dr. Erismann, in consequence of his dismissal from the Chair of Hygiene at the University of Moscow on account of "liberal" tendencies, naturally created much irritation in western countries. The clouds, however, rolled away; English was restored, and an Imperial ukase granted members of Hebrew faith the same privileges as other members. The rubicon once crossed, nothing could have been more hospitable than the attitude of Russia—government, profession, and people. The members were made to feel that they were the nation's guests; they were everywhere transported on the railways free of expense, and in St. Petersburg, after adjournment and hundreds of miles from the place of meeting, they were still held to be guests for whom free entertainment was only the proper thing. Those who went on the excursion to the beautiful scenery of the Caucasus, and on that to the Crimea, were loud in their praises of Russian cordiality. Many members had thought of Moscow as a medieval, oriental city, but they found its medical institutions strictly up to date, and noted with surprise the confident spirit of pan-slavism which considers that the future belongs to it. To commemorate the meeting the city of Moscow founded a research prize of $1,000 for the congresses in perpetuity. The membership of the Congress was about 7,300, 120 delegates being from the United States. The scientific work presented nothing very sensational, most of the papers covering routine medical subjects, so to speak. Virchow reaffirmed his belief that the grand truth of unbroken cellular succession would never be overthrown, and, rather inconsistently, expressed the hope that the solution of the life problem might be announced at some future congress. That hardy perennial (as Huxley would have called it) tuberculosis came in for its full share of discussion, and the use of Koch's tuberculin was reported upon. The diagnostic and therapeutic value of serums was discussed; for typhoid fever by Widal and others, and for relapsing fever by Lowenthal and Metchnikoff. The latter also discussed the bubonic plague, and said that the general use of Yersin's serum would immunize the world. Professor v. Krafft-Ebing discussed the etiology general paresis, maintaining that the predisposing cause was the nervous over-tension of modern life, and the exciting cause, syphilis. Lombroso spoke on the application of psychiatric methods to the study of criminal man. In the surgical section the radical treatment of hernia, appendicitis, and brain surgery were discussed at length. Several cases of successful suturing of arteries were reported, among them one by Dr. J. B. Murphy of successful resection of 0.6 inch of the subclavian. Dr. Joannescu recommended splenectomy when long-continued medical treatment for malaria had failed; after the operation the malarial cachexia and the urotoxic coefficient decreased and the red blood cells increased. Dr. Semotzky reported a method of gastroenterostomy by which the passage of bile and pancreatic fluid into the stomach, entailing vomiting, was avoided. The Moscow prize was awarded to M. Henri Dunant for his organization of the International Red Cross Society.

The *Thirteenth Congress* held at Paris, from August 2 to 7, 1900, had a membership of over 6,000, with very few English, and some 350 Americans. The assassination of the King of Italy had cast a gloom over the French capital, and practically all the official fêtes were postponed. The opening of the Congress by the Minister of Justice (instead of President Loubet, as planned) was described as a monotonous and dreary function. Professor Lannelongue was elected President. His reception to some 1,200 members was the chief social feature. There were also a large reception given in the Senate Hall by the Bureau of Organization, a banquet by Prof. Charles Richet and the Scientific Society to Lister, and, on August 10, a reception by President Loubet. The private entertainments which had been planned were carried out. One of the features of the meeting was the large number and variety of the hospital attractions, and even after adjournment we find the medical Oliver Twists listening to a lecture by Hayem on his methods of studying the blood. The opening session in the Salles des Fêtes was attended by some 15,000 people. President Lannelongue's address emphasized the value of international medical congresses in promoting international intercourse, breaking down prejudice, and cementing the bonds of a common humanity. The scientific work offered nothing epoch-making. Virchow spoke on traumatism and infection. Professor Pavlov presented a paper on experimental therapy as a new and extremely fecund method of physiological research. Dr. A. Jacobi of New York spoke on medicine and physicians in the United States. Prof. B. Tarnowsky analyzed the statistics of twenty-five syphilitic families to the fourth generation. The prevention of syphilis in armies was discussed by Col. J. L. Notter. Professor Ehrlich spoke on his theory of the action of toxins. Professor Flechsig spoke on projection and association centers, and the paper was discussed by Monakow. An animated discussion took place on autointoxication, which was participated in by Bouchard, Ewald, Albu, Gautier, and Brouardel; the majority accepted, provisionally, Bouchard's theory. Radiography in fractures and dislocations was treated of by v. Bergmann and by Manoury of Chartres. Surgery of the pancreas came in for a full discussion by Professor Ceccherelli of Parma. The Moscow prize was awarded to Professor Ramón y Cajal for his great work on the nervous elements.

PROGRAM OF THE MADRID CONGRESS.

Officers of the Congress: *President*, Prof. Julián Calleja y Sánchez; *General Secretary*, Dr. Angel Fernández-Caro; *General Treasurer*, Prof. José Gómez Ocaña.

National Committees, UNITED STATES: *President*, A. Jacobi, New York; *Secretary*, John H. Huddleston, 126 West Eighty-fifth Street, New York. CUBA: *President*, Manuel Bango y Léon, Havana; *Secretary*, Agustín Varona y González del Valle, Havana. GREAT BRITAIN and IRELAND: *President*, F. W. Pavy, London; *Secretaries*, D'Arcy Power and P. Horton-Smith, London.

REGULATIONS.

Article 1.—The Fourteenth International Congress of Medicine will meet at Madrid, under the patronage of their Majesties, the King Don Alphonso XIII and the Queen Mother, April 23 to 30, 1903. The opening session will take place on April 23, and the closing session on April 30. The character of the Congress is purely scientific.

Article 2.—Members of the Congress will be physicians, pharmacists, veterinary surgeons, and other persons working at branches of medical science, both Spaniards and foreigners, who have entered their names and paid their subscriptions. Other persons who possess scientific or professional titles, and who wish to take part in the work of the Congress, may share in it under the above conditions; in this category are included representatives of the press.

Article 3.—The subscription is thirty pesetas. This sum must be paid before the opening of the Congress, to the General Secretary, Faculty of Medicine, Madrid. A card of membership will be sent to the subscriber. This card will confer all of the privileges reserved for members of the Congress.

Article 4.—The national committees of the different countries may receive the subscriptions of their own countrymen. After these have been sent to the General Secretary at Madrid, he will send to the subscribers their cards of membership. After March 20, 1903, all subscriptions must be paid directly to the General Secretary of the Congress at Madrid.

Article 5.—Every member of the Congress, at the time when he sends his subscription, should also forward to the General Secretary, either directly or through his national committee, a note clearly indicating his name and degrees, as well as his address, accompanied by his visiting card.

Article 6.—Members of the Congress who fulfill these conditions will have the right to take part in all the proceedings, to present communications, either verbal or written, to take part in the discussions, to cast a vote on all questions submitted for decision in that way, and to share in all of the privileges reserved for members of the Congress.

Article 7.—Besides this, they will receive a general summary of the proceedings of the Congress, and a full report of the work of the particular section which they join. Those members who desire to receive several volumes or the complete collection of reports, will be required to pay for each volume a sum which will be decided upon later, but which will not exceed the price of printing. Subscriptions for the volumes will be received by the General Secretary until the close of the Congress. Members who present written communications in several sections which are accepted by the committee that examines them, will receive the volumes of these sections without any further payment.

Article 8.—The reports will be sent to members just as soon as they are published.

Article 9.—The Congress will be divided into the following sections: (See Work of the Sections, below.)

Article 10.—The members of the Congress are requested, at the time they send their subscription, to indicate the section or sections to which they desire to belong. The members who are enrolled in several sections, will receive the volume of the first of the sections indicated.

Article 11.—To an executive committee, composed of the President, General Secretary, and Treasurer, and the Presidents and Secretaries of the sections, will be entrusted the management of the Congress.

Article 12.—The Congress will assemble every day, either in general session or in meetings of the sections.

Article 13.—There will be two ordinary general sessions, one for the opening and one for the closing of the Congress, and, in addition, as many special sessions as shall be thought necessary; their number will be decided upon by the executive committee. At these sessions addresses will be delivered by scientists of various nations, on invitation of the officers of the Congress, and there will be no discussions at these meetings.

Article 14.—In the opening session the General Secretary will give an account of the work of organization, the President will read the inaugural address, the official delegates will be presented, and the honorary Presidents will be announced. At the closing session a review of the deliberations of the Congress will be presented, the place of the next meeting will be announced, and the new officers will be elected. In these meetings only those members who have been designated and invited by the executive committee will take part in the discussions

Article 15.—The committees of the sections shall arrange the programs of their proceedings (the reading and discussion of the communications, the examination of the propositions presented, etc.). Each section shall, at its first meeting, nominate its honorary Presidents, and shall designate its assistant secretaries; a certain number of these shall be chosen from among the foreign members, to give a verbal résumé of the communications presented in the different languages, and thus to facilitate their discussion.

Article 16.—The President of each section shall direct the work of that section in the established form for all deliberative bodies. Only the questions pertaining to the management of the sessions shall be submitted to vote. Scientific questions shall not be voted upon.

Article 17.—The time assigned to each communication shall not exceed fifteen minutes, and the speakers who take part in the discussions will not be allowed more than five minutes; ten minutes will be granted the authors of the communications for closing the discussion. Exceptionally, and when the importance of the subject justifies it, the President may allow more time to the speaker. Any member who takes part in the discussions must send to the Secretary of the section, before the adjournment of the session, a short résumé of his remarks.

Article 18.—The communications referring to the proceedings of the Congress must be sent to the General Secretary before the first of January, 1903; he will attend to their transmission to the proper section. The titles of the communications should be accompanied by a short résumé in the form of conclusions, if possible; this abstract will be printed by order of the Executive Committee of the Congress and distributed to the members of the corresponding section.

Article 19.—Communications may be presented after the first of January, 1903, and even during

the Congress, but such will not be considered until after the discussion of those regularly announced.

Article 20.—The written text of all the works presented to the Congress, whether in the general assemblies or in the sections, should be sent on the same day to the Secretary of the respective committee. The Executive Committee shall decide upon its total or partial insertion in the reports.

Article 21.—The official languages of the Congress in all the sessions shall be English, French, German, Spanish, and Italian.

Supplementary Article.—Ladies belonging to the families of the members, and accompanying them, shall have the benefit of the reductions on the rail roads, and can take part in the various entertainments which are given in honor of the members of the Congress. For this purpose, they should provide themselves with a special card, the price of which is twelve pesetas.

General Addresses.

The following addresses will be delivered at the general sessions of the Congress: S. Laache of Christiania, on "Reciprocity in Pathology"; Ivan Petrovitch Pavlov of St. Petersburg (subject to be announced); Arthur Thomson of Oxford (subject to be announced); Wilhelm Waldeyer of Berlin, on "Phylogenic Theories and Darwinism"; Eduardo Maragliano of Genoa, on "The Struggle of the Organism against Tuberculosis"; P. Brouardel of Paris, on "Adulteration of Food"; A. Politzer of Vienna, on "The Necessity of the Official Teaching of Otology"; Rodriguez Carracido of Madrid, on "Pharmacological Complexity in Medical Prescriptions"; Santiago Ramón y Cajal of Madrid (subject to be announced); Rafael Rodriguez Mendez of Barcelona (subject to be announced); Howard A. Kelly of Baltimore, on "Urinary Infection"; Juán Santos Fernández of Havana, on "Diseases of the Eyes in the Tropics"; Emilio R. Coni of Buenos Ayres, on "Public Medicine in South America."

Work in the Sections.

I. **Anatomy** (Anthropology, Comparative Anatomy, Embryology, Descriptive Anatomy, Normal Histology, and Teratology).—*President*, Santiago Ramón y Cajal; *Secretary*, Dalmacio García Izcara.

Discussions: (1) What is the Best Method of the Didactic Exposition of the Nervous System? (2) Positive Value of Anatomical Measures for the Ethnical Determination of Individuals. This discussion will be opened by Giuseppe Sergi (Rome); R. Live (Rome), and Manouvrier (Paris). (3) Structure of the Nerve Cell. Discussion opened by Camillo Golgi (Pavia), Romeo Fusari (Turin), and Holmgren (Stockholm). (4) Origin of the Fibroblasts in Connective-tissue New Growths, Normal and Pathological.

II.—**Physiology, Physics, and Biological Chemistry.**—*President*, Gabriel de la Puerta y Ródenas; *Secretary*, Juán Manuel Díaz del Villar.

Discussions: (1) The Physiological Action of Saccharin; Should Its Use in Food and Beverages Be Forbidden and Should It Be Employed Solely as a Therapeutic Agent? Discussion opened by Gabriel de la Puerta y Ródenas. (2) The Influence of Glandular Poisons on Muscular Contraction. Discussion opened by Enrique Pérez Zúñiga, Christiani (Geneva). (3) Biochemical Study of Organometalloid and Metallic Combinations. Discussion opened by Aúgustin Mura y Valerdi. (4) Experimental Pancreatic Glycosuria. Discussion opened by Juán M. Díaz del Villar, Pietro Albertoni (Bologna), Filippo Bottazzi (Florence).

III.—**General Pathology, Pathological Anatomy, and Bacteriology.**—*President*, Amalio Gimeno y Cabañas; *Secretary*, Antonio Mendoza.

Discussions: (1) Parasitism in the Formation of New Growths. Discussion opened by Marchiafava (Rome). (2) The Genesis of Sarcomata. (3) Blastomycetic Lesions. (4) The Desirability of a Revision of the Classification and Description of the Known Bacteria. Discussion opened by Antonio Mendoza, Bartolomeo Gosio (Rome). (5) Vaccinations with Chemical and Culture Liquids. Discussion opened by Alessandro Lustig (Florence).

IV.—**Therapeutics and Pharmacy.**—*President*, Benito Hernando y Espinosa; *Secretary*, Martín Bayod y Martínez.

(*a*) Therapeutics.—*Discussions:* (1) Relations between the Chemical Composition of Medicaments and Their Physiological Action. Discussion opened by Emilio Pérez Noguera, Brunton (London), Cervello (Palermo), Bardet and Robin (Paris). (2) The Dangers and Exigencies of the So-called Intensive or Exaggerated Medication in Chronic Diseases, and Chiefly in Tuberculosis. Discussion opened by Antonio Espina y Capo, Hayem (Paris). (3) Utility and Dangers of Intraspinal Injections of Cocaine in Medicine and in Surgery. Discussion opened by Francisco Pí y Suñer (Barcelona), Tuffier (Paris), Postempski (Rome). (4) Mechanism of the Physiological and Therapeutic Action of Hypnotics and Narcotics. Discussion opened by Vicente Peset y Cervera (Valencia), Vincenzo Chirone (Naples). (5) Intravenous Therapy. Discussion opened by Rossoni (Rome), Gaetano Rummo (Palermo). (6) The Treatment of Tetanus by Baccelli's Method. Discussion opened by Agenore Zeri (Rome). (7) The Treatment of Epizoötic Aphthæ by Baccelli's Method. Discussion opened by Loriga (Rome).

(*b*) Medical Hydrology.—*Discussions:* (1) The Physicochemical Study of the New Gaseous Elements, Argon and Helium, in Mineral Waters. Discussion opened by Ramón Llord y Gamboa, A. Poskin (Spa), Raymond Durand-Fardel (Paris), Vinaj (Turin). (2) Syphilis and Its Hydromineral Treatment. Discussion opened by Marcial Taboada, G. Soffiantini (Acquarossa), Hermann Keller (Rheinfelden). (3) Tuberculosis and Its Hydromineral Treatment. Discussion opened by Agustín Lacort, Marcellin Cazaux (Eaux-Bonnes). (4) The Qualitative and Quantitative Determination of Fluorine in Mineral Waters. Discussion opened by Llord y Gamboa.

(*c*) Pharmacy.—*Discussions:* (1) The Therapeutic Valuation of Antitoxic Serums. Discussion opened by Francisco de Castro y Pascual. (2) The Importance and Superiority of the Colloid State of Matter in the Preparation of Medicaments and in Their Pharmacological Action. Discussion opened by José López Capdepón. (3) Hypodermic Injections; Their Pharmaceutical Significance and the Desirability of Preparing a Pharmacopœia Unifying the Procedures for Making and Preserving These Preparations. Discussion opened by Emilio Alcobilla, Giovanni Bufalini (Florence). (4) The Necessity and Utility of Medicaments of Definite Therapeutic Action. Discussion opened by Manuel Alvarez Ude.

V.—**Internal Medicine.**—*President*, José Calvo y Martín; *Secretary*, Enrique Oliván y Sanz.

Discussionss: (1) Rôle of the Brain, Heart, and Kidneys in Infections. Discussion opened by José Codina Castellví. (2) Etiology and Prophylaxis of Paludism. Discussion opened by Francisco Huertas Barrero, Celli (Rome), Vittorio Ascoli (Rome). (3) Pathogeny of Cardiac Arrhythmia.

Discussion opened by Antonio Espina y Capo, Castellino (Naples). (4) Application to Clinical Medicine of the New Investigations Concerning the Physical and Chemical Properties of Blood Serum. Discussion opened by Lucatello (Padua). (5) Etiology and Therapy of Pellagra. Discussion opened by Devoto (Pavia). (6) Diet in Typhoid Fever. Discussion opened by Queirolo (Florence).

VI.—**Nervous and Mental Diseases, and Criminal Anthropology.**—*President*, José Maria Esquerdo y Zaragoza; *Secretary*, Abdón Sánchez Herrero.

Discussions: (1) The Toxic and Infectious Insanities. Discussion opened by Jerónimo Galiana. (2) Psychical Etiology and Therapeutics. Discussion opened by Sánchez Herrero. (3) The Center of Projection and Association in the Brain According to the Determinations of Exact Pathological Anatomy. Discussion opened by Bianchi (Naples). (4) The Clinical Study of Agnoscia and of Asymbolia. Discussion opened by Simarro y Lacabra. (5) The Delimitation of the Pathological Nature of Crime. Discussion opened by Rafael Salillas, Morselli (Geneva). (6) The Intervention of Psychiatry in the Reforming Treatment of Criminals. Discussion opened by Alonso Martínez, Lombroso (Turin).

VII. **Pediatrics.**—*President*, Francesco Criado y Aguilar; *Secretary*, Manuel Tolosa de Latour.

Discussions: (1) The Therapeutic Value of Orrhotherapy in Diphtheria. Discussion opened by Vicente Llorente y Matos, Comby (Paris), Cervesato (Bologna), Luigi Concetti (Rome). (2) Treatment of Club-foot. Discussion opened by Antonio Martínez Angel, Broca (Paris), A. Lorenz (Vienna), Ghillini (Bologna). (3) Treatment of Tuberculous Joints. Discussion opened by José Ribera y Sans, Lannelongue (Paris), Hoffa (Würzburg). (4) Infant Feeding. Discussion opened by Fernando Calatrareño; Rousseau Saint-Philippe (Bordeaux), Guaita (Milan).

VIII. **Dermatology and Syphilography.**—*President*, Manuel Sánz y Bombín; *Secretary*, M. Juán de Azúa y Suárez.

Discussions: (1) Gonorrhœa from the Medico-Social Point of View. Discussion opened by Suárez de Mendoza, Ernest Finger (Vienna), Bertarelli (Milan), Giuseppe Profeta (Geneva), Vittorio Mibelli (Parma). (2) Parasyphilitic Diseases; Retrospective Diagnosis of Syphilis. Discussion opened by Sanz Bombín, Augusto Ducrey (Pisa). (3) Treatment of Pruritus. Discussion opened by Juán de Azúa. (4) The Purpuras. Discussion opened by Juán de Azúa.

IX. **General Surgery.**—(*a*) Surgery and Surgical Operations.—*President*, Federico Rubio y Gali; *Secretary*, Ramón Jiménez y García.

Discussions; (1) Post-Operative Deaths. Discussion opened by Ribera, Davide Giordano (Venice), Domenico Biondi (Sienna). (2) Indications for Surgical Intervention in Affections of the Stomach. Discussion opened by Cardenal (Barcelona), Novaro (Geneva), Ceccherelli (Parma), Hartmann (Paris).

(*b*) Urology.—*President*, Alfredo Rodríguez Viforcos; *Secretary*, Luis González Bravo.

Discussions: (1) The Remote Results of Surgical Intervention in Malignant Tumors of the Kidneys. Discussion opened by Mollá (Valencia), Azcarreta (Barcelona), Pousson (Bordeaux), Mariani (Geneva). (2) The Comparative Value of the Means Actually at Our Disposal for the Appreciation of the Functional Condition of the Kidney. Discussion opened by González Bravo, Lobo Regidor, Albarrán (Paris), Giuseppe Mya (Florence), Casper and Richter (Berlin).

X. **Ophthalmology.**—*President*, Santiago de los Albitos; *Secretary*, Francisco Sanz y Blanco.

Discussions: (1) The Surgical Treatment of the Affections of the Lacrymal Passages. Discussion opened by Castresana y Goicoechea, Reymond (Turin), Tartuferi (Bologne) Lapersonne and Rochon-Duvignaud (Paris). (2) The Necessity of Unification of Optometric Scales. Discussion opened by Jacinto de las Cuevas y Pulido, Landolt (Paris). (3) Optic Neuritis in the Course of Acute Affections. Discussion opened by Francisco Sanz y Blanco, Vincenti (Naples), Antonelli (Paris). (4) Investigations Concerning the Action of Medicaments on the Pupil, the Accommodation and Intraocular Tension. Discussion opened by Manuel Márquez Rodríguez.

XI. **Oto-Rhino-Laryngology.**—(*a*) Otology.—*President*, Juan Cisneros y Sevillano; *Secretary*, Rafael Forns y Romans.

Discussions: (1) The Causes of Deaf-Mutism. Discussion opened by Verdós (Barcelona), Castex (Paris), Schmiegelow (Copenhagen). (2) The Anatomical and Clinical Study of Cholesteatoma. Discussion opened by Luciano Barajas, Schwartze (Halle), Cozzolino (Naples). (3) The After-treatment of Operative Procedures on the Ear. Discussion opened by Botey (Barcelona), Lermoyez (Paris), von Stein (Moscow).

(*b*) Rhino-Laryngology.—*President*, Eustasio Uruñuela; *Secretary*, Celestino Compaired.

Discussions: (1) Is Surgical Intervention in Every Kind of Laryngeal Cancer, and in All Its Phases or Periods Desirable from the Medico-Social Point of View? Discussion opened by Sota y Lastra (Seville). (2) The Valuation of Local Treatment of Laryngeal Tuberculosis. Discussion opened by Roquer Casadesús (Barcelona), Krause (Berlin), Grazzi (Florence), Masini (Geneva). (3) Is Atrophic Rhinitis Always of Autochthonous Nature? The Necessity of Establishing an Exact Diagnosis in Order to Determine Its Treatment. Discussion opened by Peláez (Granada), Moure (Bordeaux), Freudenthal (New York).

XII. **Odontology and Stomatology.**—*President*, Alejandro San Martin; *Secretary*, Florestán Aguilar.

Discussions: (1) The Treatment and Filling of Teeth Having Diseased Pulps. Discussion opened by A. V. Harlan (Chicago), J. D. Losada. (2) Dental Microscopy. Discussion opened by Leon Williams (London), J. Choquet (Paris). (3) Bucco-Facial and Skeletal Prosthesis. Discussion opened by Claude Martin (Lyons), V. Guerini (Naples), Delair (Paris). (4) The Requirements that Ought to Be Insisted Upon for the Practice and Teaching of Odontology. Discussion opened by Godon (Paris), Florestán Aguilar. (5) The Nature and Treatment of Alveolar Pyorrhœa. Discussion opened by Hopewell Smith (London), Younger (Chicago), Damians (Barcelona). (6) Local Anæsthesia in Odontology. Discussion opened by C. Amoedo (Paris), Pier Michele Giuria (Geneva).

XIII. **Obstetrics and Gynecology.**—*President*, Eugenio Gutiérrez González; *Secretary*, Carmelo Carrillo y Cubero.

Discussions: (1) Indications for Hysterectomy in Acute Puerperal Infection. Discussion opened by J. Cortiguera (Santander), Pinard (Paris). (2) The Treatment of Placenta Prævia. Discussion opened by Candela (Valencia), Pestalozza (Florence), Leopold (Dresden). (3) The Pathogeny and Treatment of Chronic Cellular and Peritoneal Inflammations of the Pelvis. Discussion opened by Martín Gil (Malaga), Doléris (Paris). (4) The Indications and Results of Opotherapy in Gynecology. Discussion opened by Jayle (Paris). (5) The Conservative

Surgery of Lesions of the Adnexa. Discussion opened by Fargas (Barcelona), Treub (Amsterdam), Palmer Dudley (New York), Mangiagalli (Pavia).

XIV. **Military and Naval Medicine and Hygiene.**—*President*, Antonio Serrano y Borrego; *Secretary*, Hermenegildo Tomás del Valle.

Discussions: (1) The Way to Solve the Tuberculous Problem in Armies. Discussion opened by Traller. (2) The Advantages and Disadvantages of Compressed Medicaments in Campains. Discussion opened by Ubeda y Correal, Mazzoni (Rome). (3) The Influence of Military Life on the Development of Affections of the Nervous System, Particularly Insanity. Discussion opened by Salinas. (4) Hygiene of Troops on Sea and Land on the West Coasts of Africa. Discussion opened by Angel Fernández-Caro. (5) Prophylaxis of Syphilitic and Venereal Affections in the Army. Discussion opened by Rodríguez Vázquez, Favre (Rome). (6) Sick Wards on Modern Ships. Discussion opened by Redondo, Francisco Coletti (Rome).

XV. **Hygiene, Epidemiology, and Technical Sanitary Science.**—*President*, Félix Guzmán y Andrés; *Secretary*, Felipe Ovilo y Canales.

Discussions: (1) The Necessity of Determining the Prophylactic Value of Disinfection and the Methods Generally Followed. Discussion opened by Angel Fernández-Caro, Canalis (Geneva). The Practical Means, Individual and Collective, of Preventing the Spread of Dysentery. Discussion by Larra y Cerezo. (3) The Desirability of Establishing Sanitary Custom-Houses on the Land Frontiers of Countries. Discussion opened by Guzmán Andrés, Pagliani (Turin). (4) The Utility of Tuberculosis Dispensaries as a Means of Increasing Vital Resistance in the Poorer Classes. Discussion opened by Montaldo Peró, Sclavo (Sienna). (5) Hygiene and Sewage. Discussion opened by Menéndez Novo, Rosario Bentivegna (Rome).

XVI. **Forensic Medicine and Toxicology.**—*President*, Adriano Alonso Martínez; *Secretary*, Julián Fuentes Fernández.

Discussions: (1) The Legal Significance of Wounds According to Their Cause, Situation, and Character. Discussion opened by Gian Giacomo Perrando (Sassari). (2) The Medicolegal Concept of Deformities. (3) Discernment and Precocious Criminality. Discussion opened by Fuentes, Tamassia (Padua). (4) The Capacity and Responsibility of Degenerates. Discussion opened by Alonso Martínez, Alberto Severi (Geneva). (5) Concerning the Localization of Poisons. Discussion opened by Mariscal.

HOW TO GET TO MADRID.

It is, of course, possible to reach Spain, sooner or later, by any line of steamers crossing the Atlantic, but if one's time is limited his choice of steamers will be considerably narrowed. Practically the only lines available are those to the Mediterranean direct and those whose steamers call at one of the French Channel ports, and perhaps the American line to Southampton.

Mediterranean Steamers.—The *Spanish Transatlantic Line*, Pier 10, East River, New York. Steamers of this line sail the third of each month for Cadiz and Barcelona. Fare: first cabin, $100 to $130; second cabin, $75 each way; round-trip tickets are issued at 25 per cent. discount. There is a further reduction of 33 per cent. granted to members of the Congress. The *Insular Navigation Company*, Atlantic Dock, Brooklyn. Steamers sail from New York every three weeks for Lisbon. Fare, $75, with 10 per cent. reduction on round-trip tickets. From Lisbon one can go to Cadiz or Gibraltar by water, or to Madrid direct by rail in about thirty-three hours. The *German Mediterranean Express Service.* Steamers of the North German Lloyd for Gibraltar sail from Pier 26, foot of Congress street, Brooklyn; those of the Hamburg-American from the Company's piers, foot of First street, Hoboken. Fare, $80 or $85 to $150, with 10 per cent. reduction on round-trip tickets. No deduction is made for members of the Congress, but they will be given some advantages in the way of better location. The *Dominion Line* from Boston to Gibraltar direct. Fare: first cabin, $60 to $100 and up; second cabin, $50 and $60; reduction on round-trip tickets 10 per cent. off the price of the return ticket. There will probably be a special steamer of this line despatched to Gibraltar for the accommodation of those going to the Congress.

Steamers to the Channel Ports.—The *Holland-American Line*, pier foot of Fifth street, Hoboken. Steamers sail every Wednesday to Rotterdam, calling at Boulogne-sur-Mer, France. Fare: first cabin, $60 to $75 and up—round trip, 10 per cent. reduction on both going and returning; second cabin, $40 to $50 and up, round trip 10 per cent. reduction on return ticket only. Members of the Congress will be given special advantages in the matter of location. The *French Line*, Pier 42, foot of Martin street, North river. Steamers sail every Thursday for Havre. Fare: first cabin, $60 to $130—round-trip, $108 to $234; second cabin, $40 to $46—round trip, $76 to $87. *Hamburg-American Line*, pier foot of First street, Hoboken. Steamers sail several times a week to Hamburg, stopping at Plymouth, England, and Cherbourg, France. Fares: first cabin, from $60 to $200, according to ship and location of berth; second cabin, $45 to $60 and up; round-trip tickets, 10 per cent. reduction on the return fare. *North German Lloyd.* Steamers sail from New York on Tuesdays and Thursdays for Bremen, stopping at Southampton, England, and Cherbourg, France. Fares: first cabin, $80 to $100 and up, according to steamer and location of berth; second cabin, $45 to $60; round-trip tickets, 10 per cent. reduction on the return ticket. *American Line*, Pier 14, North River. Steamers sail every Wednesday for Southampton, calling at Cherbourg on the return, but not on the outward passage. Fare: first cabin, $90 to $100 and up—round trip, 10 per cent. off the combined fares; second cabin, $40 up, round trip 10 per cent. off the return fare.

All these steamers, except those of the American Line, land their passengers within four or five hours by rail of Paris. From Paris to Madrid, a distance of 899 miles, is a journey of thirty-two hours by the ordinary express, and of twenty-eight hours by the limited express (*train de luxe*). Fares: first class, 165 francs ($33); second class, 115 francs ($23); on the limited express, first class only, 247 francs ($49.50).

Nearly all the railways of France and Spain offer a reduction of 50 per cent. to members of the Congress, on round-trip tickets. The central committee of Europe having in charge the interests of the Congress has named the *Voyages Pratiques* of Paris as the official agency to make all arrangements for the transportation and lodging of those attending the Congress, and to organize and conduct a series of tours through Spain. The regular trains being few in number and apt to be over-crowded, it has arranged for a number of special trains, but since places in these will be filled early, those who expect to attend the Congress should make their applications as soon as possible, to insure accommodations. This is especially advised owing to the extreme difficulties of travel in Spain, and the over-crowding

and irregularities which may occur unless proper precautions are taken. The *Voyages Pratiques* is enabled to offer members the advantage of 50 per cent. reduction on the railways, for round-trip tickets. In order to facilitate the arrangements of the American physicians who expect to attend the Congress, the *Voyages Pratiques* has appointed the tourist firm, Dr. and Mrs. Howard S. Paine of Glens Falls, N. Y., as its American representative, with full authority to act for it in all the capacities enumerated above. Half-fare tickets may also be obtained through Thos. Cook & Son at any of their American offices. In order to take advantage of these reduced rates one must show his card of membership when purchasing the tickets. The tickets are valid for the journey to Madrid from April 1, and for the return trip until May 15.

The principal hotels in Madrid are Hotel de Paris, de la Paz, de Rusia, de Roma, Inglés, de los Embajadores, Quatro Naciones, Peninsular, Oriente, and Santa Cruz. The rates vary according to the hotel and the accommodations; the first named are the most expensive, the charge for room and board running from about $4 to $6 a day; the rates at the cheap hotels run from $2 to $3.50 a day. There are many boarding-houses in Madrid at which the rates are from $1.50 to $2 a day. The accommodations for travelers in Madrid are limited, and it will be well to engage room and board in advance. Those desiring to do so should apply to the Bureau des Logements, Facultad de Medicina, Madrid, using for the purpose a blank to be obtained from the American Secretary, Dr. Huddleston, and enclosing a deposit of fifty francs ($10).

Money for the subscription to the Congress or for deposit for board may be sent by express money order, or by check through the tourist agency of Thomas Cook and Son, 261 Broadway, New York. The U. S. Post-Office issues no money orders for cities in Spain.

A Short Tour in Spain.

Spain lies somewhat apart from the ordinary tourist track, and is for that reason comparatively seldom visited. Probably few of the physicians who will be present at the Congress would ever have visited the country had they not been drawn there by this event, and few of them will ever have the opportunity or the excuse to visit it again, and it will therefore be well worth their while when once in Spain to see more of it than is contained in Madrid alone. Though so infrequently visited, there is more in Spain that is worth seeing than in almost any other country of Europe, Italy alone excepted. Saragossa, Terragona, Valencia, Alicante, Málaga, Cadiz, Seville, Córdova, Granada, Toledo, and Barcelona are all full of interest to the lover of pictures or architecture, or to one who likes the picturesque and to study the customs of a people. If one's time is limited, however, it will be better not to attempt to visit so many places, but Córdova, Seville, and Granada should on no account be missed. They can easily be visited on the way to Madrid, if one lands at Cadiz or Gibraltar, but a special trip will have to be taken if the visitor to the Congress enters the country from the north, or reaches Madrid by way of Barcelona.

Supposing that the traveler starts from Madrid, and has at his disposal seven or eight days either before or after the Congress, he can in that time see the three cities mentioned, spending one day in Córdova, two in Granada, and three in Seville. The necessary expenses for the trip, if one travels first-class on the railways and puts up at the best hotels—advisable even for men, unless they are good Spanish scholars and familiar with the customs of the country, and practically necessary if there are ladies in the party—will be about $65. There will probably, however, be special railway rates for members of the Congress, thus reducing the absolutely necessary expenses to about $40 or $50.

Córdova.—Leaving Madrid in the evening by the express, with sleeping-cars attached, running on Monday, Wednesday, and Friday, we arrive at Córdova, 270 miles distant, twelve hours later. (Express trains in Spain, be it said, are rapid only by comparison, the swiftest never exceeding twenty-five miles an hour. From ten to fifteen miles an hour is the ordinary pace, and even then the traveler arrives late at his destination more often than not.) The best hotels are the Oriente, the Suiza (or Hôtel Suisse), and the Española. Here, as well as elsewhere, it will be advisable to have a definite understanding as to prices before taking a room. A stay of one day will suffice for Córdova, if one is pressed for time, but two or three days, if available, can be pleasantly spent here.

The chief attraction of Córdova is the cathedral, formerly a mosque, one of the sights of the world. It was built between 786 and 990 A.D. by the Moors, and as an example of Arab architecture it is said to be excelled in magnificence only by the mosque at Mecca. Other sights of the city are the Alcázar, the Episcopal Palace, the Triunfo, a marble monument with a bronze statue of the angel Raphael, and a Moorish bridge, spanning the Guadalquivir river, which rests upon Roman foundations attributed to Octavius Augustus.

Granada.—From Córdova we go by train (153 miles in ten hours) to Granada, via Bobadilla, where one gets a fair meal. The majority of English and American tourists go to the Hotel Washington Irving or the Hotel Siete Suelos in a pleasant park close to the Alhambra. Other somewhat less expensive hotels in the town are the Victoria and the Alameda. Two days at least should be devoted to Granada, the chief attractions of which are the cathedral and the incomparable Alhambra, the palace of the Arab rulers of Southern Spain.

Seville.—In order to reach Seville from Granada we must go back by the road we came as far as Bobadilla. The distance from Granada to Seville is 180 miles, which the express trains cover in twelve to fourteen hours, unless they meet with unusual delay. The best hotels are the Madrid, the Paris, and (less expensive) the Roma. Seville is one of the most delightful cities in Spain, and is worthy of a long visit; the most hurried tourist should give at least three days to it. The chief attractions are the magnificent gothic cathedral and the Alcázar, formerly the palace of the Moorish kings. The Alhambra at Granada, the Mosque at Córdova, and the Alcázar at Seville are the three most beautiful examples of Moorish architecture in Spain. Seville is celebrated for the magnificence of its church services in Holy Week, which surpass those of Rome itself. The tourist whose time is limited had, however, better avoid the city during the last three days of Lent, for the crowd is then very great, and it is quite impossible to do any ordinary sight-seeing. Easter this year falls on April 12.

From Seville one may go back to Madrid by night express train, leaving on Tuesday, Thursday, and Saturday, and covering the distance in fifteen hours. If there is time, one may go to Cadiz from Seville by river steamer or by rail, and from Cadiz steamers sail at frequent intervals for Tangier (an interesting but terribly dirty place), and for Gibraltar, Málaga, and Barcelona.

Toledo.—This most interesting town, which has

been well called "an open-air museum of the architectural history of early Spain," is distant only two hours by rail from Madrid, and should, by all means, be visited, even if one has no time to go to the cities above named. The main attraction is the cathedral, the seat of the Metropolitan Archbishop of Spain; but the city itself and everything in it are most interesting.

The **Escorial,** thirty-one miles from Madrid, may be visited in one day. It is the seat of the monastery of San Lorenzo, called by the Spaniards the eighth wonder of the world. This was built by Philip II, and contains the tombs of all the Spanish monarchs who have died since his time.

In **Madrid** the rich art treasures of the museum will repay all the time that can possibly be spared to the study of them. It contains no less than sixty-four masterpieces by Velasquez, and forty-six by Murillo, besides many pictures by Rubens, Van Dyck, Guido Reni, Raphael, Titian, Tintoretto, Paulo Veronese, and other Spanish, Dutch, and Italian masters. In the *Real Academia de Bellas Artes* there is another collection of some three hundred by Murillo, Rubens, Zurbarán, and others. The *Museo de Arte Moderno*, like the Luxembourg of Paris, contains the works of modern painters and sculptors of the country. There are many things here to repay a visit. The *Palacio Real*, Royal Palace, contains much of interest in the way of tapestries, statues, and magnificent decorations. The fresco by Tiepolo in the Sala de los Embajadores or Throne Room represents the exaltation of the Spanish monarchs. The Armeria contains an interesting collection of armor and weapons of various kinds, among which is the reputed sword of the Cid.

One of the places that will no doubt be visited by most of the Congress members is the Bull Ring or *Plaza de Toros*, which is one of the largest in Spain, seating over 14,000 persons.

Personally Conducted Tours.—Several special tours in Spain are being arranged for in connection with the Congress. The expense of these varies according to the length of the tour and the route followed, but in every case there will be an appreciable saving over the cost of individual travel, to say nothing of the saving of annoyance, especially to those unfamiliar with Spanish. The fares include first-class railway and steamship travel throughout, especially reserved hotel accommodations with meals from the time of arrival in Spain until the departure therefrom, transfer of passenger and baggage between stations and hotels, fees to hotel servants, porters, etc., and the services of a competent conductor from the time of arrival to the sailing of the steamer for America. One-day excursions to Toledo and to the Escorial are also planned for the Congress week, and the days immediately preceding and following it.

The following are the names of the persons interested in promoting these tours, who will be glad to give full particulars upon request: Mr. A. V. D. Honeyman, President and Treasurer of the New Jersey Law Publishing Co., Plainfield, N. J.; Dr. Charles Wood Fassett, Managing Editor of the *Medical Herald*, St. Joseph, Mo.; Dr. Ramón Guitéras, 75 West Fifty-fifth street, New York City; and Dr. and Mrs. H. S. Paine, 148 Ridge Street, Glens Falls, N. Y., representatives in the United States of *Les Voyages Pratiques* of Paris.

Visitors to the Congress should provide themselves with passports. These are not required for admission to the country, as in Russia, but in case of need and as a means of identification, they will be found very useful.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Annual Meeting, Held January 15, 1903.

ROBERT F. WEIR, M.D., PRESIDENT.

Annual Reports.—The reports presented showed that there had been added to the membership of the academy during the past year twenty-eight resident and nine non-resident members. The total accessions to the library were 1,026 bound volumes. In 1902 no less than 12,406 readers registered in the library. Since 1894 there had been an increase of over 100 per cent. in the number of those using the library.

Address of Retiring President.—Dr. ROBERT F. WEIR, in retiring from the chair, presented a brief review of the condition of the academy. He said that two years ago, on taking office, there were 774 resident members, and he was sorry to say that this number had not been very materially increased, the present membership being only 789. He had hoped that before this it would have been found possible to let down the bars, and reduce the dues, so that many of the young and struggling members of the profession could be admitted. It was found, however, that the needs of the academy absorbed nearly all of the present income, so that this interesting problem must be left for his successors to solve.

The Surgical Presidents of the Academy.—Dr. WEIR then commented upon the comparatively small number of surgeons who had been honored by election to the presidency of the academy, and gave a brief sketch of them. The first of the surgical presidents, he said, was Valentine Mott, justly regarded as the most eminent of American surgeons. He was a distinguished looking man, and was neatness personified. He died in 1865 of thrombotic gangrene of the leg. His estate was valued at over one million of dollars, and yet his maximum fee was $1,000, and was received on only two occasions. This was in striking contrast with the inflated fees of the surgeons of the present day. His successor was the noted surgeon, Dr. Alexander H. Stevens. He was a very impressive teacher, and was always spoken of by his colleagues with the deepest respect. Dr. Willard Parker, the third of the surgical presidents, was elected in 1856. He was a worthy man, of magnificent physique and impressive manner; he was a good surgeon, but a better teacher. Though rest and diet made up the greater part of his remarks, his teachings bore good fruit. The month after his graduation, in 1830, he was lecturing on anatomy in the college. In 1839 he succeeded Dr. Stevens in the Chair of Surgery at the College of Physicians and Surgeons. Dr. Parker was the first to operate upon appendicitis, and also to discard splints in the treatment of Colles' fracture and substitute a band of adhesive plaster. Dr. John Watson was the next one on the list. He was an irritable man, with great learning and less knowledge, but he was a just and kind man, and was zealous and faithful in the performance of his professional duties. Next came Dr. Alfred C. Post, a wise and very industrious man, so upright in character that some said he bent backward. His labors never ceased, and his interest was as great in small as in large things. The last of the list was Dr. Joseph D. Bryant, who was elected in 1895, and who is still living, and well known to the present members.

Inaugural Address: The Young Practitioner.—Dr. ANDREW H. SMITH delivered this address. He said that, with his old friend, Dr. Weir, he had watched for two-score years the life of the academy. The kindness that he had always received from his colleagues, and particularly in his early days, had led him to take special interest in the young practitioners. It could be said truly that any man who had been properly educated, and who would work diligently along the lines to be laid down, could achieve a reasonable success in the medical profession, and better

than the average man going into business with a moderate capital. Brilliant successes were few, but, on the other hand, absolute failures were extremely rare. The young practitioner would do well to remember the advice, to open an office in a locality in which the poor would not be afraid to go, and the rich would not be ashamed to be seen. He should be just as careful in the treatment of the poor, charity patient as of the person paying the maximum fee. While attentiveness in the course of a serious illness was appreciated, it should not be forgotten that attentiveness too long kept up was also bound to be "appreciated." When a physician was asked how long a prescription just given was to be kept up, he should take it as a gentle hint that daily visits were no longer welcome, and should understand, also, that already he had lost some respect in the eyes of his client. The early years of practice were the time for note-taking. Even if never looked at afterward the notes should be taken, because the habit was, in itself, of great value. The period of waiting for private practice afforded an opportunity for attending the meetings of medical societies. These meetings not only taught the young man many things, but brought him into contact with others in the profession. This period was the one in which one naturally selected a specialty, if so inclined. The specialist who never stole a patient and confined his work strictly to his specialty would, in time, find his services in demand in proportion to the strictness with which this rule was observed. There was such a thing, however, as acquiring a practice too quickly. Some of the worst failures in practice he had ever known had resulted from young men securing a large business before they were fully equipped for such work. It was better, therefore, to grow into a practice than to fall into one. The interest of the patient should always be placed before your own, and the physician should be true to the best principles. His own judgment was against the formation of partnerships in medical practice, for conflict of opinion and interests was inevitable sooner or later. Lastly, he would say that every young practitioner in this city should join the Academy of Medicine as soon as he felt that he could do so without too great a financial sacrifice; until then he would be welcome, thrice welcome to the privileges of the academy, without money and without price. In time he would surely become one of those who helped to bear the burden that rightly went with membership.

Cardioptosis and Its Association with Floating Liver.—Dr. Max Einhorn read this paper. Although a comparatively new subject, a number of writers, chiefly foreign, had already reported several cases of movable heart. Associated with this condition were well-pronounced nervous symptoms, such as cardiac palpitation, fainting spells, tachycardia, bradycardia, and inability to lie on the left side. Cardioptosis signified a sinking of the heart from its normal position, due to a relaxation of its supports. There was no relation to the much more common condition of enteroptosis. Some writers differentiated between cardioptosis and movable heart. Cases in which the heart sunk below the fifth interspace without being enlarged were considered to be examples of cardioptosis.

The speaker said that he had recently examined carefully over 900 patients for cardioptosis, and had found this condition present in twenty-two persons, eighteen men and four women. This gave a total percentage of 2.4, or 3.5 among males and 1 per cent. among females. Enteroptosis and neurasthenia seemed to be contributory factors in the production of cardioptosis, but were not sufficient in themselves. The small number of cases occurring in women might, perhaps, be explained by the action of the corset in crowding upward the contents of the thorax. He had usually found in cases of cardioptosis an increased mobility of the heart. For instance, in the right lateral position, the apex of the heart would sometimes disappear altogether, whereas in others there was a considerable variation in the position of the cardiac apex. Cardioptosis was not a menace to life. The main objects of treatment were to increase nutrition and improve the tone of the nervous system. Of course, in addition, attention would be given to the removal of all causes tending to displace the heart.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held January 19, 1903.

Alexander Lambert, M.D., President.

A Small Dermoid Cyst.—Dr. J. Riddle Goffe presented a dermoid cyst, which had been removed from a woman, twenty-one years of age. She had a rachitic pelvis, but was otherwise fairly developed. Convulsions came on at the time of the establishment of the menses, and ultimately she developed epilepsy. This patient was also subject to the development of keloid upon slight injury. On performing laparotomy the uterus was found to be small and poorly developed, and the left tube and ovary, together with the dermoid cyst, were removed. Since the operation there had been no return of the epileptic fits. She had menstruated once since the operation, that time naturally and without pain; however, at the menstrual period, due in December, there was much pain without any flow. On examination at that time the ovary on the right side appeared to be very much enlarged, and surrounded by adhesions. Another laparotomy was done, and this revealed the fact that the right ovary was enlarged to four or five times its normal size, and was filled with cysts and hemorrhages. The ovary was removed.

Fibroid Tumors.—Dr. Goffe also presented two fibroid tumors. The smaller tumor was removed from the fundus of the uterus by myomectomy. The patient was a young woman, who had been married about one year, and had had a miscarriage at three months, probably as a result of the presence of the tumor. The omentum was adherent to the top of the tumor. While removing the latter from the fundus of the uterus, the uterine cavity was entered. This opportunity was seized for curetting the uterus, and introducing iodoform gauze through the opening down into the uterus and vagina for drainage. The woman made an uninterrupted recovery. The speaker said that the present practice was in favor of doing a myomectomy, even if it were necessary to remove a dozen tumors.

The larger tumor was removed from a woman, forty-five years of age, who had been married many years, and had borne a number of children. She had suffered for several years from hemorrhages, and had been treated for these by her physician by curettage. The condition of the interior of the uterus showed how futile was curettage in such a case, for it presented an immense fibroid polypus. The tumor was removed by laparotomy and supravaginal hysterectomy was done, and the stump covered over with peritoneal flaps, according to Dr. Goffe's method, as described by him in 1890.

Dr. George Tucker Harrison asked if it would not have been a better operation to dilate the uterus, bring down the polypoid mass, and deliver it through the vagina. In his opinion this would have been a perfectly feasible operation.

Dr. Goffe replied that the cervix was very long, and the passage of the sound had not revealed the fact that the tumor was a submucous one. But, in addition to the polypus, there were several irregular masses protruding into the peritoneal cavity; hence, the operation done seemed to have been a proper one. He knew of a similar case in which a surgeon had attempted to remove such a polypus through the natural passages, but had met with such great difficulty that the operation had to be abandoned, and the woman became septic afterward, and died from that complication.

A Hydrocele Removed Intact.—Dr. Parker Sims presented a hydrocele, which had been removed without

opening the sac. As it was loculated it showed how futile was the treatment by injection. The operation was very easy of performance.

Report of a Case of Acute Septicæmia; Intravenous Injection of Formalin; Recovery.—Dr. C. C. Barrows presented this report. The case occurred in Ward 23 of Bellevue Hospital, during Dr. Polk's absence. The patient was a negress, twenty-six years of age, and married. She was in labor at the time of her admission, and was having a chill. Her respirations were 30, and there was a fetid, bloody discharge from the vagina. She was delivered the following morning of a macerated fœtus, corresponding to about the development of the sixth month of pregnancy. After the delivery of the secundines she was given a douche of a one in ten thousand solution of bichloride. One hour later there was a severe chill, accompanied by a rise of temperature. At 3 A.M. the temperature was 99° F., and at 7 A.M. it was 108°. At 2 P.M. the uterus was irrigated with hydrogen dioxide, followed by two quarts of normal saline solution. A considerable quantity of blood clots and shreds of tissue was removed. She was then transferred to the gynecological service and was curetted. A large quantity of decomposed membranes and placental tissue was removed. She showed at this time marked evidences of sepsis. On the day of admission, a blood examination showed an absence of the malarial plasmodium and of leucocytosis. On December 30 a blood culture, made by Dr. Buxton, showed a pure culture of streptococcus. The urine contained albumin. It was at this time that Dr. Burrows first saw the woman. Her temperature was 108° F., the pulse 160 and over, and the respirations 38. She appeared to be dying. She was at once given 500 c.c. of a 1 to 5,000 aqueous solution of formalin. In three hours her temperature fell to 102°, and in six hours to 101°, and the pulse to 104, and the respirations to 28. After three hours the temperature gradually rose to 103°, and after three hours more it fell to 95° in the rectum. In twelve hours the pulse was 100 and the temperature 102°. The temperature then dropped to normal, and again rapidly rose to 103°. A second infusion of 750 c.c. of the same formalin solution was given. This was followed by a slight chill without a further rise of temperature, and, in the course of twelve hours, the temperature fell to the normal and, with one exception, had practically remained at this point ever since. The patient was now up and around the ward, and appeared to be entirely well. Several blood cultures had been made in this case, but none since the first infusion had shown the presence of any streptococci. Frequent microscopical examinations of the blood had been made, and no change in the blood-corpuscles had been discovered. The albumin had disappeared from the urine.

Commenting upon the case, the speaker said that formaldehyde seemed to him the most reasonable antiseptic agent to inject into the system. At the time of adopting this treatment, in the case just detailed, he had not been aware of the scholarly paper published in December, 1900, in the *Lancet* by Dr. R. McGuire; he was only cognizant of the fact that the physician at the Loomis Sanitarium had experimented with this agent in pulmonary tuberculosis. Dr. McGuire concluded that formaldehyde, in a dilution of 1 to 200,000 was a very efficient germicide, and that the maximum strength should be 1 to 2,000, or its equivalent, a 1-to-800 solution of formalin. In the case just reported, every effort had been made to eliminate the personal equation. The whole question rested upon this problem: Can a germicide be injected into the blood which will destroy the streptococcus and not injure the patient? Apparently formalin solution of proper strength was capable of doing this.

Other Cases.—Dr. Waitzfelder reported a similar case at the request of Dr. Silver, apologizing for the record's not yet being complete The patient was a woman. of twenty-six years, a primipara, who had been brought to the Gouverneur Hospital on December 28, 1902, with a history of having been confined three weeks before, and a few days thereafter developing symptoms of sepsis. Since then she has grown steadily worse. On admission she presented the ordinary symptoms of sepsis. Two days before, according to the history, a physician had curetted her with a blunt curette. At the time of her admission the temperature was 102.5° F., the pulse was 120 and the respirations 26. A considerable quantity of detritus was removed along with blood clots. On December 29 the temperature rose to 103°, and the next day to 105.5°. On December 31 the temperature was 104°, and on January 1 it again rose to 105°. When first seen by the speaker, on January 2, the temperature was 104.75°, the pulse was 120, and the respirations 26, and her physical condition was very bad. The uterus was again curetted, this time with a sharp curette, and it was then swabbed out with pure carbolic acid, with the idea of sealing up the lymph channels. Large doses of salines were then prescribed, according to the method of Lawson Tait. She grew steadily worse, so that on January 11 the temperature was 104°, and on the 13th was 105.5°. All hope of her recovery had been abandoned when Dr. Silver advised hypodermoclysis. An injection of 750 c.c. of normal saline solution were accordingly given. At that time her temperature was 105.5°. Within twelve hours the temperature fell to 96.25°, and with it there was a marked fall in the pulse rate. The next morning, that is, January 11, the temperature again rose to 103.5°. She was given 500 c.c. of normal saline solution by hypodermoclysis. The temperature fell from 105° to 102°. On the seventeenth day of the disease the temperature rose to 105.75°. She was given 750 c.c. of saline solution, which was followed after a short time by a fall of temperature. Twenty-four hours later the temperature was 105.5°. She received another injection of 500 c.c., which was followed by a fall of temperature of three degrees. On the evening of January 15 the speaker said he had first learned of Dr. Barrow's use of formalin, so 750 c.c. of a 1-to-5,000 solution of formalin were given to his patient. Within twelve hours the temperature fell from 104.5° to 96.75°. In twelve hours it rose to 105.5°, and remained at this point for twenty-four hours. On January 17 an effort was made to give an intravenous injection of what was supposed to be a 1-to-5,000 solution of formalin, but it was found subsequently that, through an error, the strength of the solution was really 1 to 2,500. After she had received about 100 c.c. of this strong solution she became cyanosed, passed into a condition of collapse, and appeared to be moribund. However, she was resuscitated, and a normal saline infusion was given with exactly the same result as had followed from the first injection of the formalin solution. This afternoon, or forty-eight hours after the last intravenous injection, her temperature was 101°, the pulse 120, and the respirations 48. The pulse was of fairly good volume. The speaker said he would like to draw attention to the fact that a remarkable change in the patient's condition had followed the use of normal saline solution, and that exactly the same result had been observed from the intravenous injection of formalin solution. While admitting the incompleteness of his record, he found it difficult to escape the conviction that the fall in temperature in his case was not due to the germicidal action of the formalin, but to the throwing into the circulation of a quantity of aqueous fluid, thus following out Tait's method of "washing out the germs." Moreover, examinations of the blood of his patient indicated that the hæmoglobin had been reduced in quantity after the injections, that the red blood-corpuscles were shrunken, and that the whole appearance of the blood was totally different from that observed after simply injecting a watery fluid into the circulation. Prior to carrying out the treatment the blood had been examined by Dr. Schulze of Cornell University, and it had been found to contain numerous streptococci.

Dr. W. L. Baner reported a case which had occurred in

the service of Dr. Biggs at St. Vincent's Hospital. The patient was a married woman, forty-two years of age, who, on December 1, had been struck upon the head with a cuspidore, and had received a small scalp wound. This had healed readily. A few days later she became ill with a cough and fever. On December 12 she was admitted to the hospital with well-marked symptoms of bronchopneumonia. Her temperature was 103°, pulse 120, and respirations 30. The left knee was red and swollen. The urine contained some albumin and a few granular casts. The Widal reaction was negative, and there was a leucocytosis of 11,600. On December 17 a small abscess, which had formed over the left patella, was opened. Examination of the sputum at this time showed pneumococci and streptococci. On December 23 the temperature began to decline, and the patient's general condition seemed to improve. On December 26 the temperature again rose to 104°, and for the next five days fluctuated between 100° and 104°, with a pulse of from 120 to 130 and respirations from 34 to 40. On January 2 the temperature reached 105.2°, the pulse 150, and the respirations 48. On the following morning the temperature fell to 99°. On the afternoon of January 3 there was a distinct chill, and since then there has been an irregular fever of a hectic type. On January 6 streptococci in pure culture were found in the blood. The highest leucocyte count observed in this case was 22,000, and occurred on January 10; the average had been 17,000, and at present the leucocytosis was 16,600. The patient had been growing steadily worse, and accordingly, on January 16, a formalin injection was tried at the suggestion of Dr. Barrows. Only about 250 c.c. were injected into the vein at this time. The temperature rose about one degree, or to 105°, after the injection. On the following day the respirations and pulse were better, but the average temperature range was only one degree lower than before. On January 18 the patient became distinctly worse, the temperature being 103°, the pulse 148, and the respirations 144. She was given an intravenous injection of 750 c.c. of a 1-to-5,000 solution of formalin. One hour later the temperature reached 106°, although before the injection it was 102°, with a rapid pulse and 60 respirations per minute. It should be noted that such a rise of temperature was almost the rule after an intravenous injection of saline solution. Examination of the urine of this patient failed to show any hæmoglobin in that fluid. Six hours after the formalin injection the temperature was 101.5°, the pulse was 150, and the respirations were 48. To-day her temperature had ranged between 103 and 104°, the respirations between 48 and 54 and the pulse between 140 and 180, and the patient's condition was so bad that a fatal issue was confidently predicted. Apparently in this case the injection of the formalin solution had exerted no material influence, either for good or for evil.

Dr. William R. Pryor said that he had always believed streptococcus infection to be merely wound infection. Streptococcus puerperal fever was an infectious process, entering the body through the uterus, owing to some injury. Only in 33 per cent. of fatal cases of this kind were streptococci found in the blood. They would occasionally disappear without treatment, and at times reappear. This condition was found in tonsillitis, in rheumatism, in bronchopneumonia, and in a great many other conditions. To determine whether or not a wound was infected by a certain noxious germ it should be examined for that purpose. So far as the uterus was concerned, there had been certain definite lines laid down, and these had been accepted by those doing most of the work in this field. The discharges should be collected according to a special technique, and if streptococci were not present the case should not be set down as one of streptococcus infection. Nothing had been stated in the paper to show that these cases were examples of streptococcus infection arising from the uterus; on the contrary, the symptoms presented were those of putrid infection.

Germicidal Injections an Old Treatment.—The method of injecting material into the blood had originated in the City Hospital, as long ago as 1896. The substance experimented with was iodoform, and it had been found that when this was brought in contact with the serous surfaces it was broken up and iodine liberated. Since that time he had treated twenty-seven cases by this method of inoculating the blood with iodine. The method had also been successfully tried by quite a number of others; hence, there seemed to be no good reason for relinquishing this treatment for even this brilliant departure inaugurated by Dr. Barrows.

Dr. J. Whitridge Williams of the Johns Hopkins Hospital, Baltimore, was invited to continue the discussion. He said that while he had been greatly interested in the report made by Dr. Barrows, he was compelled to view the subject with great reserve, because remarkable and surprising variations occurred in cases of streptococcus infection, irrespective of treatment. He had studied this subject for many years, and had found that many cases which were apparently hopeless had recovered without any treatment. He had known these cases to remain apparently in the last stages of the disease for a week or more, and then suddenly, without apparent reason, recovery would ensue. Mention was made of a case in which, after curetting the uterus, he introduced his finger, and, finding the cavity empty, had given an intrauterine douche of two liters of sterile salt solution. This was followed by a fall of temperature from 107° to 95° F. Subsequently, numerous streptococci were found in the blood. If this case had been treated by some medicated solution, instead of by sterile salt solution, this sudden change for the better would almost surely have been ascribed to that special treatment. Some years ago he had been associated with Dr. Pryor on a committee appointed to investigate the antistreptococcus-serum treatment. They had found that observers who reported favorably on the use of antistreptococcus serum based their opinion on not more than two or three cases, whereas those who formed an opinion only after having observed a large series of cases, invariably came to the conclusion that the antistreptococcus serum was of little or no use. Since the publication of Dr. McGuire's paper, to which reference had already been made, this author had made two other contributions to this subject. In one of these, presented to the British Congress on Tuberculosis, held in London in July, 1901, 100 cases of pulmonary tuberculosis, which had been treated by formalin injections, were reported. The treatment was published far and wide, and extravagantly lauded, but eighteen months later Dr. McGuire felt called upon to issue a note of warning, in which he stated that the results of this treatment were not nearly so brilliant as had been proclaimed in the press. Last year two other physicians had published a report of experiments made by them upon animals. These seemed to indicate that the formalin, instead of curing the disease, rather tended to accelerate its progress. It was also found that the bactericidal power of the formalin, when introduced into the peritoneal cavity was not at all marked. Various other methods of attacking bacteria in the blood had been tried, among others the injection of the silver salts recommended by Credé. The results from the latter method had not been brilliant, although in one or two instances coming under his own observation the injection of a small quantity of a 1-to-5,000 aqueous solution of silver nitrate had apparently yielded happy results. It was believed that the good effect of this method was dependent upon leucocytosis, but, unfortunately, in his own cases no leucocytosis had been observed. He believed that the method of attacking the bacilli in the blood was radically wrong, and he would not believe that Dr. Barrows had proved his contention until a large number of cases had been successfully treated by the method.

Danger of Curettage in Streptococcus Infection.—With regard to the use of the curette in streptococcus puerperal

infection, he would say that this practice seemed to him a very dangerous one; in his opinion, it killed more women than it saved. In a large number of cases the disease process was beyond the curette by the time the first symptoms appeared, while in the milder cases a protective wall of leucocytes was formed, and the destruction of this natural barrier manifestly would only invite further infection. He made it a rule never to use the curette when streptococci were found in the uterine cavity; he was even opposed, in such cases, to the use of the intrauterine douche, for the less disturbance and the less traumatism the better for the patient.

Dr. William M. Polk said that no report was considered complete nowadays that did not contain a statement as to the presence or absence of the streptococcus in the discharges, yet he imagined that most of those having much clinical experience in this class of cases were in a position to say that when a patient presented the appearance of Dr. Barrows' patient, and the discharges were those found in that case, numerous streptococci would be found in the discharges. The members of this association apparently did not recall an analogous discussion which took place about twenty-five years ago, when Déclat appeared and proclaimed the benefits to be derived from the introduction of carbolic acid—phenic acid, as he termed it—by hypodermic injection. At that time a number of cases were presented, which seemingly bore out the results which Dr. Pryor had spoken of as obtained from the use of iodine; but in those cases, as in others of a similar kind the results were finally proved to be against, rather than in favor of the method. To-day we were brought face to face with the proposition which presented itself to Dr. Barrows, viz., that we had no well-defined method of treating these cases when the usually accepted ones had failed. Dr. Barrows was, undoubtedly, thoroughly familiar with the great advantages to be derived from the injection of normal saline solution, but in the desperate case before him he had felt constrained to do something more—to try and see if some good might not result from the injection into the circulation of an antiseptic or a germicide. The advantage of the new treatment over mere saline infusion seemed to be the maintenance of a low temperature. Of course, one case would not prove the efficacy or the worthlessness of a method.

Dr. Barrows closed the discussion. He emphasized the fact that in the case reported by him all the recognized surgical procedures had been used, and yet the streptococci were in the blood in large quantities, and the woman appeared to be *in extremis*. Within a very short time, as shown by the cultures, the streptococci disappeared from the blood, and the woman's condition rapidly improved. The case was not reported as one of puerperal septicæmia, but as one of acute streptococcus infection.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending January 17, 1903:

	Cases.	Deaths.
Measles	165	10
Diphtheria and croup	395	47
Scarlet fever	153	16
Smallpox	2	1
Varicella	124	..
Tuberculosis	248	183
Typhoid fever	64	10
Cerebrospinal meningitis	..	..

His Currants a Specific.—The Greek was just an ordinary push-cart man, except in one thing—he believed in advertising. He stood beside his cartload of currants on a wind-swept corner of City Hall Park. He maintained a stoical silence, depending, perhaps, on this sign to sell his goods: "Currants as against the Chill, Cold, and Catarrh as More Eat, More Want, Very Nice of Easy Digestion." A sign like that could not escape the attention of watchful New-Yorkers, and many bought. When he was not dealing out the dried fruit he was busy keeping his bare hands warm. They were dirty hands, but one did not notice it, unless he happened to be arranging his stock; as he did every little while by brushing his hands, dirt and all, over the currants.—*New York Tribune.*

Habitual Death of Fœtus.—Where the cause is not specific, potassium chlorate should be given continuously from the end of the third month, in ten-grain doses, after meals. The drug has a beneficial effect upon the endometrium. Jardine (*British Medical Journal*) reports five successful cases.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending January 17, 1903:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
California, Sacramento	Dec.	27–Jan. 3	1	..
Colorado, Denver	Dec.	27–Jan. 3	7	..
Connecticut, Thompson	Jan.	10	1	..
Florida, Pensacola	Dec.	6–Jan. 10	49	..
Georgia, Atlanta	Dec.	24–Jan. 7	14	3
Illinois, Chicago	Jan.	3–10	6	..
Indiana, Evansville	Jan.	3–10	1	..
Indianapolis	Dec.	27–Jan. 10	95	16
Kentucky, Covington	Nov.	27–Jan. 10	82	2
Newport	Jan.	3–10	2	..
Louisiana, New Orleans	Jan.	3–10	1	..
Maine, Biddeford	Jan.	3–10	7	..
Massachusetts, Boston	Jan.	2–9	10	3
Cambridge	Jan.	3–10	2	..
Fall River	Jan.	3–10	2	..
Lowell	Jan.	3–10	1	..
Michigan, Detroit	Dec.	27–Jan. 10	78	..
Grand Rapids	Jan.	3–10	18	..
Missouri, St. Louis	Dec.	28–Jan. 4	9	1
Nebraska, Omaha	Jan.	3–10	11	..
New Hampshire, Manchester	Jan.	3–10	2	..
Nashua	Jan.	3–10	3	..
New Jersey, Camden	Jan.	3–10	3	..
Newark	Dec.	27–Jan. 10	1	1
New York Buffalo	Jan.	3–10	2	..
New York	Jan.	3–10	1	..
Ohio, Cleveland	Jan.	3–10	0	2
Dayton	Jan.	3–10	2	..
Toledo	Dec.	27–Jan. 10	26	1
Pennsylvania, Altoona	Jan.	3–10	2	2
Erie	Jan.	3–10	10	1
Johnstown	Dec.	27–Jan. 10	2	1
McKeesport	Jan.	3–10	1	..
Northumberland	Dec.	1–30	14	..
Philadelphia	Jan.	3–10	33	..
Pittsburg	Jan.	3–10	22	1
Reading	Jan.	5–12	1	..
Tennessee, Memphis	Jan.	3–10	1	..
Utah, Salt Lake City	Dec.	27–Jan. 3	10	..
Wisconsin, Milwaukee	Jan.	3–10	5	..

SMALLPOX—FOREIGN.

Austria, Prague	Dec.	6–20	25	..
Barbados	Dec.	5–20	..	2
Belgium, Antwerp	Dec.	6–20	10	3
Brussels	Dec.	13–20	..	1
Canada, Winnipeg	Dec.	27–Jan. 3	1	..
France, Paris	Dec.	13–20	..	1
Great Britain, Cardiff	Dec.	20–27	1	..
Dublin	Dec.	20–27	1	..
Dundee	Dec.	13–27	2	..
Leeds	Dec.	20–27	3	..
Liverpool	Dec.	20–27	74	1
London	Dec.	13–20	5	..
Manchester	Dec.	13–27	7	..
Sheffield	Dec.	13–27	8	..
India, Bombay	Dec.	2–9	..	7
Calcutta	Nov.	27–Dec. 6	..	2
Mexico, City of Mexico	Dec.	28–Jan. 4	2	5
Russia, Moscow	Dec.	6–13	..	2
Odessa	Dec.	6–20	7	2
St. Petersburg	Dec.	13–20	24	2

YELLOW FEVER.

Mexico, Tampico	Dec.	27–Jan. 3	..	10
Tuxpam	Dec.	23–30	..	1
Vera Cruz	Dec.	27–Jan. 3	6	2

CHOLERA.

India, Bombay	Dec.	2–9	..	1
Calcutta	Nov.	27–Dec. 6	..	51
Java, Batavia	Nov.	22–29	6	2

PLAGUE.

India, Bombay	Dec.	2–9	..	133
Calcutta	Nov	28–Dec. 6	..	25
Karachi	Nov	30–Dec. 7	12	11
Mexico, Ensanada	To date		14	13
Mazatlan	Dec.	31	Officially reported.	

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Original Articles.

THE OPEN-AIR TREATMENT OF SYPHILIS.

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I do not remember having ever seen the open-air treatment of syphilis advocated in any of the many journals of Great Britain or of other countries; and yet there is, I venture to think, no argument brought forward in favor of the open-air treatment of tuberculosis that is not equally to the point with regard to early syphilis. I suppose that there are a great many medical men, and others, who, because they have not thought about it, have an idea that the open air has some direct influence on the lung tissue in consumptives, just as, I find, there are very many who believe that the cold of these Alpine heights has direct affect on the lung tissue, and on the bacilli in it.

But a little thought will show them that it is not the influence of open air on the lungs which brings about the cure of pulmonary tuberculosis, but that it is the influence of the pure air and sunlight on the blood, and through it on all the other tissues of the body, and chiefly the nervous tissues, that the good results are obtained. Fresh air heightens metabolism in every way, and raises all the tissues to their highest point of resistance, so that they do not succumb to the persistent attacks of the poisons constantly carried hither and thither by the circulating blood.

The nervous system responds the most readily to the purer and richer pabulum brought to its inmost recesses by the blood, and as its cells are better nourished, so its trophic influence is maintained, and the metabolism and growth of all tissues, including the all-important hæmatopoietic, are ensured and maintained at their highest, and they are thus enabled either actively to beat off, or passively to refuse to succumb to, the specific poisons of any disease. Open-air life improves the appetite, and, again, the additional food ingested improves the blood-pabulum with the results referred to above. Carefully graduated exercise again increases the appetite and stimulates the emunctories, and helps the elimination of their excreta. Rest, much rest, carefully prescribed at suitable times and under correct conditions, again helps much. And if this can all be done away from home surroundings and worries, in a high, dry, bracing climate, with the purest possible air, with pleasant companions and environment, the greater will be the efficacy and permanency of the whole treatment.

Open air, then rest, high feeding, graduated exercise, and, if possible, a bright, dry, bracing climate, are our means for enabling an individual to escape the eventual horrors of consumption. But all and each of these are, in my opinion, as important in enabling the individual to escape the eventual horrors of syphilis (with the help of small doses of mercury maintained for many years.)

The parallel is strict. The poison, whether it be a bacillus or a ferment, an enzyme, a toxic-albumose, or we know not what, is there in the individual. It is somewhere in the system. It may be weak, it may be strong. Or the resisting power of the individual tissues may be weak or may be strong. Or the idiosyncrasy of the individual may be such as to render him well nigh immune; or, particularly susceptible. The poison may be causing actual physical signs and symptoms, or it may be apparently latent, but powerful for evil, and perhaps gaining strength wherewith to strike with thug-like precision and force when long forgotten and least expected, and when inadvertently the unwary victim has laid himself open to attack by being run down through worry, overwork, or neglected ill-health. It matters not whether the poison be the syphilitic or tuberculous—it may suddenly seize upon the lungs, larynx, nervous system, or connective tissues.

Surely if the open-air treatment is called for at the beginning for the one, it is equally so for the other, to avert the staggering consequences of the original infection. And yet I have never seen it advocated equally for both.

In syphilis mercury undoubtedly does good. Probably, until the last thirty years, it has, I think, done more harm than good. It is not an antidote to the syphilitic poison, any more than iodide of potassium is. It probably helps the tissues of the syphilitic, much as I find that arsenic sometimes seems to help the tissues of the tuberculous. I do not feel that it is a specific, and Diday, whose work on the subject seems to me to carry much weight and conviction, certainly seems to teach the same.

During ten years in a busy practice in the University town of Cambridge I saw many young men with early syphilis, and I often kept in touch with them for many years after they had gone down from the university. And one thing impressed me much; that whereas a poor, underfed scholar, if infected, was hit painfully hard, the well-to-do, hunting, or athletic undergraduate generally suffered lightly. The latter led an open-air life, he ate meat three times a day, his tissues were well nourished, and, therefore, at a high resistance pitch. But the scholar, often poor, trying, because of the *res angustæ domi*, to live on his scholarship, who generally had porridge for breakfast, bread and jam for lunch, and a poor dinner in hall, sometimes at a dreadful time of day, badly served and hastily eaten or left, he, I noticed, often suffered badly. And this, too, in spite of the fact that the sporting undergraduate was often very casual about taking his mercury. He very often, however, got off cheap, had but slight secondaries, and heard no more of his trouble. For, later on, he continued to live a well-fed, open-air life, often as a country gentleman or in some other easy-going position in life.

I remember, some ten years ago, remarking on my observations to Sir George Humphry, before the "open-air treatment" had come to stay, and he said that throughout the enormous experience of fifty years' practice in Cambridge he had always noticed the same thing—that the well-fed sportsman,

in spite of his being casual about his mercury, did not hear much of his trouble in the afterward, and I remember his adding, "Ah! I used in the old days to salivate them to pints a day!—but they wouldn't stand it, and they seemed to do very well without. He remarked, too, how heavily the poor student often suffered, although he was conscientious and regular in taking his mercury. Perhaps he was given too much and became miserably ill with his throat, and rash, and aches, and fever, and early skin affections, and horrible melancholia. I can think of four such now. One has spastic paraplegia and is living; another is dead of general paralysis of the insane; the third has locomotor ataxia, and the fourth is insane, also with ataxia, and I hope by this time dead. Three out of the four became fellows of their college.

If the athlete chronically poisons himself with alcohol, and leads a dissolute life (I mean, when syphilitic), he goes to grief—but later on. I have seen six such cases within the last three years—magnificently developed men, and with grand records as athletes. One died of phthisis, the second of appendicitis (tuberculous), the third of cerebral hemorrhage. The fourth of arterio-capillary sclerosis and kidneys, the fifth is just alive, and has phthisis, the sixth died of phthisis and chronic Bright's disease. They had all drunk hard, and had lead unhealthy, town-loafing and dissolute lives. All the five died here in Davos at or near forty years of age.

During five years' observation of patients in these high Alpine altitudes, I have come to the conclusion that 30 per cent. of the men patients here who have phthisis are syphilitics—and, perhaps, more. They are, as a rule, men of the upper middle class, who have led hard-working business lives. They are a type of case that clinically one can recognize, and their want of healthy carmine color and their thin hair or baldness leads one to suspect them. It is wonderful how this class of case improves here, if not too far gone. Mercury gently given certainly does them good. I notice that they are specially liable to ischio-rectal abscess and fistula in ano, and to ear trouble and deafness, more so than other phthisical patients. They are generally between thirty and forty years of age, and though they yield quickly to treatment and improve much, they seldom are quite cured. If only they had undergone a long open-air cure directly the character of their syphilitic infection was recognized, I believe they would not have had to come here for the open-air cure of their phthisis.

I have asked many directors and assistants of sanatoria and hospitals on the continent, and they have put the proportion of the syphilitics among the phthisical men as 30 and 40 per cent., and twice lately I have been told 50 per cent.

Dr. Klause, assistant to Professor Koch, and Chief of the phthisical wards at the Charité at Berlin, told me last month that fully 50 per cent. of the men were syphilitic. He also told me that when in charge of the venereal diseases department he noticed that more than 50 per cent. of the patients showed physical signs of lung disease.

The German mutual benefit and insurance societies find it pays to establish open-air sanatoria for their phthisical members. I think they would do well to do the same for their early syphilitic cases.

But the trouble is that the man who finds he has contracted syphilis is only too anxious to conceal the fact that there is anything the matter with him. He is depressed, he loses his spirits, and mopes indoors, loses his appetite, pins his faith on the mercury, takes too much of it, and then when the ill-feeling of the secondaries comes he goes from bad to worse, and is for months in the worst possible condition for resisting the invading poison at the most critical time. He is sent, it may be, to Aix-la-Chapelle or Wiesbaden, where he leads an unhealthy hotel life. Far better if he were sent at once to an open-air sanatorium, to lead the same life as is laid down for a patient with slight tuberculosis. Or, better still, if he were sent to a high, dry, bracing climate, such as the African Weld or the high Alpine plains of Central Europe, where he can amuse himself gently out of doors for six months or a year, under supervision, and then take to sport to keep him happy and healthy, among numbers of other people all busy in the pursuit of health or pleasure. For I notice that early syphilitics do extraordinarily well in these Alpine heights. Blood changes here are rapid; metabolism throughout is heightened, and the patients rapidly regain health, their throat and rash disappear very quickly, and their pains and fever rapidly go, when they have acquired the appetite which the dry, cold air seems to force on them. And I find that very little mercury goes a long way.

He should devote certainly one year to an open-air life, and, if he can afford it, two years. I believe that then we should not have the 30 per cent. of men syphilitic phthisical patients, and the million of lives per annum which tuberculosis at present costs Europe would also be very much reduced. Of course, with the laboring classes, it is probably useless to dream of their getting a year or two. But they might get, as they do for tuberculosis, three or four months, though very few of them would take it if they could get it, I feel sure. But how about compulsion? We use compulsion in case of smallpox—why not for great pox?

This leads me to the question whether our national and international associations and leagues against tuberculosis should not, in considering the prevention of tuberculosis, attack this great source of it, viz., syphilis. And should they not advocate the open-air treatment of syphilis? And should they not agitate ceaselessly for rational legislation on the point? I see great authorities speaking sanguinely of "stamping out this scourge (tuberculosis) of the human race." I believe there is no hope of stamping out "this scourge" without also taking means to stamp out the other even greater scourge—syphilis. We should consider the soil, not the seed. The tubercle bacillus will always be among the flora of damp, dark countries, and while syphilis is plentiful, ever providing a suitable soil, tuberculosis also will flourish.

I do not believe that our National Association against Tuberculosis will ever start a crusade against syphilis unless the King, or some other strong man, or some independent members of committee, take a strong line on the subject.

Many I know will say that my estimate of syphilitics among phthisical men is too high. I feel confident that when they have made as full inquiries and observations as I have made, they will not be of that opinion. I refrain from offering the usual meretricious attempts at proof by plastic statistics. The last five years have sickened me with their rich supply of lying half-truths.

I hope that the open-air treatment for early syphilis may become more usual, and I hope that the National Association against Tuberculosis may advocate it. It need not be known whether the patient has tuberculosis or early syphilis, let the treatment be the same. By helping him to live down his syphilitic poison, we can prevent the chronic inflammatory processes which undoubtedly

afterward provide the soil for the tubercle bacillus. Surely this is not only a wise, but a very necessary policy. I firmly believe that half a million deaths a year in Europe would be prevented by this policy.

But I fear that by taking a strong line and striking at the root of much of the evil, the National Association would run the risk of alienating much valuable sympathy, for there are many worthy people whose firm convictions lead them to entertain the *vox populi, vox Dei* theory. I do not remember having seen the open-air treatment of syphilis advocated in our journals. And yet it has long been clear to me that it is absolutely as loudly called for as the open-air treatment of tuberculosis.

When a patient who comes to us is proved to have early tuberculosis we say to him, "This is serious. If you can afford it, you must give up your work, and go away for six months and be over fed and live in the open air in the best possible climate. After that, if you can afford it, you had better live for another year or two in the open air." I contend that we should do well if we did exactly the same with an early case of syphilis.

A CASE OF DISEASE OF THE ACOUSTIC NERVES, CAUSING PROFOUND DEAFNESS, ACCOMPANIED AT A LATER STAGE BY PLEURITIC EFFUSION AND FIBROID PHTHISIS—RECOVERY.

By D. B. St. JOHN ROOSA M.D., LL.D.,
NEW YORK.

In September, 1888, at the meeting of the Fourth International Congress of Otology, held in Brussels, I read the account of a case illustrating the harmful effects upon the ears of the internal administration of the sulphate of quinine.* The case was then, as I supposed, at a standstill, the patient having recovered the hearing in one ear, while the other remained deaf. But in the years since then, so many important changes have occurred, with a final recovery, which has now endured for more than two years, that I republish the first part of the case, with the subsequent history:

On the 27th of February, 1888, I was called to see an officer of the United States Navy, forty-nine years of age, who, in the discharge of his duty, had received a severe wetting the night before, and suffered a chill. On returning home he took at least 20 grs. of the sulphate of quinine, with some whiskey. He perhaps took more than 20 grs., but, at any rate, he took this quantity. He felt himself much better in a short time; he went to bed and slept well, but on waking in the morning he found himself unable to hear conversation. I saw him in a few hours, and I found that he could not hear a watch, that should be heard at forty-eight inches from the ear, at all, and the voice at one foot, but with difficulty, and directly in the ear. My diagnosis was congestion of the acoustic nerve, caused by the wetting and the quinine. The first treatment was the administration of calomel, with blisters behind his ears. There were no symptoms in either drumhead, no vascularity. He could not hear the *C* tuning fork at all through the bone. Besides the deafness there was considerable vertigo, but no difficulty in locomotion. Two days after, the hearing was no better, but the vertigo was diminished. Bromide of sodium was then administered. On the 7th of March the patient was without vertigo and headache, but the hearing power remained the same. Mercury and iodide of potassium were then used, with injections of a two-per-cent. solution of muriate of pilocarpine, 4 minims. Nausea and ptyalism were caused, but there was no change in the hearing. I then turned about in my diagnosis, for whatever may have happened immediately after the quinine and the chill, since all the antiphlogistic remedies had failed, I was led to the conclusion that there was anæmia of the acoustic nerves, instead of congestion, and I commenced the use of sulphate of strychnine, hypodermically. In a day or two the patient began to improve, and on March 15 he heard conversation with some difficulty, on the left side. The aërial conduction was very feeble, there was no bone conduction whatever, no tinnitus aurium. He was taking three milk punches a day of whiskey and a 30th of a grain of sulphate of strychnine twice a day, with red wine, Bordeaux, at dinner.

On March 21, strychnine still being taken, as well as the alcohol, the patient heard more easily in the left ear. There was no bone conduction on either side. The vowels were heard through a tube or directly in the ear, with some difficulty, on the right side. He continued to improve, the treatment by strychnine and alcohol being continued, and on the 4th of June, a little over three months since the trouble began, he heard conversation in an ordinary tone, by the left ear. The use of the hearing trumpet in the right ear, where he still could hear the vowels, caused pain. The patient remained in this condition, which was considered by me as probably permanent, until the winter of 1890–1891, when he was attacked by pleurisy on the left side. His convalescence was slow, and in May of 1891 he was seen by an eminent physician, who advised him to seek a change of climate. He spent the winter of 1891–1892 in Colorado Springs, and was very much improved, except that he continued to have considerable cough. He remained in Colorado two-thirds of the year, until the spring of 1895. In the winter of 1893–1894 his hearing became worse in his good ear, and it was so much affected that he could hear ordinary conversation with great difficulty. He, however, recovered under the use of strychnine. It should be said that the physician who saw him after his convalescence from pleurisy pronounced his case one of pulmonary phthisis. He had pulmonary hemorrhages at certain times, and tubercle-bacilli were found in the sputum by an expert microscopist. The case was finally grouped as one of fibroid phthisis. Between 1888 and 1900 there were three attacks of impairment of hearing in the better ear, but from each of them he recovered, until 1898, when he returned to New York from Colorado, in a most deplorable condition. Although a good-sized man, some five feet ten inches in height, he only weighed 126 pounds, he had a most distracting cough and was profoundly deaf. He could hear the voice in his better ear by the aid of the hearing tube with the greatest difficulty, and although able to go about, he avoided society, and communicated somewhat by writing. He then came under my care again, and I placed him upon increasing doses of sulphate of strychnine, given internally, three times a day. I also gave him Russell's emulsion, and in three months his hearing was restored not only in one, but in both ears. His cough was nearly gone, and he had gained some twenty pounds in flesh.

It is now more than two years' time since this last recovery, and his hearing remains normal in both ears, and although he still has a cough, with considerable expectorations, he looks and acts like a man in good health.

A recent examination by an expert shows that

*Transactions of the Fourth International Congress of Otology, 1889.

his cough depends upon bronchitis, but he has no signs of tuberculosis.

Remarks.—The interesting points in this case are twofold: First, the recovery from profound deafness after a lapse of so many years—from 1888 until 1898 he had not been able to hear from the left ear. He had had three attacks of impairment of hearing, tinnitus of the ear, after the original seizure. But in 1898 both ears became and remain normal.

Second, the patient has a good degree of general health and his pulmonary symptoms have improved very much, although spending most of the past four years in the city of New York. For some unknown reason his pulmonary symptoms had, as stated before, become again quite serious when he returned from Colorado the last time. The treatment I adopted was the administration of Russell's emulsion and strychnine, with the regimen recommended by Dr. John F. Russell. He has spent July, August, and September each year in the State of Maine, a few miles from the coast, in a place where the soil is dry and sandy. The patient was in a condition to carry out all proper hygienic measures as he was from the first. He still lives in New York in the winter, and during the summer in Maine, and enjoys as good health as most people of his age, having now reached sixty-six years.

In the inception of the attack I supposed the disease to be of a congestive variety, but all treatment directed to the lessening of inflammation—mercury, iodide of potassium, pilocarpine, leeching, and so forth—was not only of no avail, but the patient grew worse under it. As soon, however, as I turned to the stimulating treatment—strychnine and alcohol—he immediately began to improve.

The final recovery was due also to the same character of treatment, except that on account of a marked gouty diathesis, alcohol was omitted. It is impossible to say what the lesion in the acoustic nerve was. It may have been in the vestibule, and not in the cochlea. It was hardly in the semicircular canals, because his equilibrium was disturbed very little, except in the very beginning—in 1888.

It has been to me a very refreshing oasis in the desert of chronic aural disease, especially one involving the labyrinth, to note a recovery such as this.

The theory that the disease was for a few days of a congestive variety and then became an anæmia is quite in accordance with the results of my experiments with quinine upon healthy ears,* and with the ocular conditions after excessive or toxic doses of quinine, as shown in the case reported by me,† and similar ones afterward reported by other writers.

*"Diseases of the Ear." Sixth Edition, p. 619 *et seq.*

† Knapp's *Archives of Ophthalmology.* Vol. VIII, p. 392.

20 East Thirtieth Street.

Late Disease of the Brain after Injuries.—Stadelmann says that the diagnosis in these cases is most difficult when the so-called late bleedings come on weeks or months after the injury. He would rather call such cases late apoplexies in distinction to traumatic secondary hemorrhage. In order to bring the cerebral changes into connection with the disease, the following conditions must be fulfilled: (1) The patient must have been healthy and sound before the receipt of the injury, and must not be of great age. (2) The injury must have been considerable. (3) The symptoms must have developed before our eyes. According to some authors, the diseased vessels must be opposite to the injury. The author relates cases in which the symptoms developed in two and a half years, four weeks, and seven weeks respectively after the injury. —*Medical Press and Circular.*

THE PRINCIPLES OF PROTECTION AGAINST RÖNTGEN-LIGHT DERMATITIS.

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As long as the specific effect of the Röntgen rays upon the sensitized plate and upon the organism are alike unknown, it is impossible to make definite rules for protection against their possible injuriousness. But experience has taught us that in all cases of Röntgen-light dermatitis, other circumstances being equal, long exposures had taken place; and it is, therefore, obvious that short exposures are the best safeguard against injury. But then the question is, Shall we reach the desired result, whether for diagnosis or therapy, by a short exposure? If not, what else must be used for proper protection?

In order to appreciate this important point thoroughly, we must also consider some contributing factors, viz., the construction of the tube, the penetration power of its light, the distance from the irradiated body, the position of the object, the number of interruptions, and the size of the secondary.

Whether an accumulator, a static machine, or a coil be used, seems to me to be irrelevant. But, as mentioned in my previous publications on this subject, I believe that we have to reckon with Röntgen-light idiosyncrasy, existing in some individuals just as much as we have to with an iodoform susceptibility. My statistics at the German Poliklinik of New York, which are based upon twenty years of continuous observation, show that about every fiftieth individual becomes affected with dermatitis when treated with iodoform. Since such idiosyncrasy cannot be diagnosticated before the dermatitis makes its appearance, we shall never be able to prevent it. But what we can do is to recognize it in its early stage, and if this be done, further spreading can be arrested by simply discarding its further use.

There are, however, two points of difference between the iodoform and the Röntgen-light idiosyncrasy. In the first place, a non-susceptible patient will not show any signs of iodoform dermatitis, no matter how long he may iodoformize himself, while there is no individual who would not be burned by the Röntgen light if its influence is kept up long enough. And, secondly, the Röntgen-light dermatitis will not stop as soon as further irradiation is discontinued. The peculiar features of the Röntgen rays not to show the injurious effects as a rule before the tenth, sometimes not before the twentieth day after the first exposure, stands in the way of an early and rational prophylactic therapy. The only method by which we may so far determine whether an idiosyncrasy exists or not, is by tentative exposures. So it may sometimes be a chain of little causes, long exposure, short distance, powerful apparatus, condition of patient, and weather, which in their entirety may be the stimulus for the reaction. Besides this idiosyncrasy, which is born with the individual, and is to be regarded an imponderable, a temporary susceptibility exists, which may be attributed to temporary bodily conditions, to pathological changes, or to climatic influence. I have called attention repeatedly to my observation that when suffering from slight Röntgen-light dermatitis myself, I could note a marked increase of the symptoms during sultry weather. The patients treated at such days had a similar experience.

I do not believe, however, that the question of idiosyncrasy requires much consideration, as far as

FIG. I.—Epithelioma of eyelid of four years standing

FIG. II.—Epithelioma of eyelid cicatrized after twenty-four exposures, the epithelioma of the lower lip showing its first signs

FIG. III.—Epithelioma of lower lip.

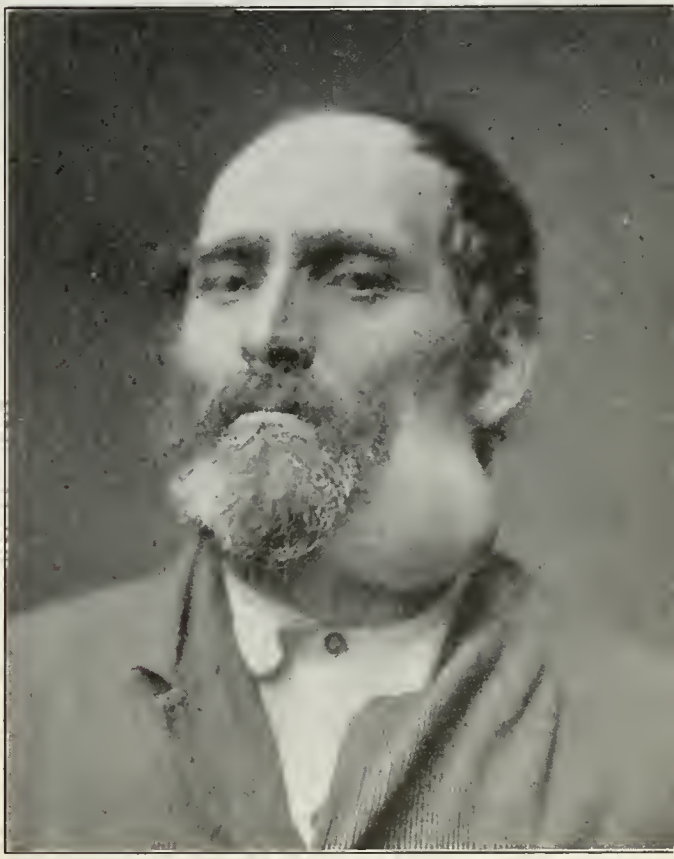

FIG. IV.—Carcinomatous tumor of inferior maxilla and submaxillary tissues, fifteen months after the cure of the epithelioma of the lower lip. (Compare Fig. III.)

exposures for diagnostic purposes are concerned, since, with our present methods, the length of time needed is much shorter. Even if repeated exposures have to be taken, I have not, thus far, seen a Röntgen-light dermatitis before the fifth repetition, the intervals having been from two to three days. And these cases were slight—the first or second degree. Still, as already said, with our present apparatus, a certain length of exposure invariably causes burning, whether the individual be susceptible or not. If long exposures are responsible in nearly all cases of Röntgen-light dermatitis, we shall naturally try to shorten them. This we can do only to a certain extent, if we are seeking full and distinct diagnostic information. Unfortunately, the best skiagraphs are obtained by long exposures, made with tubes of low vacuum. This, in addition, requires the use of a strong current. So, in order to get out the structural details, three irritating factors unite their influence, the long exposure, the soft tube, and the intense current. A tube with a high vacuum requires only a short exposure, but the details of the skiagraph are by no means brought out as well. So, theoretically, if the question of dermatitis did not exist, we would, as a rule, combine very low vacua, very long exposures, and currents of high intensity.

Fortunately, the longest exposure (the pelvis) does not now, with the aid of the Wehnelt interrupter, require more than ten minutes' exposure, and this will be tolerated even by a susceptible individual. So, practically, we do not need to fear much in our diagnostic efforts, and if we could make the rays still more powerful, in order to get more differentiation, we would not hesitate to do it.

But when repeated exposures of ten minutes time are necessary, the question of idiosyncrasy, as well as of ordinary cumulative irritation, should be considered, and therefore the intervals between the exposure should be made long—a week on an average.

The chromoradiometer of Holzknecht represents an effort to solve the uncertain question of proper dosage. It consists of an arrangement of various salts, which possess the property of being more or less colorized by the influence of the rays. After they are deeply colorized by the rays, they are made up in a scale, which also contains the same salts, not yet influenced by the rays. If the fresh salt, placed at the object to be irradiated, shows the same degree of colorization which its colorized companion has, sufficient influence is exerted, and further irradiation would better be stopped. Ingenious as the apparatus is, which is especially recommended in the treatment of lupus, it will, in its present shape, not take the place of our simple means of control.

Protection in exposing for diagnostic purposes is a chimera. If a so-called protecting shield really protects, then it is an obstruction to the rays, and consequently the details of the skiagraph are lost. In marked injuries the details may be recognized; but they will not be distinct, and can be compared with the skiagraph taken through a plaster-of-Paris dressing, which is only of value in connection with a skiagraph taken before the dressing was applied.

If the rays are used for therapeutic purposes, the possibility of susceptibility deserves attention. It seems to me, however, that we should make clear to ourselves first what the object of our therapeutic measures is. Little stress is laid upon this point in the many valuable publications on this important subject. It is not customary to shoot at sparrows with cannon balls. Why, if we treat a hairy surface on the face of a fair lady, for instance, resort to means as powerful as those we employ in carcinoma? In other words, when treatment for non-malignant disease is intended, careful tentative exposures should precede it. If, then, erythema should appear after one short exposure, thus proving the presence of idiosyncrasy, further treatment must be taken up only under extraordinary circumstances, and after the patient has been fully informed of the risks. For such purposes I have advised a first exposure of five minutes. A soft tube should be selected, and the Röntgen light must just be strong enough to show the carpus of the operator black, without structural details and contrasts to the soft tissues. After a week the same procedure, now lasting ten minutes, is to be repeated. If, after a third exposure, and two weeks after the first, no reaction has shown up, the patient is, apparently, not susceptible. Then he may be irradiated every second or third day, and at last daily, until reaction manifests itself. Each exposure may last from ten to fifteen minutes.

During the tentative exposures, the distance of the tubal wall from the skin should be four inches. The vicinity of the irradiated area must be protected. This is done by a thick shield of lead, which, if moulded properly, attaches itself to the area selected; if not, it must be fastened to it by a bandage. If the face is concerned, a sheet of lead, into which a hole is cut to correspond with the area to be irradiated, may be bent over it. These principles apply to all cases of benign integumental disease.

In treating malignant diseases, we should be governed by entirely different principles. I have emphasized repeatedly that nothing appears more absurd than protecting the area which demand the influence of a sort of a destroying agent. Since Volkmann found, on microscopical examination, that even in small and superficially located carcinomatous growths of the mammary gland, the fascia was generally involved, he was naturally led to the conclusion that removal of the tumor alone was an insufficient procedure. The correctness of his investigations was corroborated by Heidenhain, who found carcinomatous cells in the superficial layer of the pectoralis major muscle, even when the breast was only superficially involved. From these observations we learned that the removal of the fascia would not suffice, but that, at least, the superficial layer of the pectoralis major muscle should be dissected away in all cases, even when the carcinomatous nodule was but of small size.

The observation of the following case, represented by Figs. 1 and 2, illustrates these views strikingly. The patient, who is ninety-one years of age, suffered from epithelioma of the eyelid for four years. He was treated chemically, especially with caustics. No attempt of excision was ever made. The patient was greatly disturbed by the excruciating pain in and around the deep ulcer. (Fig. 1.) All efforts to give relief proved to be failures until an attempt was made with the Röntgen rays. After the first exposure, which lasted five minutes, the pain was considerably lessened, and after the second exposure, two days thereafter, it disappeared entirely. No protection was given, except that the patient closed his eyes during the séance. Sometimes the distance of the tubal wall from the skin was not more than half an inch.

Although, after the nineteenth exposure, slight erythema developed, the séances were not stopped until, after the twenty-second, painful dermatitis showed over the face. Further irradiation was stopped then for two weeks, when all signs had disappeared. The remainder of the ulcer was dusted with xeroform, which was also used in the intervals. After three more exposures the epithelioma had

FIG. V.—Röntgen hand.

FIG. VI.—After operation for the ninth recurrence. (Compare Fig. VII.)

FIG. VII.—After first amputation, February, 1894.

FIG. VIII.—Röntgen-light burn of third degree in sarcoma of superior maxilla, frontal bone and orbit.

fully cicatrized. (Fig. 2.) At the same time an epithelioma showed its first signs at the lower lip. It is treated with Röntgen light at present. The eye is in no way affected.

It must be assumed that while the macroscopical evidence of carcinoma was concentrated upon the eyelid, the cells must have been spread around the lymph vessels of the whole face, thus, finally, establishing a focus in the lower lip. The case, illustrated by Figs. 3 and 4, is analogous. It concerns a man of fifty years, whose epithelioma of the lower lip (Fig. 3) was cured fifteen months ago, and which, up to the present time, has not shown any signs of recurrence. Three months thereafter a small nodule appeared in the left submaxillary region, the removal of which was refused by the obstinate patient. No treatment of any kind was submitted to until a short time ago the patient presented himself with the large tumor illustrated by Fig. 4, which extended from the geniohyoglossus muscle up to the parotid gland. As could be ascertained by skiagraphy, as well as by subsequent resection, the bone showed slight erosion at its lower anterior border. The microscopical examination, made by Dr. R. H. Buxton, revealed the presence of a large number of cell nests in the epithelioma. An extensive operation, consisting in the exsection of the left half of the mandible and removal of the parotid gland, the temporal, the masseter, and the sternocleidomastoid muscles was done. Recovery was uninterrupted.

It did not take long for the conclusions of Volkmann and Heidenhain to bear rich fruits. The surgeons who followed Volkmann's example were soon able to report cases which showed no signs of recurrence until after more than a year. Kuester, Senn, Halsted, Weir, Meyer, and myself (Medical Society of the County of New York, November, 1892) advised still more radical steps, with more or less modification of the original method.

The motto "Better too much, than too little" must be adhered to in malignant disease, as emphasized in my previous publications. It is better, therefore, to suffer from slight functional disturbances after sacrificing the whole pectoralis major and minor muscles than to attain a good functional result followed by a speedy recurrence.

Now, if we are convinced of the fact, that even when there is only a small carcinomatous nodule in the mammary gland, the superficial layer of the pectoralis major muscle contains or may contain, carcinoma cells, why restrict ourselves then, if we attempt to treat a nodule of this kind by the Röntgen rays? Is it not exactly the contrary of what we desire to achieve, if we prevent the distant carcinoma cells from being reached by covering the vicinity with some impermeable metal? We want to reach *all* carcinoma cells, if we can, and the so-called shield does not shield the patient, but the carcinoma cells. Therefore, shields off in malignant disease! The contrary procedure would be just like ruling that, after a certain amount of blood had been lost, an operation must be stopped, even if its completion would save the life of the patient. If we have made up our mind to influence the carcinoma cells, we must employ sufficient energy to enforce this result.

This does not imply, however, that the other extreme should be striven at. We must follow our therapeutic strategy in a determined, but carefully observant manner. The practical *modus operandi* is, therefore, about the following:

The patient suffering from malignant disease is irradiated without first submitting to tentative exposures. The tube should be as near the tumorous area as possible, the distance of the tubal wall from the skin never exceeding two inches.

This is done for the purpose of influencing the growth itself as powerfully as possible. After there is a slight erythematous reaction, within the immediate vicinity of the growth, the distance is increased for the following séance. Thus the rays reach a larger surface. In mammary carcinoma, for instance, the area between the sternum and axilla must be fully exposed.

When this wider field becomes erythematous also, the irradiation must be stopped for a few days until it shows signs of disappearance. It is not advisable to wait until the last little sign of dermatitis has vanished, because much valuable time may be lost by waiting. Repeated attacks of dermatitis may thus be endured.

It seems to me that the further the carcinomatous infiltration has extended, the more resistance to dermatitis exists and, consequently, the less reaction takes place, the cell-metamorphosis lowering the irritability of the skin. This non-susceptibility, of course, varies with the different types of malignancy. It seems to be greatest in the fibrous variety of carcinoma.

If there be extensive ulceration, causing retention of pus, irradiation should not be continued until the area is exposed fully, and any necrotic tissue removed by the scalpel or sharp spoon. If this is omitted, the power of the rays is not only inhibited, but, at the same time, toxæmia from local decomposition is added to cachexia, a very dangerous association, indeed.

If the integument is concerned, soft tubes must be employed, but deeper infiltration requires tubes of medium hardness. It is obvious that for very deep-seated growths, hard tubes should be employed, in view of their greater penetration power. But I do not believe that the rays, in their present capacity, possess so much force in the deeper tissues of the body that a regressive metamorphosis can be expected. That even carcinoma of the stomach, liver, or uterus may be influenced, is not denied, but such influence is not intense enough to promise more than a slight amelioration. *Ne quid nimis!* Extravagant promises will discredit the new and delicate field of Röntgenotherapy.

I do not maintain that the production of dermatitis in the treatment of malignant disease is desirable or a *conditio sine quâ non*. But, with our present means, I regard powerful and long irradiation a necessity, and this, unfortunately, entails the provocation of the dermatitis.

My experience shows that whenever a dermatitis has appeared the size of the growth has diminished, œdema and pain has decreased, and the general condition of the patient has improved.

In spite of extensive dermatitis, which causes a most distressing burning and itching sensation, all the patients suffering from malignant disease were anxious to undergo irradiation again as soon as possible. If the *raison d'être* is thoroughly explained to the patients, they will certainly not make their physician responsible for excessive burns. A patient afflicted with carcinoma or sarcoma, especially if it is inoperable, has, indeed, nothing to lose, and can well afford the risk of being burned. Will he act like the boy who, for tearing out a lock of his scalp when he was drowning, threw rotten eggs at the man who pulled him out of the water? And, in any case, the physician is a soldier, and must do his duty, unconcerned whether he is applauded or insulted.

Of course, the purely cosmetic standpoint is entirely different. If dermatitis occurs in the face of a fair lady, who simply wanted to be treated for

hypertrichosis, the cure proves to be worse than the disease.

For lupus, epithelioma, and integumental sarcoma, a séance of ten minutes, repeated every second or third day, suffices on an average. Extensive and deeper-seated growths should be irradiated daily for the same length of time, and, if no intense reaction appears, for twenty minutes.

As soon as improvement is noted, the exposures should, for a while, be shorter and the intervals longer.

While the motto of the physician is *summa lex ægroti salus*, there is no reason why he should forget his own "ion" entirely. Fig. 5 shows the wrinkled, shrivelled, vulnerable, and partially cracked terra-cotta hand of a physician, who has done daily skiagraphic work since the early Röntgen era. It represents the dorsal surface, which he turns against the Röntgen tube to ascertain, by the study of the bones of his own hand, what degree of translucency exists. The tip of the fourth finger was the most exposed target, which finds its conspicuous expression in the black colorization of the nail and the onychia. Next to it the little finger suffered most, which is illustrated by the deep black of its nail. The nail of the middle finger is less blackened, and the index still less, while that of the thumb, which is held sidewardly, is fairly normal..

As long as one's own carpus must be the means of ascertaining the degree of the tubal vacuum, the operator cannot protect his hands sufficiently. because the protection would impair distinction. He can do a great deal, however, by preparing everything carefully before the tube is lighted, and by keeping out of the focus when it is not absolutely necessary. The same hand must not be used for autodiagnostic purposes all the time, but it is advisable to change hands methodically, using the right hand at one séance, and the left at another.

For therapeutic purposes the continuous control of the light is unnecessary, and there is no reason, therefore, why the operator should come in close contact with the rays. In regard to this chronic type of Röntgen-light dermatitis, I refer to my previous publications, in which the temporary alopecia, the atrophic thickening, and the pigmentation of the integument, was described. The chronic Röntgen-light dermatitis may, if abstention is not resorted to for a while, lead to progressive ulceration, which, by passing through the rete malpighi, may give rise to extensive destruction. Pigmentation is a most characteristic sign, and may, in fact, be regarded pathognomonic in contradistinction to other kinds of burns or dermatitis. The pathological and therapeutic aspects of the effects of the Röntgen rays, MEDICAL RECORD, January 18, 1902 (see Fig. 3).

Valuable information as to course and therapeutic influence can be gained from the observation of a patient of fifty-nine years, who began to suffer from carcinoma of the breast ten years ago, and who, after having been operated upon ten times, enjoys fairly good health at the present time. (See Fig. 6.) The result of my first operation, performed in February, 1894, was illustrated six years ago (*Clinical Recorder*, October, 1896). She had not asked medical advice until a year after the first signs had shown themselves. There was an extensive carcinomatous area then of the left breast, the axillary glands also being involved. The extensive destruction and the pain appealed to her at last. It is self-understood that under the circumstances I had to perform a very extensive operation, not only removing the pectoralis major muscle, together with the axillary glands, but also exsecting so large an area of adjacent integument that a plastic operation had to be undertaken (see Fig. 7). Recovery was perfect until six months later, when a small nodule appeared at the anterior axillary fold. This was again extensively removed. Then a period of euphoria followed for a whole year. In September, 1896, a hard nodule originated near the sternum, which was also extirpated. Then there was no disturbance until June, 1897, when a small nodule appeared in the axilla, which was extirpated by Dr. F. Torek, to whom I am indebted for the following report:

On August 7, 1897, there was a pain at the site of the last operation. No recurrence. March 7, 1898, recurrence in posterior axillary line; extirpation, April 11, 1899; another recurrence, the tumor showing about 3 cm. in diameter; ichthyol-vasogen treatment. On January 16, 1900, the immovable tumor has grown to the size of 8 to 9 cm. in diameter. Dissection of axillary artery and ligation of the axillary vein. Microscopical examination by Prof. Henry J. Brooks; carcinoma, with much fibrous tissue. February 14, wound perfectly healed. February 14, 1901, another recurrence in axilla, tumor being about the size of an egg. February 19, operation. Discharged from hospital cured, March 8. August 21, 1901, another large node, probably starting from the stump of the pectoralis major muscle, which is removed. Primary union on August 29 to October 31, 1901, another operation is made in the pectoral region, and two nodules removed in the axillary region. January 13, 1902, another recurrence in the axilla of the size of a filbert; also one tumor below the clavicle, of the size of a walnut. A third neoplasm is observed in the left arm, in the former region of the pectoralis major muscle, and alongside the biceps muscle. None of the recurrent tumors is movable. Medication: thyroid extract. In view of this enormous extent of the growths, the arm also being extremely œdematous, a tenth operation seemed to be inopportune, wherefore the Röntgen therapy was considered now.

Still, it seemed to be more preferable to extirpate the tumorous portions, as far as it was possible, before resorting to irradiation. I succeeded in removing the whole biceps' muscle, and a part of the axillary region.

The infraclavicular tumor could not be removed in its entirety. The patient left St. Mark's Hospital eleven days afterward. The general condition had remarkably improved after ten irradiations, each one lasting about thirty minutes. The infiltration below the clavicle and along the triceps muscle, as well as the œdema, did not disappear until extensive dermatitis of the first degree had set in.

Similar experience was gained in the case of a lady of forty-two years, who showed the signs of sarcoma of the orbit a year ago, so that enucleation of the eye-ball had to be undertaken. Recurrence in the orbit, as well as in the superior maxilla, and the frontal bone, took place three months thereafter, and reached such an extent that it was regarded inoperable.

After having ascertained the extent of the growth by a skiagraph, I removed the diseased bone portions. Three weeks thereafter, when cicatrization had taken place, I began irradiation three times a week, exposing ten minutes each time. No change during two months' treatment was observed. But when irradiation was stopped for three weeks, the signs of recurrence showed up again, the vicinity of the orbit projecting far. Now irradiation was resorted to every day, small distance, low vacuum, and high current being chosen. After eleven exposures extensive dermatitis developed, which proved

to be of the ulcerative type, within the center of the irradiated area. At the same time complete alopecia at the diseased side set in. (Fig. 8.) The patient suffered considerably for a week, then the symptoms gradually subsided. The treatment consisted in the application of Burow's solution at first, and in the use of xeroform gauze later on. Three weeks after the beginning of the vehement dermatitis all signs of the sarcomatous infiltration, especially the projection, had disappeared and the general condition of the patient improved remarkably. There is, in fact, no abnormality noted at the present time. This state of euphoria has continued now for three months. Whether it will continue indefinitely, is, at least, doubtful; nevertheless, the entire disappearance of the recurrent growth is to be regarded a most important fact.

In conclusion, I may again call attention to the advisability of prophylactic irradiation shortly after the removal of malignant tumors.

MARITIME QUARANTINE WITHOUT DETENTION OF NON-INFECTED VESSELS FROM PORTS QUARANTINED AGAINST YELLOW FEVER.*

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THE remarks which follow will apply, for the present, to yellow fever only, since it is the quarantinable disease which is the greatest danger to the Southern States.

The keynote of this stride in modern scientific quarantine was struck by the Louisiana State Board of Health when it passed, on September 2, 1902, the resolution which reads thus: "Free pratique shall be given to non-infected vessels, with or without passengers, from ports where yellow fever is suspected, or prevails, *provided* said vessels are disinfected at the port of departure, or at the last port touched at, in a manner satisfactory to the Louisiana State Board of Health, *provided, further*, that said vessels upon arriving at the Mississippi River Quarantine Station shall be disinfected again, and *provided, still further*, that five full days at least shall have elapsed since the completion of the first disinfection before the second disinfection is done at the Mississippi River Quarantine Station."

These regulations are based upon the study, mostly of the records of the Louisiana State Board of Health, which show that a number of non-infected vessels have developed yellow fever after disinfection.

That non-infected vessels, *i. e.* vessels presenting no sickness at the port of departure or in transit, may develop yellow fever at the port of arrival after disinfection has been demonstrated by the writer in a paper published in the MEDICAL RECORD of December 28, 1901. These cases are due to the fact that during the stirring up of things aboard, necessitated by the disinfection, some infecting agent has been released and some non-immunes coming in contact with it are infected. The object of the second disinfection is to neutralize the effects of a possible case following the first disinfection, which case may be so light as to escape the observation of the officers of the vessels who, therefore, will not report that they had sickness aboard.

As far as we could ascertain, there is no record of a case of yellow fever following a second disinfection performed five days after the first one. There are cases following a second disinfection, but that was before five days had elapsed between the two disinfections.

The Louisiana State Board of Health has already put the principle into practice by granting free pratique to coffee ships from Brazil that will stop at Port Castries (St. Lucia) to be disinfected by an officer of the Board and then be again disinfected at least five days afterward at the Mississippi River Quarantine Station.

When the United States Public Health and Marine Hospital Service establishes floating disinfecting plants at the ports quarantined against yellow fever, to disinfect vessels before they leave, as it has done in Cuban ports, the Louisiana State Board of Health will honor its certificates of disinfection, provided a set of regulations governing these vessels shall be agreed upon between the Louisiana State Board of Health and the United States Public Health and Marine Hospital Service, which shall pledge itself to their faithful application by first-class officers. The United States Public Health and Marine Hospital Service need not have a plant at each port. It would be sufficient for it to establish disinfecting stations on the course of the vessels from the yellow-fever ports, where these vessels would stop to be disinfected at least five days before arriving at the Mississippi River Quarantine Station. Under these regulations non-infected vessels which have been at least five days in transit, since the first disinfection, *i. e.* "long-trip vessels" shall not be detained after the second disinfection. Vessels which have been less than five days in transit, *i. e.* "short-trip vessels" which have anchored 1,000 feet, more or less, away from shore, and have had no communication with shore at the quarantined ports shall not be detained, but the passengers, if any, shall be detained long enough to make five days from the disinfection at the port of departure.

The baggage of such passengers must, of course, be disinfected before being admitted on board.

Only vessels which have had connection with the shore at the quarantined ports shall be detained long enough to make five days from the first disinfection. They shall be disinfected for the second time at the end of their five days and not on the day of their arrival at the Mississippi River Quarantine Station. Whenever steamship companies will defray the expenses of disinfection at the port of departure, or at any intermediate port approved by the Louisiana State Board of Health, the same privileges shall be granted to them.

The Louisiana State Board of Health has done away with the detention of all the non-infected vessels coming from the fruit ports of Central America and of Cuba, under regulations of which the following is a résumé.

The basic principles are that fruit vessels shall not be detained at the Quarantine Station upon condition that they avoid all causes of possible infection. under regulations of the Louisiana State Board of Health.

The principal regulations are the following: (1) A resident medical inspector shall be appointed for each port. (2) Vessels shall have no communication with the shore and, conversely, except through the laborers. (3) Vessels shall carry only fruit and specified articles of freight. (4) Vessels carrying passengers shall carry a marine medical inspector on board. (5) Passengers shall not be received on board unless their clothing and baggage have been previously disinfected. (6) Vessels not carrying passengers shall not be disinfected nor detained at the Mississippi River Quarantine Station. (7) Vessels

*Read at the meeting of the International Sanitary Conference at Washington, December 2, 1902; also read at a meeting of the Louisiana State Board of Health, September 25, 1902, and officially endorsed by resolution of the Board.

with passengers shall be disinfected; and the passengers shall be detained long enough to make five days from the last port touched, but the vessel shall not be detained. (8) Vessels from infected ports shall all carry marine medical inspectors, those not carrying passengers, as well as those carrying passengers. (9) They shall all be disinfected at the Mississippi River Quarantine Station. (10) Passengers from infected ports shall be detained at the Mississippi River Quarantine Station five days after the arrival at the station, but the vessel shall not be detained. (11) Infected vessels shall be disinfected and shall be detained with all on board five days at the Mississippi River Quarantine Station after the completion of the disinfection, and the removal of the last case of yellow fever from the vessel. (12) Agents may send lighters down to the station to bring the fruit to the city. (13) The detailed regulations define precisely the duties of each of the officers of the Board of Health and those of the fruit companies, thereby excluding all pleas of ignorance of the exact meanings of the Board.

Fruit vessels which have left a port declared infected before they had time to place a medical inspector on board, upon arriving at the Mississippi River Quarantine Station, shall be disinfected, the regular crew removed, a new crew placed on board, except the master and engineer, and they shall be allowed to unload at the wharf in the city.

ON THE SOLARIZATION OF THE NUDE BODY BY THE SUN AND ELECTRIC ARC LIGHT RAYS, AND THE PHYSIOLOGICAL AND PHYSICAL INFLUENCE OF THESE RAYS UPON IRON PREPARATIONS AFTER THEIR INTERNAL ADMINISTRATION.

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I BRING before your notice one of the physical marvels which light rays are capable of producing upon the salts of iron, without and within the human body, or upon vegetation.

This physiological discovery has been followed up closely in its various aspects, and, as a conclusion, I found that in the administration of iron salts, in connection with the exposure thereafter of the human body to sunlight, or the electric arc light, an immediate physical and physiological change takes place, making it possible for metabolism to do the rest of the work, with results that are far-reaching and remarkable.

It is a noted fact that photographic chemistry has taught us much in many respects. We are indebted for nearly all the facts connected with the photographic properties of the salts of iron to the labors of Sir John Herschel. In his hands these salts have become valuable photographic agents, and two or three processes which have been devised are among the most interesting within the range of the photographic art. These various processes can be referred to in the many works on photography, where the whole detail can be accurately studied.

I have found that nearly all the salts of iron, under the influence of the sun's rays, or under the electric arc-light, for a longer or shorter period of exposure, undergo changes. Herschel found this fact: Papers washed with the ferro-sesqui-cyanide of potassium, exposed to the prismatic spectrum, proved that the decomposition of the salt and deposit of Prussian blue is due to the action of the blue and violet rays, below, the blue having absolutely no influence. The greatest activity appears to exist about the region of the indigo rays. The rationale of these different processes in photography has been well explained by Herschel. In nearly all cases the action of the sun's rays is a deoxidizing one. In the case of the ferro-sesqui-cyanide-of-potassium process, in which the paper simply is washed with the ferro-sesqui-cyanide of potassium, it is found highly sensitive to light. Exposed to sunlight for about an hour or less, with an engraving upon it, a beautiful negative photograph is the result. Really what happens physically is that oxygen, which combines with hydrogen to form water, is parted with. Prussian blue is deposited, the base being supplied by the destruction of one portion of the ferrocyanic acid, and the acid by the destruction of another. Herschel says: "It seems natural, at first sight, to refer these curious and complex changes to the instability of the cyanic compounds; and that this opinion is, to a certain extent, correct is proved by the photographic impressions received on papers which have no iron but that which exists in the ferrocyanic salts themselves. Nevertheless, the following experiments abundantly prove that in several of the changes above described the *immediate action* of the solar rays is not exerted on these salts, but on the iron contained in the ferruginous solutions added to them, which it deoxidizes, or otherwise alters, thereby presenting it to the ferrocyanic salts in such a form as to precipitate the acid in combination with the peroxide or protoxide of iron, as the case may be.

To make this evident, all that is necessary is simply to *leave out the ferrocyanate* in the preparation of the photographic paper, which thus becomes reduced to a simple washing over with the ammonio-citric solution. . . . If a slip of this paper be held for four or five seconds in the sun, or arc-light (the effect of which is quite imperceptible to the eye), and when withdrawn into the shade be washed over with the ferro-sesqui-cyanate of potash, a considerable deposit of Prussian blue is formed on the sunned or exposed part, and none whatever on the rest, so that on washing the whole with water a pretty strong blue impression is left, demonstrating the reduction of iron in that portion of the paper to the stall of protoxide. The effect in question is not, it should be observed, peculiar to the ammonia-citrate of iron. The ammonio-potassium-tartrate fully possesses it, and the perchloride, exactly neutralized, partakes of the same property; but the experiment is far more neatly made, and succeeds better, with other salts.

If this salt is mixed with perchloride of iron and washed over paper, whilst it is exposed to the spectrum, the action is continued down to the very end of the thermic spectrum. The formation of the deposit color in this region is accompanied with phenomena of a novel character, referable to the heat developed by the thermic spectrum. Oval brown spots are formed which correspond with the heat spots referred to, and which are evidently due to calorific agency. If ammonia-citrate of iron is used instead of the perchloride, "a copious and richly colored deposit of Prussian blue is formed over the whole of the blue, violet, and extra spectral rays in that direction, extending downward (with rapid graduation) almost to the yellow in the spectrum. If the action of light is continued, the blue and violet rays, in a very strange way, destroy their own work. "A *white* oval makes its appearance in the most intense part of the blue, which extends rapidly upward and downward. At a certain point of the action the upper or more refrangible extremity of the white impression exhibits a semicircular termination, beyond which is a distinct and tolerably well-defined congregate image, or insulated circular

white spot, whose center is situated far beyond the extreme visible violet."

My researches, as far as they have gone, show that all the per-salts of iron are converted into proto-salts by exposure to sunlight and the electric arc-light rays, when in combination with organic matter. This fact has been most fully confirmed, and even in soils all the per-salts are changed to proto-salts of iron by the action of growing vegetable and light. I have reasons for believing that all the proto-salts undergo some change. What this change may be it is impossible to say at the present stage of the inquiry, but it will be seen that scarcely any of the metallic salts resist the agency of the sun's or arc-light rays.

It was these facts that first led me to undertake a number of physiological experiments to test the value of the different salts of iron in conjunction with light administration. In over one hundred tuberculous and anæmic patients the different iron salts and organic preparations of iron were administered, and the patients placed daily in the way of the sun's and electric-arc-light rays. Much to my surprise, I found that the iron salts (organic iron preparations) were taken up most rapidly, showing marvelous constitutional effects. After the first week's trial the blood counts proved their richness in number to an enormous amount, as compared with previous counts by the older methods of administration, and with other preparations by the old method. The hæmoglobin increase was a very marked condition.

In this concise paper, for the first time since my experimental work, I bring this new method before the notice of my colleagues, knowing of nothing more powerful that will assist in supplying iron to the system more rapidly than usual, in cases in which it is indicated, than this mode of administering salts of iron in combination with light rays. We also know that iron in various forms is being introduced daily into the system, by many articles of food; light effects these forms of iron in exactly the same manner as if it were taken in the form of the salts. It is often a good plan, where it is feasible, to allow the eating of such articles of foods and vegetables as much as possible. I have taken notice of this fact in a number of cases, and must say very satisfactory results have been obtained. Amongst the different forms of iron and its compounds that I made use of in my investigations were the Blaud's pill in capsule, in a fresh state, the ammonia-citrate of iron, carbonate of iron, tincture chloride of iron, and several other preparations, as tropon. This organic compound with iron was selected by me upon its merits. I found it contained vegetable and animal material in such a state as light rays would, perhaps, have a rapid action upon. Much to my surprise, I noticed that this organic food with an iron preparation showed important therapeutic results after a very short time. It also gave the least digestive disturbances as compared with the others. I found also a very simple way to administer iron with rapid showings—in the hard-boiled egg, and the iron powder, or Blaud's moss, sprinkled upon it. This was almost an ideal result. All iron preparations exhibited in connection with light rays left, beyond a doubt, their physiological workings

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Isolation in Scarlatina.—Millard quotes the principal health officers to prove that the general idea of the infectiveness of scarlet fever desquamations is greatly exaggerated. If his conclusions are correct, we may reduce the long period of isolation.—*Lancet.*

A TREATMENT FOR SPINA BIFIDA, WITH THE HISTORY OF A CASE.

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The following is the history of a case which, while apparently going on to a successful issue, was fated to terminate suddenly in failure from an untoward accident upon the part of the caretaker. The patient, a little female infant, was born in the middle of January of the present year of healthy parentage. The family history of the present generation is, however, unfortunate, but would seem rather to be due to ignorance of the proper care of children upon the part of the mother than to direct disease influence. The mother had given birth to nine children during her married life, of whom five had died before the age of five years. One had been born with a congenital hernia. At the time of the birth of the child under consideration, a woman friend noticed a soft, hollow spot in the small of the back covered with white skin; the midwife in

attendance, however, stated that it was of no consequence. The child was born at full term, and otherwise normally formed.

Directly after birth a tumor formation rapidly took place from over the lower third of the back. As soon as the mother was able to be about the child was taken to a hospital in the suburban city in which she lived. Here, after examination, the diagnosis of spina bifida was made, and the opinion given that the case was hopeless from the standpoint of operation, and that the chance of long survival was slim.

From the age of three weeks, when the child first came under my observation, up until its death, it was under my continual care. At the first visit, upon examination, the child appeared of firm flesh, fair color and healthy. The body was well formed, head of average size, the fontanels not bulging. The child was breast-fed, regular and normal as to bowel and kidney action, and the mother, almost from the first, took it up but once

*Presented at the New York Academy of Medicine, Surgical Section, October 13, 1902.

during the night to nurse. The baby was of good temper, seemed bright, and was thriving.

Extending up from over the last lumbar vertebra to the tenth dorsal was a tumorous growth. The base was broadly attached and fifteen inches in circumference at the junction with the child's body, and three inches high. The covering seemed like stretched parchment, giving the appearance of translucency at the top and grading off to a normal skin covering at the sides and base. The top was flattened somewhat, and ulcerated, so that rupture seemed imminent. While the tumor was tense, it rose and fell with respiratory movement. It was tender to the touch and the child slept and was carried upon its side.

Repeating to me the medical opinion which had been given, I could say little to console, and my advice provided simply for a provisional treatment in case of rupture of the sac wall, besides giving general directions. To the ulcerated surface I applied boric-acid ointment spread on patent lint, cotton batting, and the whole held on by a broad muslin bandage for protection and support.

The child did well under this treatment, the ulceration healing kindly, and I began to plan active measures for the relief of the malformation.

The child was three months and three weeks old when a drop of clear fluid upon the apparently unbroken sac surface warned me that despatch was needed if I was to command any operative procedure. Preparing for the operation, the child was wrapped in two blankets, leaving the tumor and portion of the back exposed, while the upper and lower halves of its body were warmly covered. The operating table was constructed by placing a broad, flat-backed chair, tilted with legs in the air, upon the kitchen table. A pillow was flattened upon the chair-back, and the child laid head-down upon it. Held in this position by having its legs bound to the chair-rung by a muslin bandage, I provided against the loss from the brain of too great a quantity of the cerebrospinal fluid. My friend, Dr. Hinmers, administered the minimum quantity of ether upon a small, hollow towel cone. I employed ether as the anæsthetic, because of its slower action upon the vital centers.

With a small trocar and cannula I punctured over the upper and right side of the tumor and drew off slowly six ounces of water-like fluid. Enlarging the puncture with scissors into an incision parallel with the spine, four inches long, the sac was completely opened. The walls were thick at the sides and bottom, as though the muscles of the back had been pushed aside and dissected. At the bottom of the unilocular chamber was a sunken circular orifice one inch and a half in diameter. This was filled up with membranous tissue, through which appeared, at the lower portion, what I took to be the stump of the spinal cord; it was accompanied by a small artery, which had been severed, requiring a ligature to control the bleeding. Upon the opposite side of the trunnelled, celery-like stalk was a hole in the membranous diaphragm one-eighth of an inch in diameter, from which watery fluid welled with every respiratory movement. Feeling gently the edge of the circular excavation—for it had now sunken, becoming like a reversed watch-crystal—with the tip of my finger wrapped in sterile gauze, I was enabled to make out a bony margin. The location would correspond to the situation of the spinous and lateral processes of the third lumbar vertebra, though it extended more to the left side of the middle line than to the right, and was evidently the original site, as had been determined at the child's birth.

Trimming away the sides of the walls upon either side until they could be brought loosely together, thus allowing for retraction of the parts to take place; the child at this stage appearing to do badly, I stopped the anæsthetic, finishing the operation without its aid. Believing that I was not justified in attempting any osteoplastic work, or even to meddle with the end of the cord, which appeared bound to the lower edge of the bony framework, owing to the general condition of the child, I quickly brought the side walls together over a piece of sterile gauze packing, and sutured with light catgut along the middle line, withdrawing the gauze before tying the last sutures, attempting by this means to secure a dry wound.

The dressing consisted of gauze, held on by broad straps of adhesive plaster, passing two-thirds the way round the body from the buttocks to beneath the shoulder blades, with an outer muslin bandage.

The child had been in an inclined position, head down, of forty degrees, during the operation, without any apparent ill effects as shown by heart or respiratory action. It was put in a bed in the same relative position.

Reaction was prompt; the child had kept its body heat and appeared comfortable, soon became quiet, taking the breast half an hour after having been put to bed, though the ether caused vomiting to take place.

Flushing of the face did not occur at any time. My directions being that this condition, if it arose, was to be combated by elevating the child to a horizontal level upon its belly until it should subside, when the former position was to be resumed.

The first night the mother reported that, while the child was wakeful, it had remained quiet. Toward the next evening and during the second night, it was fretful and twitched its hands. The child was taken down from the incline and carried, with the head a little lower than the horizontal, in its mother's arms all that night.

The evening of the third day the child was reported to be failing, as the twitching had continued and three "spasms," though light in character, had occurred. The fourth day I found the child doing well; it was bright, and followed the movements of my hand, circling about its head, with its eyes, but after a turn or two became irritated by the effort and fretted. I changed the dressing at this time, and found a wound healing by primary union; applying a gauze dressing braced with thin wooden splints and padded with cotton, the whole being held by means of plaster straps and bandage.

The child had slept for sufficient intervals, after the first night, for all requirements. Its bowel movements were normal and kidney action free. While it was at times too weak to draw milk fast enough for its wants and became fretful thereby, it was fed by warmed drawn milk from a heated spoon, and drank, in addition, water, at regular intervals.

The anterior fontanelle, which had sunken somewhat, was again filling out flush with the scalp; the cause of the previous retraction was due, I believe, to the siphonage action of the gauze of the first dressing upon the spinal fluid. While gauze will not drain pus, it will suck up watery fluid such as this was, and which explained the presence of moisture upon the child's back between the shoulders noted and reported to me the first and second nights. The threatening symptoms which occurred at this time seemed to be accounted for upon the same basis. It seems highly probable that, had not the inclined position been kept, the

child must certainly have died from excessive drainage of the cerebrospinal fluid.

The unfortunate incident which closed the life of my little patient occurred upon the fifth day after operation. The mother accidentally let it fall from her arms, and in the wild scramble which ensued to keep the child from striking the floor, it was badly shaken up and rapidly revolved in the air. This was fatal, for, from a hypersensitive body still in the balance, it rapidly sank in a collapse and died in a few hours.

An autopsy was refused, but an examination of the fluid contents of the sac, which had been saved after withdrawal, showed a clear, limpid, unclouded watery fluid, having a specific gravity of 1022, alkaline in reaction and of a salty taste. The reaction for albumin by the boiling and by the ring nitric acid tests was prompt. Sugar was also present, as has been pointed out by Halliburton, by the copper test. Microscopically, the fluid was clear, with a few granular cellular elements floating free.

The cause of spina bifida, according to the committee of the London Clinical Society that reported in 1885: the anatomy of spina bifida assumes a primary defect of development of the mesoblast, from which the structures closing the vertebral furrow are developed. After the closure of the neural furrow, it would appear that the processes of mesoblast, which subsequently insinuate themselves between the primitive spinal cord and its overlying epiblast, are formed in an insufficient degree to meet and combine. The report, continuing, states that involvement of the cord, of which my case was an instance, occurred in 95 per cent. of the known cases.

Three varieties of this malformation are recognized, according to the relation which the cord bears to the sac walls. As my case consisted of a stumped cord coming through a thin, perforated diaphragm, which seemed to have been the original cord membranes, the case may be designated as that form of spina bifida known as meningomyelocele. According to statistics, 50 per cent. of cases of spina bifida have their original site in the lumbar region.

From a study of this case, I shall in future feel justified in attempting more or less active operative procedures, bearing always in mind the delicacy of the subject, but am impressed with the value of the inclined position in the treatment of these cases. Slung by the legs, assisted by the child's nightgown, drawn together below the feet, thus equalizing pressure, the child will be found to have adequate movement upon the face or side. Nursing and all necessary toilet procedures can be readily accomplished in this position. So held for a varying period, according to circumstances, until healing is well established, greater hopes for successful issue seems to be made possible. To overcome the siphon action of dressings, it would seem advisable to hermetically seal the area surrounding the wound from the rest of the dressing by means of rubber tissue, dissolved about its edges by chloroform or by collodion upon cotton.

805 Madison Avenue.

The Causation of Epilepsy.—Heretofore great uncertainty prevailed as to the cause of epilepsy, but the investigations of Mr. Bea undoubtedly throw some light upon the subject. Numerous blood examinations show the constant presence in the blood of a minute parasite just before an attack. The parasite looks like a small point, which moves rapidly, and sometimes forms into chains which become attached to red corpuscles.

Clinical Department.

A CASE OF CARBOLIC-ACID POISONING.

By G. G. MARSHALL, M.D.,
WALLINGFORD, VT.

The patient was a man seventy-four years old, who had been gradually failing in strength for some six months, and for the last three months had been confined to the bed, requiring the constant attendance of a nurse. The only evident cause of his growing weakness was arterial sclerosis, though a small amount of albumin had been found in the urine at times. But as there was more or less pus in the urine, requiring irrigation of the bladder at least twice a day, we were never sure that the albumin came from the kidneys. This was the condition of our patient when the accident occurred. About 3.30 P.M., on October 22, the nurse prepared to throw into the bowel, through a rectal tube, which was introduced about twelve inches, four ounces of sweet oil and two tablespoonfuls of glycerin. When this had been done, the patient complained of a prickling sensation in the rectum. The nurse then returned to the bathroom, and there she noticed that she had poured from the bottle of carbolic acid instead of the glycerin. She then immediatey irrigated the bowel with two quarts of water, which returned freely, and as it returned, the odor of carbolic acid was strong. And as the return water came in contact with the nurse's hand, it burned it and also the skin of the patient, so that the skin over the hips was discolored for several days.

In about five to eight minutes the patient began to fail rapidly in strength, and was soon helpless. The pulse became very weak and irregular, and in about two hours no pulse could be detected at the wrist. The patient's mind became dull in five minutes from the time the acid was given, and in fifteen minutes he was unable to answer questions, and did not realize what was going on. Both eyes remained widely open with pupils contracted. The eyes moved strangely, as though he was about to go into a convulsion. The lower jaw dropped, and the tongue slightly protruded with the tip pointed up, waved from side to side with marked regularity. The breathing was heavy and quite regular.

Perhaps ten minutes after washing the bowel with the water, the nurse remembered the use of alcohol in carbolic-acid poisoning, and then she introduced through the tube, inserted high up, about four ounces of alcohol with an equal amount of water. Then she again irrigated freely with water, and after this with milk.

During the first ten minutes the patient was given some brandy, but soon he was unable to swallow.

I saw the patient about forty-five minutes after the accident had occurred, when I assisted in again washing the bowel with alcohol and water, about six ounces of each. This was repeated once, and then the bowel was again irrigated with milk. Strychnine and digitalis were given freely, and then repeated hypodermics of brandy were given, together with nitroglycerin. The skin was cold and moist, so atropine was given. All of these had not the slightest effect in stimulating the heart, and as the patient was apparently dying, we were about to abandon further efforts, when at about 6.30 there was noticed a slight quiver in the radial artery. The hypodermics of brandy were repeated, and by 7 P.M. the pulse was quite perceptible. From this time on the symptoms gradually improved, and by 11 P.M. the patient had sufficiently recovered consciousness to call for a bed-pan, and he then had a normal stool. During the next two days hypo-

dermics of strychnine were required to keep up the pulse, but there was a slow and steady gain in strength and general condition. The urine showed the smoky color by noon of the next day and continued to do so for about thirty-six hours. In about five days the patient had gotten nearly back to where he was before the accident.

One peculiar point of interest was noticed about the urine, which, as has been noted, had contained more or less pus, and had also had a very offensive odor, but since the poisoning the pus has disappeared and the urine has no odor.

There has been no amount of soreness of the bowels, and no pain from the movements, which have been frequent. Some of the time he has complained of a throbbing in the rectum. The patient has no knowledge of the accident, and does not suspect that he has been so low. At the present writing, about eight days after the accident, the patient is very weak, but there appears to be no other after-effects of the poisoning.

THE HEREDITARY INFLUENCE IN NYSTAGMUS REMARKABLY ILLUSTRATED.

By ISAIAH FRANK, M.D.,
NEW YORK.

ASSISTANT OUT-DOOR EYE DEPARTMENT, BELLEVUE HOSPITAL; ASSISTANT NEW YORK POST-GRADUATE HOSPITAL EYE CLINIC; ASSISTANT NEW YORK EYE AND EAR INFIRMARY.

Binocular adjustment is learned by the child at the same time with the judgment of fixed objects, with the development of conscious vision, and the recognition of objects and processes of motion. The necessary fibrous connections between the retina and celebral cortex, between the fovea centralis and the perceptive center, only develop fully after birth, and gradually become medullated and thus capable of function. If this development is disturbed for any reason—for example, by early-acquired opacity of the refractive media, by the impossibility of perfect vision on account of congenital influences or anomalies, etc.—then a peculiar disturbance of movement, viz., nystagmus, is constantly noticed. By its conjugate occurrence, this points to a cause which is situated centrally from the muscle nuclei. Hence, nystagmus may be defined as imperfect cortical innervation of the voluntary muscles of the eye, as a peculiar form of cortical paralysis agitans.

This brief introduction will make clear the possibility of heredity in nystagmus, as conclusively evidenced by the following remarkable case: Mr. D. W. W. had nystagmus. He married twice. By the first wife he had one daughter, now a Mrs. R. Mrs. R. has fourteen children, one of whom has nystagmus. By the second wife he had five children, as follows: Mr. M. W., who has two children; Mrs. B. Z., who has three children, one of whom has nystagmus; Mrs. B. A., who has seven children, one of whom has nystagmus; Mrs. B. M., who has three children, three of whom have nystagmus; Mrs. D. B., who has nystagmus herself, has one child. Thus we see that Mr. D. W. W., who had nystagmus, had one child and six grandchildren with the same affection.

The important and characteristic point is that a grandchild of the first wife and several grandchildren of the second wife show the hereditary influence; that is, the same father has transmitted the nystagmus, or rather the causative factor thereof, to the offspring of the two different mothers. While nystagmus is generally recognized as being hereditary, *i. e.* in congenital cases, I can find no record of a case in which the transmission was through different parents; and for that reason this case is noteworthy.

130 East Sixty-fourth Street.

A CASE OF ECLAMPSIA.

By P. P. M. JORGENSEN, M.D.,
KENOSHA, WIS.

On September 26, 1901, I was first called to see Mrs. J. C. P., age thirty-five years, family history negative. Had two living children, eight and eleven years of age, respectively. She stated that she had always been in good health and she looked the picture of health at this time. Since the birth of her last living child she had had three miscarriages; each one coming on spontaneously without any great amount of previous disturbance.

She believed herself about two months pregnant at the time I saw her, and was suffering from a slight amount of nausea and distaste for food. Although the symptoms were not very severe, yet she wanted herself attended to, as she was very anxious to carry the child to term. I prescribed a few of the usual nausea powders and a bitter tonic, which relieved her in the course of a short time so that she was able to enjoy her meals and was feeling well in every way.

January 7, 1902, I was once more summoned to her home. This time she was still looking well, and said she felt well excepting that she had a great deal of pain in the rectum when her bowels moved, which I found was caused by a slight fissure. A simple ointment, in connection with a mild laxative, soon relieved this condition.

January 25, 1902, or about the end of her sixth month of gestation, I saw her again. At this time the husband sent for me one Saturday evening, although she protested it was a useless expense, as she was able to attend to her own housework, and had only felt slightly indisposed for three or four days, with some swelling of the feet in the evening. On examination I found the lower extremities markedly œdematous and some puffiness under the eyes. I scented trouble and at once sent her to bed, and gave a big dose of calomel, followed by a saline in the morning.

I secured a specimen of her urine, which I found on analysis contained almost no urea, but, on boiling, formed almost a solid chunk of coagulated albumin.

During the next day (Sunday) she developed a severe headache, and in spite of the fact that I put her on an absolute milk diet, kept up the purgation, and likewise kept the skin active, the uræmic symptoms gradually grew more marked. By Monday morning vision was beginning to fail, although I was still working the eliminative plan as thoroughly as I could. Monday noon she had a severe convulsion. It now became plain to me that the only chance for the woman's life was in emptying the uterus as soon as possible.

With this object in view, I made an attempt to bring on labor by introducing a stiff-rubber catheter up into the uterus about six inches, passing it carefully between the membranes and the uterine wall, and packing the vagina with gauze to retain it. I re-introduced the catheter and changed the packing in about three hours, and still I waited in vain for any expulsive manifestations on the part of the uterus.

Monday evening I had Dr. Kimball give her some chloroform, while I attempted manual dilatation with my fingers, but found the cervix so strong and rigid that after working for twenty minutes my fingers grew so tired and numb that I was obliged to desist without having gained any headway.

My consultants advised me to try dilatation with Barnes' bags, and this method I kept up at intervals for eight or ten hours without any effect whatever. By Tuesday evening, seventy-two hours after my first visit, the uræmic symptoms had developed to so

alarming a degree that the patient was unable to destinguish an object at a distance of two feet in front of her eyes. I now boiled my instruments, determined to deliver the woman, no matter if the unyielding os did tear. The people were unable to get their former consultants at this time, so I called Drs. Cheever and Van Westrienen, and with their very efficient assistance I once more set to work. After putting her under the influence of chloroform, we used the Goodell's dilators to start with, and as soon as we were able to introduce two fingers of each hand, we pulled the uterus down as far as possible, one holding it while the other caught hold with both hands and made traction in opposite directions until he was tired out, when the other would take hold. In this way we succeeded in delivering the woman of a good-sized, six-months fœtus, without any marked laceration of the cervix. The placenta was delivered, and by manual manipulations we succeeded in causing the womb to contract, so that the hemorrhage was not very marked. The patient, of course, was in a pitiable condition for the next few days, and yet there was steady improvement from the very first day after the uterus was emptied. There was no infection, or other ontoward symptoms, outside of the fact that she bore calomel rather poorly, causing a very sore mouth for a time.

The last time I saw the patient was in July. She was at that time looking and feeling as well as ever, although her vision had not been entirely restored, and there was still some albumin in the urine.

THE TREATMENT OF DISEASES OF THE LIVER.

By DR. H. RICHARDSON,
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PATHOLOGIST, MOUNT HOPE RETREAT.

The liver, being the largest organ of the body, performing a multitude of functions of the greatest importance to the well-being of the organism, it is of the utmost importance that it should be maintained in as high a state of efficiency as possible. These various functions are described as proteolytic, glycogenic, metabolic, and biliary, the bile acting as an excretive, and, in the intestine, as a digestive. It is an accepted fact that any organ which fails to excrete its waste products soon becomes unable to functionate properly, and therefore the quantity and quality of the bile are of the greatest importance. There are, presumably, several active principles formed in the liver, some of them, at least, of the nature of ferments, such as the aldehydase of Jacobi, which take an active and essential part in metabolism; of these little is known, but their formation and activity must depend largely on the biliary secretion.

All the most recent experimenters are unanimous in their results as to the inutility of the so-called cholagogues of the pharmacopœia, all agreeing that they fail to increase the flow of bile, and they also agree that the bile salts, viz., the glycocholate and taurocholate of sodium are the only substances which will increase the quantity of biliary excretion.

Gallstones are usually the result of bacterial invasion of the gall-bladder, coupled with the precipitation of cholesterin and of the coloring matters, which can only take place when there is a deficiency of the bile salts which hold these substances in solution. Obviously, then, the treatment of gallstones is to supply sufficient bile salts to hold these substances in solution. Even after the removal of gallstones by operation, it is by no means uncommon for a reformation to take place. Glycocholate of sodium, administered over a lengthened period, will often dissolve small stones *in situ*, and will prevent their formation; therefore, it is advisable for a patient who has been operated upon to take the glycocholate of sodium at frequent intervals to insure against the return of the disease. Gallstones are much more common than is usually supposed, occurring in about 10 per cent. of women and 5 per cent of men.

Hepatic troubles are constant with high livers and alcoholics, as well as among people of sedentary habits, the liver being overworked to begin with, while the want of exercise causes a deficient circulation and consequent congestion of the organ. In these cases the glycocholate is of great service, acting as a purge to the liver. Especially is this mode of treatment indicated in those forms of chronic malaria in which the liver becomes enlarged and the skin takes on that ieteroid hue which is so common in those sections of the country where malaria is rife.

In the intestine the bile acts as an emulsifier, increasing the absorption of fats. Many cases of malnutrition are due to an insufficient absorption of fat due to an insufficient supply of bile; the very small quantity of fat absorped during occlusion of the gall-duct, or biliary fistula, has been often observed. In diabetes, when a patient is on a diet in which carbohydrates are reduced to a minimum, and fats given as a substitute, the administration of glycocholate of sodium will, in many cases, overcome the repugnance of the patient to the large quantities of butter, oil, and fat prescribed in a few days. In Dr. Russell's very successful treatment of tuberculosis by the fat diet, the absorption and catharsis can be materially increased by the administration of the drug.

The bile is usually considered to increase peristalsis, and also to precipitate incompletely digested proteid, and so to aid digestion. In chronic constipation the drug is often of great service; many of these patients have the purgative habit, which decreases the quantity of bile; under normal conditions nearly the whole of the bile salts are reabsorbed from the intestine, returning again to the liver to be reutilized in the formation of bile. In purgation this reabsorption is interfered with, the bile salts being carried on and excreted with the fæces, and consequently the bile formation is decreased. After the administration of glycocholate of sodium for a few weeks, many of these patients are able to do without purgatives.

It is rarely necessary to give more than five grains three times a day, or, at the most, ten grains. Smaller doses than five grains are not of much use unless extended over a long period. The drug should be administered in capsules, using magnesium oxide as the excipient. Occasionally the patient may suffer from nausea after taking the capsule, but this usually passes off in a few days if the medicine is persevered with. Rarely it produces a profuse diarrhœa for a day or two, when the stools become normal.

Child Labor.—In the last few years much study has been given to the effects of fatigue upon the child. The deleterious results of overwork, mental or physical, have been noted in various ways in the growing child—studies which show the loss of mental concentration from being in school a few hours each day, with its diversified interests. More apparent are the effects of fatigue upon the physical well-being of the child. We know empirically that fatigue lessens very markedly the power to resist infections, and a closely maintained attention is just as potent a factor in producing fatigue as is physical work.—*Pediatrics.*

MEDICAL RECORD:

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THOMAS L. STEDMAN, A.M. M.D., ASSOCIATE EDITOR.

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THE SUBCUTANEOUS USE OF FORMALIN.

EVER since the relationship between septic processes and bacteria has been recognized, clinicians and pathologists have been hoping to discover some substance by the use of which, when introduced into the circulation, these processes might be controlled and the vital activities of the bacteria inhibited. There have been many experiments, and several different germicidal substances have been tried, but time has almost always conclusively shown that any antiseptic substance powerful enough to kill bacteria in the blood is also active enough to interrupt the physiology of the blood-cells, with the obvious result of killing the patient. In addition to this, we know now that it is the toxins developed by the bacteria, and not the bacteria themselves, which are responsible for the violent symptoms in septic processes, and that although we might kill all the bacteria or suspend their action, we should not thus necessarily remove the symptoms, since the toxins would still be present, exercising their poisonous action upon neural, epithelial, and muscular protoplasm. It is true that the pathologist draws a well-marked line between forms of infection in which toxins alone cause the symptoms and those in which the bacteria themselves are present in the blood; but practically such distinctions are more interesting than valuable, and the clinician must almost invariably fight a mixed condition. Another point to be remembered is that by the time that bacteria are demonstrable in the blood, there has been a very considerable formation of toxins which, as we have said, are more actively harmful than the organisms which produce them.

With these facts before them, investigators have sought rather for a substance of antitoxic power than one which could be used in the circulating blood as a germicide, and though our success so far has not been great there are some points of encouragement. Up to the present our failure has not been so complete as in our search for a germicide which will destroy bacteria in the blood and not damage the corpuscles.

The recent announcement in this city of the successful use of a weak formalin solution injected subcutaneously in a case of severe puerperal sepsis, followed by reports of other cases not so successful, has attracted much attention both in the profession and out of it. We have known for some time that formaldehyde is an antiseptic of great power, and it has been used more or less successfully in a variety of conditions, but the consensus of opinion seems to have been that, while it is extremely active, it is too irritating to be used in any degree of strength in contact with delicate tissues. The report from careful observers in this city that they had used considerable quantities of a 1–5,000 solution subcutaneously, or intravenously, with what seemed to them good result, and certainly without causing any immediately apparent damage to the blood, certainly gave rise to much interest in the profession, and to some excitement in the daily press. However, the observers themselves will undoubtedly readily admit that one or two cases prove practically nothing, and those of us who have read the reports will be very loth to admit that any startling advance has been made. The first case reported was evidently in a very bad way from a uterine streptococcus infection, with a temperature of 108°, and after the formalin injection there was a rapid fall in both temperature and pulse, followed by several performances of the same kind, a second injection of formalin meanwhile having been given. The argument of the observer was *post hoc propter hoc* as regards the injection, but it seems to us entirely too early to draw any justifiable conclusions in favor of the efficacy of the treatment, in spite of the fact that the bacteriological condition of the patient's blood improved rapidly. The violent extremes of temperature which this patient exhibited are not uncommon in severe cases of sepsis, and occur without treatment, or after the subcutaneous use of salt solution and other forms of treatment; and we must remember that the uterus in this patient had only very recently been cleared thoroughly of its septic contents when the formalin was used, so that any good effect from this intrauterine treatment might also have been expected to manifest itself at about the time when the amelioration of symptoms began. The other cases reported are still too incomplete to discuss fairly, but we may note that in one an injection of only 100 c.cm. of a solution of formalin made by mistake—1–2,500 instead of 1–5,000—caused very serious collapse with cyanosis, symptoms which we are constrained to consider due to a poisonous action upon the red blood-cells. If we are justified in this belief, the margin of safety is evidently very narrow and the need of extreme caution is very clear. The announcement in the lay press of a new procedure in medicine or surgery is always followed by much discussion, and often by a good deal of, perhaps, injudicious experimentation, into which medical men are sometimes practically driven in their relations with the enthusiastic layman. It is, therefore, wise to emphasize the importance of an accumulation of evidence, and to await the results of more cases. We know so far that considerable quantities of formalin can be injected into the human circulation with reasonable safety, and in one or two instances the injection seems to have been followed by benefit; but we are not in the possession of a real cure for septicæmia, and shall not be until we get a true antitoxin and not a mere germicide.

THE PLAGUE IN SAN FRANCISCO.

The history of the plague in San Francisco provides curious reading, and is a trenchant commentary on the manner in which politicians are able to conduct the affairs of an American State. Since the announcement was first made some three years ago that plague existed in the Chinese quarter of San Francisco, an air of mystery has been thrown over the whole circumstances. Bacteriologists — including such well-known men as Professors Simon Flexner, F. G. Novy, and Lewellys G. Barker, Drs. Kinyoun, Craig, Rosenau, and Geddings—have all declared, after careful investigation, that plague was undoubtedly present in San Francisco, and that radical measures ought to be adopted for its extinction. Instead, however, of acting upon the advice of these experts, an influential section of the commercial hierarchy of California boldly denied the trustworthiness of the conclusions reached by the visiting bacteriologists. Indeed, it was coolly asserted that one and all of these trained and experienced scientific men had made a mistake, and that, as a matter of fact, there never, at any time, had been plague in San Francisco. For three years this game of cross purposes has been going on, bacteriologists have gravely stated that plague was present in San Francisco, while the Governor of California, representing the political and commerical interests, has as solemnly asserted that the Chinese quarter of the Pacific coast city had been grossly maligned, and that San Francisco was as innocent of plague as London or New York.

During the progress of this farce, the report has gone forth at intervals that a number of persons have died in San Francisco from the loathsome disease, and that it was on the increase. Although, of course, under the circumstances, it has been difficult to arrive at the exact truth, the report has been sufficient to cause a considerable amount of alarm in the other States of the Union. On January 19 a conference of State boards of health was held at Washington to consider the plague situation in San Francisco, and to devise means to put an end to the anomalous state of affairs prevailing there. Nineteen boards of health took part in the conference, and it was virtually decided that unless the State and city authorities quickly make up their minds frankly to recognize the true situation, and to take energetic measures to extirpate the plague, the aforesaid boards of health will declare a quarantine in their respective States against California. The Governor, in his zeal for the commercial welfare of his State, has been allowed to run counter to public opinion too long. The plague in San Francisco is to some extent a distinct menace to the health of the entire community, and is in truth a matter of national concern. If necessary, Chinatown should be completely wiped out.

Prize for an Essay on Tropical Skin Diseases.— A prize of the value of £10 is offered by the *Journal of Tropical Medicine* for the best account of "Epiphytic Diseases of the Skin Met with in the Tropics." The competition is open to all qualified medical practitioners of any nationality, and essays may be written in English, French, German, Spanish, or Italian. The papers must be sent by October 1, 1903, to *The Journal of Tropical Medicine*, 83 Gt. Titchfield street, London, W.

THE ARMY CANTEEN.

In the *North American Review*, January, Major Louis Seaman, late Surgeon, U. S. V., has an article in which he argues in favor of the restoration of the canteen. Major Seaman has ever been an advocate of the canteen, and his remarks on the subject have been more than once commented upon in the Medical Record. The first and most potent argument in support of the canteen is that the majority of military surgeons who have served in the field, and who are therefore conversant with the needs of the soldier, are of the opinion that the abolition of the canteen was a grave error of judgment. Major Seaman's object in writing his article is to present some of the reasons upon which this verdict is based.

In the first instance it is pointed out that the name "canteen" is a misnomer, and that had it been called the Soldier's Club, or Post Exchange, from the beginning, it never would have been abolished by act of Congress. The purposes of the Post Exchange or Canteen combined the features of a reading and recreation room, a coöperative store, and a restaurant.

After tracing the origin and development of the canteen, the writer gives some statistics: "During the decade of 1878–1887 the number of admissions to the military hospitals for alcoholism and its results amounted to 1,640. From 1888 to 1897, when the canteens had been instituted throughout the army, the number was reduced to 923, or over 40 per cent. In one post, Willett's Point, the admission from this cause in 1889 was 223 for every thousand troops. Two years after the establishment of the canteen, it fell to seventy for one thousand." Captain E. L. Munson, Surgeon U. S. A., reports that: "At Fort Spokane, the amount of sickness resulting directly or indirectly from intoxicants diminished 50 per cent. during the first six months following the introduction of the canteen." Again Captain Munson, in his report on file in the office of the Adjutant-General, states that: "During the seven years of the existence of the canteen the reduction of insanity in the army amounted to 31.7 per cent."

Major Seaman concludes his article as follows: "The Post Exchange, as it existed in 1900, was the most rational compromise that the ripe experience of the ablest officers of the army could devise; it was not abused in the camps; it has been the soldier's friend, often saving him from disgrace and disease worse than death. In abolishing it one might say that Congress in 'killing a mouse, resurrected a monster,' and when considering its restoration, as Congress must, it will do well to remember that the result of its action has not promoted temperance. On the contrary, it has decidedly promoted intemperance, insanity, insubordination, discontent, sullenness, disease, and desertion."

The Association of Military Surgeons of the United States, at their meeting last year, unanimously adopted resolutions recommending the restoration of the canteen, and the American Medical Association and American Public Health Association took the same course. The army canteen was abolished through the well-intentioned, but misguided efforts of certain temperance enthusiasts, principally women, to whom the name of strong drink is accursed, and who had no clear conception of the

true bearings of the case. Now that the abolition of the canteen has not had the results anticipated, why not revert to the system that worked so well.

THE CHARAKA CLUB.

The name of this club will seem as mysterious to most medical men as was the X Club of London, to which interesting reference is made in the "Life and Letters of Huxley." The Charaka Club has ten members and one honorary member, Prof. Wm. Osler of Baltimore. It was organized in this city in November, 1898, by several medical men who wished in some way to get out of the ruts of their daily professional duties, and to interest themselves more particularly in the literary and historical aspects of medicine. That their meetings were of unusual interest is evident from the first volume of the Proceedings,* which has just been published, and which, although it was intended primarily for "its members and their friends," possesses considerable interest for the general medical public. We learn also from the short introductory that "the expectations of the founders have been realized, and incidentally their meetings have been the means of bringing together some literary material, which it was decided to print."

The name of the club was chosen in honor of the sage Charaka, who, as Dr. Sachs shows in his article, is the oldest writer on Hindoo medicine whose work is still extant. Charaka, not Hippocrates, is henceforth to be the ancient of ancients among medical authors. In addition to the subject treated by Dr. Sachs, we note that Dr. Gerster contributes an article on the "Hippocratic Doctrine of Injuries to the Cranium," Dr. Dana writes interestingly of the "Cult of Æsculapius, His Statues and His Temple," Dr. Holden on "Ophthalmology of the Ancient Greeks," while in a lighter vein are Dr. Collins' "Story of the Man Who Wanted to Hypnotize, but not to Pay," and Dr. Dana's amusing collection of all "The Evil Spoken of Physicians." Dr. Peterson has contributed some verses well worth reading.

The club has surely made a good start. Its meetings were serious enough, but there was a happy admixture of humor, wit, and sprightliness. The Charakians are to be congratulated upon the character of the work done and upon the fine appearance of their first volume. We trust that the example of the members of this club will be imitated in other cities, for any movement calculated to lend further interest to the lives of busy medical men should be encouraged; and if, incidentally, as in the case of the Charaka Proceedings, the general medical public can be benefited, there is further cause for congratulation.

DECREASE IN THE BIRTH RATE OF NATIVE-BORN AMERICANS.

That native-born Americans do not produce children as they once did is a melancholy but fully-accepted truth. At the beginning of the last century they were among the most prolific races of the world, but the birth rate of the native-born American has been steadily decreasing, until now the inhabitants of the United States of native stock have smaller families than almost any of the civilized people of the world.

Mr. Weston, writing in a recent number of the *Nineteenth Century and After*, asks the question, "Are the Americans dying out?" and calls attention to the fact that the native born citizens of the United States are ceasing to breed, and that the result of the diminished birth rate is only concealed by the influx of foreign immigrants, who are coming more and more from southern and eastern Europe. The figures supplied in support of this statement are rather startling.

The first generation of Americans after the colonization of New England had families of ten to twelve; the second, third, and fourth generations had families of six and seven, the fifth families of four and five, and the sixth families of three and less. The result is that 275 years after the landing of the Pilgrim Fathers the stronghold of Puritanism is not upheld by the ever-declining American, but by the Irish, German, and French Canadians. If the birth rate had kept up at its earlier rate, and there had been no foreign immigration at all, Mr. Weston computes that there would have been 100,000,000 people in the United States to-day; there are only 76,000,000, even when all the negroes and foreign immigrants are included. Of these 76,000,000, ten and a half millions are foreigners, thirteen and a half millions are born of foreign parents.

Mr. Weston is of the opinion that this process will continue, and that its result will become the more conspicuous by the fact that the foreign immigrants are now coming from Italy, Austro-Hungary, and Russia. Ever since 1881 the rush of immigration to the United States has changed its starting-point from Great Britain and Germany to the above-named countries.

The comparative sterility of native-born American women is a serious matter, but one which has forced itself upon the notice of thinking persons. The woman of this country, whose ancestors were born here, is generally averse to bearing children. She is, as a rule, of fragile make, nervous temperament, and far more intellectual than are women of other nations. But with her growth of brain-power she has declined in physique, and maternity, with her, is an ordeal to be dreaded and avoided if possible. Thus it probably happens that the birth rate among native-born Americans is continually decreasing.

FOOT-AND-MOUTH DISEASE.

As we have before noted in our news columns, an epidemic of this disease has broken out in Massachusetts, especially in the vicinity of Boston. Epizootic aphtha is, of course, not new to this country, although, as it principally affects sheep, it is more common in those lands where these animals are most numerous. The germs of the malady, says a writer in the *Scientific American*, may have been brought over from Scotland fens, or some districts of France, or from some foreign country where the disease is prevalent, on some traveler's clothes who had visited one of these places, and inspected the live stock, or on the straw or hay-packed articles imported from them.

The disease is of germ origin, and is highly contagious. "Persons," states the writer before referred to, "can carry the germs on their clothing or shoes, dogs can transport them, and they can be taken into the systems of a healthy herd which passes over the same road that a sick animal has traversed a few hours previous. Cattle are not the only animals subject to it, for it is contracted by sheep, swine, horses, poultry, and sometimes by man. In the latter it comes from drinking the milk or eating the flesh of infected animals, and sometimes by coming in contact with the sores; for

*The Charaka Club, vol. 1, 1902. Wm. Wood & Co., N. Y.

instance, the hands coming in contact with the teats while milking. The disease has the nature of an eruptive fever, which is easily recognized by the symptoms, consisting of a higher temperature in the mouth, bleeding teats, an erect coat, loss of appetite, and the secretion of 'ropy' saliva. Little blisters about half an inch in diameter, form in the mouth and in various other parts of the body, as on the teats. The animal drivels, and, in walking around, treads on this saliva, in which the virus obtained foothold, when the blisters broke, and gets the sores in his hoofs. The irritation originated by the sores causes the animal to lie down, so that he gets the sores on various other parts of the body. In two or three days the blisters mature, break, and discharge their contents. If a number of these occur in one place, it makes a raw spot and is very irritating. The disease runs its course in ten or fifteen days, and the animal gets well in the majority of cases, although it sometimes proves fatal."

Foot-and-mouth disease seldom infects a member of the human race, and the danger of contracting it by man is so small as to be scarcely worthy of consideration. Yet, at the same time, an epidemic of the nature which is now raging among cattle in Massachusetts and Vermont directly concerns the inhabitants of the surrounding country, insomuch as they are more or less dependent on these herds for the most important articles of food, meat and milk. Thus it is to the interests of the medical profession to learn all that is to be learned with respect to the disease, and to endeavor to devise methods of prevention and of curative treatment.

The Dissemination of Typhoid Fever.

C. E. A. Winslow, instructor in sanitary bacteriology, in the Massachusetts Institute of Technology, writes in the *Atlantic Monthly* for January, on the "War against Disease." Referring to typhoid fever he points out that it is only within the last thirty years that the origin of typhoid fever has been known. Dr. William Budd, in 1873, accomplished more than anyone toward overthrowing the "pythogenic theory" that the typhoid poison was generated spontaneously in the earth or in heaps of decomposing filth. He demonstrated these two essential points, that every case of typhoid fever arises by direct or indirect contact with a previous case of the same disease, and that "the contagious element" by which it is mainly propagated is contained in the specific discharges from the diseased intestine. "The contagious element," or the germ of typhoid fever, enters the body in every case with some article of food or drink contaminated by an earlier victim.

With regard to epidemics of typhoid fever in this country originated by infected oysters, it appears that the possible importance of this article of diet in conveying the disease was first made evident by an outbreak among the students of Wesleyan University at Middletown, Conn., in 1894. The oysters which did the damage in this case were grown in a bed at Fair Haven within three hundred feet of the sewer outlet from a house containing two cases of typhoid fever. They were served at three banquets on the night of October 12. The students present did not live at other times together, and between the three menus there was no common bond not general to the town at large, except the oysters. Two weeks later one in every four of the students who had been at the banquets sickened with the disease. Among twenty-nine guests from other cities, Wesleyan Alumni and members from Yale, who ate the Fair Haven oysters, six additional cases of typhoid fever developed, while four other fraternities which held initiation suppers on the same night, but at which raw oysters from another source were served, had no cases of the disease.

The epidemics of typhoid fever which can be traced to contaminated milk are very numerous, while impure water is the most fruitful cause of typhoid fever known.

Mr. Winslow strongly emphasizes the fact that typhoid fever is a perfectly preventable disease, but that notwithstanding the preventive knowledge possessed by sanitarians, many of the large cities of the United States have not ceased to furnish their citizens with polluted river water containing the germs of this deadly disease. Between 1890 and 1898 there died from typhoid fever an annual average of over 175 persons in Washington, of over 200 persons in Pittsburgh, and over 475 persons in Philadelphia—nearly 8,000 men and women thus perishing of this preventable plague in these three cities during nine years. Commenting upon this state of affairs, Mr. Winslow says: "Allowing for all other possible causes, it is certain that more than half of them were condemned to death solely by the corruption or the incapacity of those municipal officials who permitted the continuance of the existing water supplies."

On the whole, however—owing to the more intelligent modes of treating drinking water and sewage now in vogue in most of the cities of this country—typhoid fever is on the wane, and with increased energy on the part of municipal authorities in insisting that the most modern and effective methods of ensuring a pure water supply shall be enforced, the disease within a reasonable time may become practically extinct.

Association of Brain, Thymus, and Adrenal Defects.

Prof. G. Anton discusses the meaning of the rather frequent association of abnormal developmental conditions of the thymus and adrenals, with similar conditions of the brain, in the *Wiener klinische Wochenschrift* for December 11, 1902: A male, born normally, suffered from frequent epileptic attacks, and died in status epilepticus at twenty-three years. The autopsy showed general, uniform enlargement of the brain (weight 2,055 g.), with slight dilatation of the cavities, and a very capacious and much-thinned skull. Relative to the epileptic attacks, the author says that enlargement of the brain, *per se*, does not involve disturbance of function, as all investigators admit that, with increase of mass, power and function are heightened. The explanation of the convulsions, then, lies in the disproportion between brain development and skull development, which involves increased intracranial pressure. Yet, as Naunyn and others have showed by numerous experiments, even this does not cause convulsions or coma if the blood pressure is simultaneously and proportionately increased. But here the adrenal disease and the precocious degeneration of the heart muscle operated to bring about the necessary disproportion between the intracranial and blood pressures. The coincidence of abnormal persistence of the thymus with hypertrophy of the brain was noted by the older pathologists (Rokitansky, *et al.*). This coincidence is very difficult of explanation. But the persistence of the thymus in this case is, perhaps, explicable by an existent arterial anomaly. A thyroid trunk, originating from the anterior side of the innominate, gave off in front of the trachea two internal thyroid and two thymus arteries. The

older anatomists (Morgagni, Hewson, Cooper, Meckel) also observed that, with absence or great malformation of the cerebrum, the adrenals are small and defective. Recently Zanders has shown in anencephalics, hemicephalics, and cyclopeans a simultaneous stunting of the adrenals; and others have proved a very close connection between brain and adrenal development. The experiments of Borutan, Biedel, and Reiner show that adrenal (suprarenal) extract produces collateral hyperæmia of the brain by constricting the arteries of the body. Consequently the possibility exists that defective adrenal function in the fœtus may involve coincident injury of the vascular system. Zingerle has shown that, in the earlier phase of fetal life, the neural epithelium represents the formative and most important factor in the development of the central nervous system. But with stunting of the adrenals, with consequent disturbance of the chemism of the fœtus, to what extent is the neural epithelium affected? This is the only case on record of enlargement of the brain associated with cystic adrenal disease, former cases of adrenal disease having been associated with brain defects, such as anencephaly, cyclopeanism, encephalocele, etc. A bibliography, and a table of excessive brain weights, from 2,850 grams down, are given.

Treatment of the Nervous Phenomena in Chronic Nephritis.

Dr. James M. Anders, LL.D., Philadelphia, published in the *Therapeutic Gazette*, November, 1902, an interesting article on the above subject. After stating that the treatment of existing nervous symptoms is purely symptomatic, the writer proceeds to discuss the treatment of acute uræmia with convulsions and unconsciousness. In order to obtain free action of the sweat glands, the hot pack is indicated, supplemented by the hypodermic use of one-fourth grain of pilocarpine. Strychnine and digitalis to guard the heart, while if diuretics fail, wet and dry cups should be applied to the loins. If these measures do not promptly restore consciousness, resort should be had to blood-letting from an arm-vein. Dr. Ander's axiom in a case of obstinate uræmic convulsions is, "when in doubt bleed." After which heart stimulants should be administered, reinforced by the injection of the normal salt solution, given intravenously. As to the administration of morphine, Dr. Anders thinks that it is less harmful in its effects in acute nephritis than in chronic, and even then should not be given until other measures, including jaborandi and venesection, have failed, or are contraindicated by great enfeeblement of the circulation. Chloroform by inhalation, he holds, is a capital remedy in the convulsions of uræmia, but must be subordinated to free bleeding. Indeed the author regards venesection as the "sheet-anchor" in cases of uræmic convulsions.

Apoplexy is to be treated as under other circumstances. When a hypnotic is needed Dr. Anders gives the preference to sulfonal, trional, and chloralose. For headache, restriction and regulation of diet, and for the pain phenacetin combined with caffeine.

The distinctive feature of the paper referred to is its writer's vigorous advocacy of venesection in uræmic convulsions. Dangerous cases call for heroic remedies, and upon this fact Dr. Anders bases his treatment. There is no doubt that uræmic convulsions, unless arrested, will soon produce an exhausted condition of the tissues, and fatal results will supervene. In such cases blood-letting can do little harm and may do much good.

News of the Week.

The Plague.—The conference of the various State boards of health, held last week in Washington under the presidency of Surgeon-General Wyman of the Public Health and Marine Hospital Service, adopted a resolution declaring that the presence of the plague in San Francisco has been established beyond a doubt. The conference further declared: "The present danger to California and to the United States lies primarily in the persistence during nearly three years of a definite nidus of plague infection in that part of San Francisco known as Chinatown, but the gravity of this circumstance is greatly increased by the gross neglect of official duty by the State Board of Health of California and the obstructive influence of the recent governor of California, by the failure of the city government of San Francisco to support its city Board of Health, and by the obstacles opposed to the operations of the United States public health service. This conference will consider the safety of the country sufficiently assured as soon as satisfied that a competent city Board of Health of San Francisco and a competent State Board of Health, in co-operation with the United States public health service, will proceed under definite, harmonious, and effective laws and ordinances; that they are provided with ample funds, and that they are jointly and severally in the free exercise of their lawful powers." The conference also adopted a resolution expressing its conviction that it would go far toward the restoration of popular confidence if the United States public health officials were admitted to the same relations with the State Board of Health as have been steadily maintained with the city Board of Health of San Francisco, which body it warmly commended. Ecuador has closed her ports to ships from San Francisco and other Pacific coast countries are contemplating similar action. The foolishness of the suppression policy of the San Francisco authorities must be now most apparent even to its former most strenuous upholders. There is danger now that a panicky feeling will be aroused in other parts of the country, and that the business interests of California will suffer far more than they would have, had the authorities openly admitted from the first the presence of the plague and taken measures to suppress it.

The Increase of Pneumonia.—In an address on the increase of pneumonia delivered before the Michigan State Board of Health, Dr. Reynolds, Commissioner of Health of Chicago, showed by data compiled from the volumes of vital statistics of the federal census for the years 1880, 1890, and 1900 that, while pulmonary tuberculosis (consumption) had decreased from 18.21 per 10,000 of population in 1880 to 14.44 in 1900, pneumonia had increased from 12.56 in 1880 to 13.49 in 1900. These figures are for the whole country, and show a decrease of 20.7 per cent. of deaths from consumption and an increase of 7.4 per cent. of deaths from pneumonia during the twenty years.

International Exposition of Hygiene at Buenos Aires.—The State Department has received from the legation of the Argentine Republic, Washington, notice of the International Exposition of Hygiene to be held at Buenos Aires in connection with the second Latin-American Medical Congress, which will meet in April, 1904. An invitation is extended to public and private institutions interested in the subject to participate in the exposition. Reduced rates for the transportation of exhibits have already been obtained from several steamship companies.

A Method of Resuscitation of the Apparently Dead.—Dr. George W. Crile reports in the *Cleveland Medical Journal* that, by the combined use of intravenous infusions of adrenalin, artificial respiration, and rhythmic pressure upon the thorax over the heart, animals apparently dead as long as fifteen minutes were restored to life. Animals which had been decapitated, Dr. Crile says, were made to live ten and one-half hours.

Treatment of Leprosy.—Dr. John M. Swan of Canton, China, writing of the treatment of leprosy practised by Dr. Adolph Razlag, commented upon in the MEDICAL RECORD of October 4, 1902, says that good effects were noticeable as early as six months after the inception of the treatment. Dr. Razlag has continued his work in this direction during the past few months with noteworthy results.

Physicians in Ecuador.—In a report recently published, the late Consul-General Thos. Nast of Gayaquil, writes: "As numerous letters are received from parties desirous of practising medicine in this country, asking if they will be allowed to practise without passing an examination in Spanish, I wish to say that the law of this country requires all medical men arriving in the Republic to pass an examination before the Medical Board in Spanish before permission is granted them to practise. I may add that there are so many doctors here that unless the physician is a specialist his chances of obtaining much practice are very doubtful; the market is overcrowded."

Mortality in Paraguay.—According to the official statistics, recently published in Paraguay, there were, in the year 1901, 9,000 deaths in that country in a civilized population of 635,571, giving a death rate of about fifteen per thousand.

The Presbyterian Hospital of Philadelphia has received a gift of $30,000 from an anonymous donor for the purpose of building a new maternity house. According to the annual report, 2,500 persons received treatment in the wards of the hospital during the year and 6,000 in the dispensaries.

The Pathological Society of Philadelphia.—At a stated meeting, held January 22, Dr. S. Weir Mitchell read a paper entitled "The History of the Investigation of Snake-venom;" Dr. Joseph McFarland a paper entitled "Venene and Antivenene;" Dr. Hidayo Noguchi one on "The Blood-reactions of Serpent-venom," and Dr. Simon Flexner one on "The Effect of Serpent-venom on the Blood."

Philadelphia County Medical Society.—At a business meeting, held January 21, the following officers were elected for the ensuing year: *President*, Dr. Francis M. Perkins; *First Vice-President*, Dr. J. Cardeen Cooper; *Second Vice-President*, Dr. Wm. S. Higbee; *Secretary* Dr. Wm. S. Wray; *Assistant Secretary*, Dr. Ross H. Skillern; *Treasurer*, Dr. Collier L. Bower; *Censor*, Dr. Wm. M. Welch. Delegates to the Medical Society of the State of Pennsylvania and sixteen new members also were elected, and the reports of directors, treasurer, censors, and Publication Committee were presented.

Fire in the Boston City Hospital.—A fire broke out in the Boston City Hospital during the night of January 22–23, and caused considerable alarm to the patients. A number of men in the delirium of typhoid fever, and otherwise helpless through disease, were removed to a place of safety, while the other patients were quieted until the fire, which was confined to the ward in which it originated, was extinguished. The loss from fire and water was about $5,000.

Gifts to a Medical Library.—Mr. Andrew Carnegie, in searching for new libraries to found or assist, has at last come upon medical libraries. He has offered to the College of Physicians in this city $50,000 for the maintenance of its library, conditioned upon the college raising $50,000 more. Of this second $50,000, F. W. Vanderbilt has given $10,000 and Clement A. Griscom, $5,000.

An Orange Black List.—The Practitioners' Society of the Oranges, which is composed of physicians practising in the Orange villages in New Jersey, has prepared a "black list" of people who will not pay their bills for medical service. The names of the worthy poor who cannot pay for medical treatment are not on the list.

Dr. Adolph Lorenz has arrived in Vienna, after tarrying for a while in Liverpool and London and demonstrating the "bloodless" treatment of congenital dislocation of the hip to such English surgeons as cared to attend his clinics. There was no triumphal progress there, however, and his reception did not even border on the hysterical. In an interview with a correspondent of the Associated Press, after his return home, Dr. Lorenz commented on his cool treatment in England, which he modestly attributed to a lack of enterprise in the British. "American physicians represent progressiveness," he said, "while English physicians are extremely conservative. In America it was difficult to accommodate the doctors and students who desired to attend my clinics, while during my week in London many of the most eminent surgeons showed no interest in the new methods, and others who were present declared the old way to be best."

Grape-juice and the Typhoid Bacillus.—In a recent weekly report of the Chicago Board of Health, it is stated that a study of the action of fruit juices upon the typhoid bacillus has brought out the interesting fact that, while lime-juice, apple-juice, and the juice of the grape-fruit all had a more or less inhibiting effect on the growth or vitality of these bacilli, bottled grape-juice gave the most conclusive results. Cultures of the typhoid and the colon bacilli were used to infect both distilled water and water from the laboratory tap, in a strength of about 10,000,000 bacilli to a cubic centimeter. Bottled grape-juice was then added in proportions varying from 1 to 5 per cent. Examinations made at one-minute intervals showed that some brands had killed the germs at the end of the first minute, the effect being almost instantaneous. The advantage of bottled grape-juice, it is said, is that the quantity required—1 per cent.—does not affect the flavor of the water or disturb digestion, as lemon-juice does with some individuals. The freshly extracted juice of the grape prepared in the laboratory had no effect on the bacilli, even in a proportion as high as 100 per cent.

Medical Reciprocity in Michigan.—The Governor of Michigan has the following to say concerning amendments to the State medical practice laws, in his annual message of this year: "The State Board of Registration in Medicine favors amendment to the medical law, having in view both the elevation of the standard and the uniformity of the act in connection with medical laws of States which have taken an advanced position, in order that worthy and well-qualified physicians and surgeons who have been legally authorized to practise under the laws of other States may be given the right to practise in this State without being forced to submit to a repetition of the examination which they have previously undergone. In order that

Michigan may be able to take advantage of the proposed reciprocal relations, it will be necessary to raise the standard of medical requirements of this State to that of the States willing to enter into reciprocity. These suggestions should have your further careful consideration."

The "Practitioner."—Dr. Malcolm Morris, for eight years editor of the *Practitioner* of London, has retired from the management of the journal and has been succeeded by Dr. W. Cecil Bosanquet. The journal has been slightly altered in shape and a uniform type has been adopted. For the chatty comments on men and things, medico-political and medicosocial, under the heading of "The Month," the new editor has substituted observations on purely medical and scientific topics, entitled "Notes by the Way." The character of the journal is otherwise unchanged.

Mount Sinai Hospital Alumni Association.—The sixth annual reunion and dinner of the Associated Alumni of Mount Sinai Hospital was held at the Arena on January 15. Dr. Samuel M. Brickner presiding. Interesting addresses were made by Mr. Isaac Stern, Vice-President of the Hospital, and Drs. Emil Gruening, F. P. Foster, Mark Blumenthal, William F. Fluhrer, B. Sachs, Nathan E. Brill, Percy Fridenberg, and Walter M. Brickner. The following officers were elected for the ensuing year: *President*, Edward Fridenberg; *Vice-President*, George L. Brodhead; *Secretary*, Charles Goodman; and *Treasurer*, Eugene H. Eising.

Lectures on the Neuroses and Psychoses of Spirit and Drug Addictions.—Dr. T. D. Crothers of Hartford, Conn., will deliver a course of lectures on alcoholism, morphinism, and other drug manias, at the New York School of Clinical Medicine, 328 West Forty-second Street, on the first Tuesday of every month, at 11 A.M. and 8 P.M. Members of the medical profession are cordially invited to attend.

Obituary Notes.—Dr. Margaret Stanton, formerly president of the Onondaga County Medical Society, died at her home in Syracuse on January 22 at the age of fifty-eight years. She was a member of the staff of St. Joseph's Hospital, and was the first woman to receive appointment as a city physician and the only woman to hold the office of president of the Onondaga County Medical Society. She was graduated from the College of Medicine, Syracuse University, in 1876.

Dr. Joseph Edwin Clark, who had been in practice in Brooklyn for over fifty years, died January 19 of pneumonia at St. Peter's Hospital, in his eightieth year. He was graduated from the College of Physicians and Surgeons of New York in 1849. He had been a visiting physician of St. Peter's Hospital since 1875.

Dr. Christopher Kiersted died at his home in Jersey City on January 23, from gastritis. He was born in New York in 1822, and he traced his ancestry back to Hans Kiersted, said to be the first surgeon to settle in New Amsterdam. He had practised in the Greenville section of Jersey City for half a century.

Dr. Max Schede, professor of surgery at the University of Bonn and director of the surgical clinic there, died on December 31. He was born in 1844 in Westphalia, and took his degree of M.D. at Halle in 1866. He was privat-docent at the University of Halle until 1875, and then went to Berlin, where he was chief surgeon to the municipal hospital of Friedrichshain. In 1880 he went to Hamburg as chief surgeon to the General Hospital in that city, and remained there until 1895, when he was called to the chair of surgery at Bonn.

Dr. Charles H. Haeseler died at his home in Pottsville, Pa., on January 22, at the age of seventy-three years. He had been ill for some time with diabetes mellitus. He was a graduate of the College of Physicians and Surgeons, New York, in the class of 1853.

Dr. John M. Broomall Ward, deputy physician at the Pennsylvania State quarantine station at Marcus Hook, was killed while boarding an incoming steamer. He was a graduate of the Jefferson Medical College in 1891.

Dr. C. Everett Watson, a homœopathic physician of Conneaut, Ohio, died of tuberculosis at Phoenix, Ariz., on January 18. He was a graduate of the Cleveland Homœopathic Medical College in 1898.

Some Recent Work on the Condition of the Deep Reflexes and Other Symptoms in Transverse Lesions of the Cord.—W. B. Warrington says that the consideration of a number of cases affords warrant for the belief that, while in general the symptom group described by Bastian follows complete transverse lesions of the cord, yet when the disease is of a slowly-progressive nature, the reflex functions of the cord may be retained and the muscular tone be unimpaired, and also that, in some cases, very severe symptoms, approximating to those generally found after complete transverse lesions, may be present, and yet the anatomical lesion be slight or incomplete. This is especially observed in compression of the cord, and indicates that physiological loss of function may be produced without marked anatomical change. From the point of view of surgical interference, it is important to notice that no case of incomplete division of the cord has been recorded in which all the symptoms described by Bastian were present, and in which the lumbar enlargement was intact.—*Medical Chronicle.*

Lateral Section through the Os Pubis.—Gigli considers the reasons which make symphyseotomy, though apparently so simple, an operation second to none in danger and possibilities of serious consequences. An analysis of the conditions under which it is performed shows that it does not conform to the requirements of modern surgery, which demand that, when one of the larger joints is invaded, it shall be under conditions of the most perfect asepsis, and that subsequent complete immobilization shall be practicable. Neither of these is possible in symphyseotomy, in which the uncertain developments of the puerperium must be taken into account, and immobilizing apparatus cannot be applied. The operation is, therefore, surgically considered a mistake, while the substitute he offers has all of its advantages and is technically a correct procedure. This consists in a lateral section through the bone itself, by means of the wire saw to which his name is attached. The operation is free from the embarrassments due to unexpected hemorrhage, ossification of the symphysis, etc., which may occur during symphyseotomy, and, in addition to the ordinary instruments, requires only a ligature carrier and Gigli saw. An incision is made from the mid-line down and outward toward the labium majus to the lower end of the os pubis, where the subpubic tubercle is felt. This incision is carried boldly down to the bone, as no vessels are encountered. Through the upper angle of the wound the ligature-carrier is brought behind the bone and then, under the guidance of the fingers of the other hand in the vagina, is pushed down and out through the lower angle. A ligature of silk is then drawn up behind the bone, and to this a saw is attached and then drawn up into position to cut through the bone. The venous oozing is slight and easily checked by compression, while the clitoris, urethra, and the vesical and vaginal plexuses are wholly out of danger.—*Centralblatt für Gynäkologie.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

NEW YEAR—PREVALENCE OF SMALLPOX—LEAGUE OF MERCY—THE NEW WATER BOARD FOR LONDON—FREE ALCOHOL FOR RESEARCH—NEW INEBRIATES' ACT—REPORT OF INSPECTOR OF RETREATS—CASES OF INEBRIETY—DURBAR HONORS—KING'S PRIZE ESSAYS—HOSPITAL FUNDS—RATING THEM—ELECTROTHERAPEUTIC SOCIETY—PROPOSAL FOR A NATIONAL INSTITUTION—PAYING HOSPITALS AND PAY WARDS—OYSTERS—PROFESSORSHIP OF TROPICAL MEDICINE—THE UNIVERSITY SEAT—EPIDEMICS.

LONDON, January 10, 1903.

THE Christmas recess passed and the new year begun, teachers and students are again at work in the schools looking forward to the latter half of the winter session as a period of strenuous endeavor.

Smallpox is spreading in several provincial towns. In almost every case it has been introduced by tramps. More than one such source has been traced at Birmingham. The outbreak at Stockport is more serious; seven deaths have occurred, and fifty-five patients are under treatment, nearly all of them tramps or occupants of common lodging-houses. Sheffield has had some thirty cases introduced in the same way, and other northern towns are being invaded. The local authorities are recognizing the great danger of a vagrant population and increasing their vigilance.

The Liverpool epidemic is increasing. This week the M. O. H. reported 205 cases under treatment in the City Hospital. The new cases during the week numbered seventy-four against fifty-six in the previous week. One death had occurred.

The League of Mercy has been making its way quietly, and has already collected a considerable sum for the hospitals. Eight thousand pounds has been handed to the King's Hospital Fund for this year, an advance of £1,000 over the amount for 1901.

The money collected by the League is largely composed of annual subscriptions of one shilling. This exactly meets the intention of the King in founding the league about three years ago—to establish a machinery to render it possible for humble people to contribute to the hospitals. These persons seem to have recognized that as their money goes to the hospitals without any deduction for expenses, their small sums are of service.

The Local Government Board has issued the necessary order, under the new act, for constituting a metropolitan water board to take over and carry on the undertakings of the several water companies. The ratepayers seem to have been surprised at the bill having been rushed through, and not a few are giving expression to fears of a great increase in the costs. On the other hand, some argue that to get rid of the companies is a benefit at any price.

The Board of Inland Revenue have at last granted a concession that has long been urged, viz., a remission of the heavy duty on alcohol used in scientific laboratories.

A new licensing act came into force yesterday. It is chiefly directed to the punishment of persons found drunk in public places, and represents the modicum of legislation promised by the government as their contribution to temperance reforms. The publicans are much incensed at some of its provisions.

In connection with this subject, I may mention the report of the inspector under the Inebriates' Acts (Dr. R. W. Branthwaite) for 1901, which has just appeared as a Blue Book. There are now twenty-one licensed retreats, this being the largest number that has been attained during the ten years the acts have been in force. But the growth of these establishments, if slow, has been progressive. Ten years ago there were ten retreats conducted as purely philanthropic concerns. Now there are twelve. These institutions tend to prevent those conducted on commercial lines from becoming too exclusive, and so provide for the treatment of patients at low rates of payment. But there seems to be no provision for destitute cases. One great difficulty of dealing with confirmed inebriates is that, after all, their entrance into these institutions must be voluntary. Nothing short of compulsion can meet such cases, and the Legislature could not be induced to forfeit the freedom of anyone for a term sufficient to be of any curative or preventive value.

With regard to cures, Dr. Branthwaite thinks that inebriates are seldom cured in the strict sense—that is, brought back to a state in which they can safely take alcohol, even in strictest moderation. Nothing short of absolute abstinence will preserve the patient from relapse. But he knows many who have been so far weaned from drink as to live happily without it, so long as they do not touch it.

As to the percentage of good results, Dr. Branthwaite admits the impossibility of supplying satisfactory figures, for they should be collected, not at the time of leaving the retreats, but a year or more later. Nevertheless, he is confident that much good is effected, and taking all cases, without selection, as they apply for admission, he estimates that good results occur in from 25 to 30 per cent. Compared with any other mode of dealing with inebriates, he is sure that this system is incomparably superior. His wide experience as inspector under the acts is entitled to most serious consideration. So valuable does he consider enforced abstinence, that he thinks there might be a place for retreats which took patients for short periods, though the numbers of such persons relapsing would be greater than in cases of long detention.

There is one other point I should like to mention, viz., that Dr. Branthwaite repudiates the pessimistic assertions that have been so freely made as to women inebriates. One has so often heard persons of no special experience declare that it is hopeless to attempt to reform a female drunkard, that it is very refreshing to find Dr. Branthwaite expressing the conviction that women are quite as likely to reform as men—possibly more so. He has known some who have been teetotalers for ten years, never once breaking down in that time.

The New Year's honors list was exclusively an Indian one, and intended to mark the great ceremonial at Delhi. Several Indian medical officers received promotion in their orders, or the first step, according to the length and distinction of their services.

The first prize essay for the King's Sanatorium for Consumptives appears in book form to-day. The *Lancet* issued to-day includes all three essays in unabridged form. So I refrain from remarks on them. They almost, if not quite, fill your contemporary's pages, and make it a heavier number than ever.

LONDON, January 17, 1903.

THE Council of the Metropolitan Hospital Sunday Fund met on Tuesday. The Lord Mayor said a special meeting would be held at the Mansion House on June 8 to further the object of the fund. An attempt is then to be made to interest the provinces in the work. It was stated that no less than 60 per cent. of the patients relieved in our metropolitan hospitals come from country districts, which contribute nothing to the fund. The secretary said he had written to the incumbents of about 700 country churches, but they seemed slow to respond.

The report of the Saturday Fund, which is doing equally good work, shows that it collected last year £17,165, as against £16,754 in the previous year. The accounts will be kept open until Monday next, by which time it is hoped another £3,000 or more may come in.

The rating of hospitals has long been a sore subject, and is once more coming to the front. The report of a select committee of the House of Commons in July, 1900, recommended that hospitals and infirmaries should be exempted from rates. But nothing has been done, and the recommendation remains a mere pious opinion.

You know we have an Electrotherapeutic Society here. It has not attracted much attention at present, but then it is very young, a mere infant, so to say. The society only lately celebrated its first anniversary, on which occasion Mr. Edmund Owen responded to an invitation to deliver an address. Mr. Owen has a forcible way of expressing his opinions, and did justice to himself and his subject. He congratulated the members on having established the society, and stated his conviction that the step was a necessary one. He advised them, at any rate for a time, not to have reports of their work in the weekly journals, but to have their communications recorded in their own annual. He warned them, too, of the necessity of being very careful that all papers accepted were sound and honest; for every now and then persons would probably come to them begging to show certain apparatus, or even to read papers, which would be discovered later to savor of rank advertisement. If there are two secretaries, he said, one might be gentle, but the other must be firm; if one is Mr. Spenlow, the other should be Mr. Jorkins; if one is positive, the other should be negative.

Mr. Owen proceeded to expose some of the camp-followers of the profession who have fastened on electricity as the most promising field for their extortions from suffering and credulous humanity. He specially exposed the pretences of certain institutions which have been run by unprincipled and unqualified persons, and are the homes of every kind of quackery and imposture. But he did not stop here—he did not hesitate to give a faithful picture of the position of the ordinary practitioner in respect to electricity and to utter a strong condemnation of those, who, ignorant of the right use of this agent, instead of recommending their patients to a consultation with

experts, actually encouraged them to resort to these quack establishments.

But Mr. Owen was not content with destructive criticism. He sketched a plan for meeting the needs of the case, and it is this constructive part of his address which most attracts me. Seeing the costliness of the apparatus required for efficient electrical treatment, which renders it impossible for the young physician to invest in a full plant, and, moreover, the fact that if he could, he would not have house room for it, he suggested that the society might secure premises and establish an institution in which every kind of apparatus connected with electrical therapeutics, with *x*-ray and light work, and allied methods, should be found, and where members could use them themselves, or send patients to be treated by others, who devoted themselves to research and to carrying out the most difficult and time-consuming therapy. The scheme, if ambitious, he believed could be realized under the Limited Liability Acts, and in a year or two every practitioner in the Empire would know of the existence of the institution, and would be glad for patients to be treated there by those who were acquainted with the most advanced science of electricity, and understood how it might best be employed as a remedial agent.

If any one should be shocked at the notion of a limited company, it may be said that the British Medical Association is registered under the Acts, but Mr. Owen does not propose the addition of his great institution to the charities of London. He would have it not merely self-supporting, but returning fair dividends. He would not play into the hands of the bogus promoter, who knows quite well the quixotic ideas which make doctors an easy prey. He holds that good work deserves good pay, and reminded his audience that in every other profession the laborer is considered worthy of his hire.

This question of pay has been brought before the public again by the reopening, after extensive alterations, of the Fitzroy Home-hospital, which was established by an association for providing accommodations for paying patients. The intention was to give well-to-do patients all the advantages of a hospital for adequate payment. The fees range from four to ten guineas, and as the patients have also their own doctors to attend them, it is obvious that they must be fairly "well-to-do" to afford to enter. At the reopening, yesterday, it was stated that, since 1880, no less than 5,376 persons have been treated in this institution, the number of medical men who have attended them being 1,476. An appeal was made to the public for funds to pay for the rebuilding, £10,000. Yet one would suppose that, at the fees charged, the profits should have sufficed, and it may be doubted whether those who could afford those fees should have a hospital provided for them by what is very like charity.

But a still larger question as to pay was introduced by Sir H. Burdett. He sees that there is need for such an institution on a more economical scale, so as to be available for patients who could not afford more than thirty shillings or two pounds weekly. To meet their cases he wants all the hospitals to set apart "paying wards," or, rather, he would have them erect separate buildings on their grounds for this purpose, and he estimated that half a million sterling would suffice. This is a large order, and opens various questions. There cannot be a need for so many paying hospitals as those for the really poor. Is there any reason why paying institutions should be administered by the managers of free hospitals? Every general practitioner will say no. These managers have encouraged the abuse of hospitals, and should not be permitted to extend their work. They have already plenty to employ them, and paying hospitals should be run on altogether different lines.

Sir J. Crichton-Browne delivered an address on Saturday to the Sanitary Inspectors' Association, of which he is president, in which he referred to the epidemic of typhoid fever due to contaminated oysters. Emsworth, he said, in proportion to its size, had suffered from a severe epidemic through the copious specific poison poured into the oyster-beds, where it floated to and fro until the oysters had supped their fill. Then, when well charged, they were packed and distributed, to carry havoc where they were sent.

Among the letters to the daily papers provoked by the outbreak I notice a particularly foolish, not to say dangerous, one, which declares that, by keeping oysters a few days in fresh water and oatmeal, the bacillus is removed. The fresh water tends rather to produce disease in the mollusc, and oatmeal is not a food for it. The bacillus will live a long time in the tissues of the oyster.

It was announced, at a meeting of the Liverpool School of Tropical Medicine, that £10,000 had been collected or promised for the endowment of a chair in the University College of Liverpool to be called the "Sir Alfred Jones Professorship of Tropical Medicine." Major Ronald Ross has been elected the first professor, and the meeting tendered him their congratulations on his successful connection with the Nobel prize.

Sir M. Foster, being unable to make up his mind whether to retire from the representation of the University, has asked his constituents to do it for him. So a circular is going round to those who voted for him before asking them their opinion.

The Medical Directory for 1903 begins a new series of a somewhat more convenient shape. The summary shows the total number on the register to be 37,291, of whom 6,309 are in London, and 16,422 in the English provinces. The growth of London is a standing wonder to many of its citizens, but the increase in the number of practitioners seems still more remarkable to our senior colleagues.

A three-masted vessel has arrived at Dunkirk from Saigon, on which three deaths from beriberi had occurred during the voyage, and several sailors had to be removed to the Dunkirk hospital.

Smallpox continues to spread in the northern towns. Up to Saturday eighty-eight cases had been notified in Bolton, and the adjoining towns of Radcliffe and Farnworth, sixty-six having occurred in Bolton alone, one a clerk employed in the Town Hall.

At Chesterfield three admissions and one death were reported at the isolation hospital. One was in the workhouse. Another, more significant, at the local iron works, and he had been associating with others for several days before calling on a doctor.

The scourge is also at Chester, Crewe, Nantwich, and Shrewsbury. At Sunderland the captain of a vessel undergoing repairs was removed to the isolation hospital.

OUR PARIS LETTER

(From Our Special Correspondent.)

PRIVATE TUITION FOR MEDICAL INSTRUCTION IN PARIS—ABSINTHISM IN FRANCE—THE TREATMENT OF APPENDICITIS—INCREASE IN THE POPULATION OF FRANCE—BETTER METHODS OF MEDICAL INSTRUCTION—BACTERIA IN THE URINE OF CONSUMPTIVES—PRECAUTIONS TAKEN IN ODESSA AGAINST THE SPREAD OF BUBONIC PLAGUE.

PARIS, December 26, 1902.

THE practice of having private tuition for medical instruction is increasing daily in Paris. In former days, for instance, the preparation for the examinations of the internate, the hardest in the medical career, was made under the direction of three or four internes, who were willing to give their services gratis. This is being changed, and special courses are given, for which a specified amount must be paid. By obliging students to pay tuition fees, their number can be reduced, and the instruction is much more thorough. At Professor Pozzi's clinic, at the Hospital Broca, a series of courses in gynecology is given, and only twelve students are allowed at each course. The subjects treated are of practical value, and are as follows: How to ask questions of a patient; the ovarian function; gynecological examination; abdominal examination; interrogation of a patient by the students; examination of the same; vaginal and uterine dressing; diet tables in gynecology. Other courses on surgical operations in gynecology, on the treatment by physical agents, and on bacteriology and pathology, as applied to gynecology, will also take place in Pozzi's clinic.

The question of alcoholism in France is getting to be more and more important, and any law which is destined to check the amount of alcohol sold to the public is apt to be shelved, as a large part of the State revenue is due to the taxes on distilled liquors. Whereas only 600,000 hectoliters of alcohol were drunk in 1850, the amount that is taxed at present is about 2,000,000 hectoliters. The most sinister sign is the amount of absinthe consumed: In 1885, only 57,732 hectoliters; in 1896, 182,585, and in 1900, 238,477 hectoliters, which shows that the consumption of this poison has quadrupled in fifteen years. Then there is a large amount of alcohol distilled by what are called the "bouilleurs de cru," or private distillers, who are allowed to distil their own produce.

During the month of November the Society of Surgery was the theater of a long and varied discussion on the treatment of appendicitis, the most different opinions being brought forward. Dr. Routier, who is a surgeon of the Necker Hospital, began the discussion by stating the reasons why he always operated as soon as possible. He said he had never regretted operating too soon, but he had sometimes had cause to regret that he had deferred the operation. His statistics are as follows: Operations *à froid*, 49 cases, 49 cures: acute appendicitis, 17 cases with 17 cures; acute appendicitis with abscess, 19 cases, with 17 cures and 2 deaths; appendicitis with peritonitis, 6 cases, 3 cures and 3 deaths. Dr. Gerard Marchand, surgeon of the Boucicault Hospital, described the case of a

child seven years old, whom he did not operate, as the symptoms were so quickly modified that he was led to think he had made an error of diagnosis. A few days afterward, Dr. Marchand being away, Dr. Brun was called, and found the child so low that he refused to operate. Dr. Quénu, one of the best French surgeons, said he thought it was hardly possible in many cases to be absolutely sure of the diagnosis of appendicitis, and wondered whether so important an operation as laparotomy could be advocated in such cases. He felt that during the first two days absolute rest and abstinence should be enforced, and if there were the slightest suspicion of a change, then the operation should be carried out. Professor Reclus's opinion is that an operation should be carried out immediately when the surgeon is called at the very start of a clear case of appendicitis. Otherwise, if called later, when the symptoms are of average intensity, he considers it best to let the reaction die out. Dr. Nélaton, the son of the celebrated Nélaton, the surgeon of the Emperor, remarked that no special formula could be applied to all cases. Two symptoms are of special importance: the alteration of the face, and, on the other hand, the acuteness and long duration of the pain, which require an immediate operation. Dr. Tuffier insisted on the frequency with which patients suffering from appendicitis effect a cure spontaneously, and he remarked that generally those who had had a fairly severe attack were apt to remain free for a longer space of time from any recurrence. Dr. Tuffier believes in operating all cases of appendicitis when seen in the first thirty-six hours, unless there is some doubt as to the diagnosis. During the course of an appendicitis Dr. Tuffier is an opportunist. As for operating after the attack is over, Dr. Tuffier does not consider it well to operate in all cases, but reserves the knife for those who have had slight attacks, as he considers that a severe attack with pronounced local reaction is followed by a permanent cure in many cases. During the last two years Dr. Tuffier has operated 155 times for appendicitis; 83 times *à froid* with 83 cures; 9 in the first thirty-six hours, with 9 cures; 63 during the course of the disease, with five cases of diffuse peritonitis. Dr. Poirier, who has just been chosen professor of anatomy in place of Dr. Farabeuf, always operates all cases of appendicitis immediately, and his death rate is only 8 per cent. He does not carry out any special precausions so as to protect the general peritoneal cavity, and he drains with four large tubes, two near the cæcum, one in the Douglas, and the other before the small intestine. Dr. Ricard holds about the same opinions as Dr. Quénu. Dr. Walther gave his statistics during the last two years and a half: 203 cases with 8 deaths; operations *à chaud*, 23 cases with 15 cures and 8 deaths; operations *à froid* after severe form, 74 with 74 cures; operations *à froid* after light attack; 106 cases with 106 cures. Dr. Richelot thought that all cases which appeared severe from the start should be operated on immediately. Later, one of the best symptoms is furnished by the appearance of the patient, their being a certain anxious look, which denotes the gravity of the case.

The population of France diminished during the year 1900–1901. The report showed an excess of 25,988 deaths. During the year 1901–1902 there was an increase of the number of births (857,274 instead of 827,297 in the previous year), and a decrease in the number of deaths (784,876 instead of 853,285). This increase in the population is, however, very small, and during the last five years has been much less than during the preceding five years.

Dr. Lavarenne, the chief editor of the most important French medical paper, the *Presse Médicale*, published an article recently on the change that had taken place in the teaching of medicine at the Paris Faculty. Foreigners had almost completely abandoned the French school, but the progress made has tended to bring them back. Courses are now much more practical than they used to be, and the subjects to be treated are indicated in detail. One example will show the difference: On the announcement of the course of therapeutics the following is written up: "The course of therapeutics begun by the professor during the winter session will be finished by the professor agrégé during the summer term and will last eight months."

At a meeting of the Society of Biology, held on the 15th of November, Drs. Fournier and Beaufume described the results they had obtained in examining the urine of tuberculous patients. Fifteen cases were examined, and Koch's bacillus was found each time, and that without there being any special lesion of the kidneys. The urine was, of course, centrifuged, and the coloration was carried out by the usual methods.

It is interesting to note what measures have been carried out at Odessa to prevent the spread of the plague. All owners of houses are obliged, under penalty of 300 roubles' fine, to poison the rats with a culture of the septicæmic microbe, which is fatal to the rats. The latter is sold by the bacteriological institute of Odessa, at 40 cents for half a liter, which is enough to infect two pounds of bread. All old flooring must be taken up, covered with tar, and the slits filled with dry lime.

OUR ALBANY LETTER.

(From Our Special Correspondent.)

THE PROSPECTIVE WORK OF THE STATE LEGISLATURE IN MEDICAL LAWS—THE CORONER QUESTION—THE STATE SOCIETY'S CHARTER AND THE STATE MEDICAL ASSOCIATION.

ALBANY, N. Y., January 27, 1903.

THE present session of the Legislature gives promise of being fruitful in attempts at legislation involving issues of moment to members of the medical profession. Much of that which will be proposed will never live beyond the second reading of bills, some of it will give rise to discussion and debate more or less acrimonious and but little, if any of it, will be enacted into law. Physicians are wont to criticise severely legislative bodies generally, because of their lack of knowledge and dirth of interest in affairs medical, but it is a fact, strange as it will seem to the uninitiated, that the Legislature of the State of New York has rarely, if ever, refused to pass laws involving medical issues when the profession has been united in advocating their desirability. The present medical practice act is a striking instance of the correctness of this statement; for years and years divers bills were presented to the Legislature, all involving improved methods of medical teaching and of medical control by the State, but all failed of passage because medical factions favored their own and fought all other proposed medical laws, but when in 1890 homeopaths, eclectics, and our own, united on salient features agreeable to all, there was no voice raised by member or senator against the mutually approved legislation, and so the law was passed. It would be wise therefore for medical men who contemplate asking legislative aid from the State of New York to make sure that a healthy and practically unanimous sentiment is back of them from among members of the profession. No relegation of the Coroner to "innocuous desuetude," much as a wise change in the management of the investigation of deaths from unknown causes is desirable, will follow from the conniving of a health board here and a district attorney's office there, unless wholesome medical sentiment is back of the proposition; no additional moneys will be contributed by the law-makers "in the name of science" if they be not satisfied that this new phase of paternalism is not an attempt at commercialism and a covert scheme at added political pap for some chronic medical officeholder; no new legislation will come to pass whereby unskilled persons, parading under the banner of a so-called religious sect, may obtain a short cut to medical practice any more than our chosen legislators will enact statutes lowering the standards of medicine and of decency by placing on a par with those who have met the State's high tests, men and women who profess a "pathy," whose only good features are part and parcel of but one of the many branches of medicine and taught wherever a medical degree is honestly sought and decently acquired—neither of these will be encompassed because the medical profession is opposed to them. Educators generally are commencing to recognize the medical man as a factor in the great scheme of human betterment by the mind improved, and all attempts to let down the bars which now keep the ignorant and illiterate from the fold of medicine will be fought as fiercely by them as by the members of the profession, just as the latter would fight any attempt on the part of the politician to divert from its proper channels such moneys as are the part and province of those who control our secondary and higher educational system. The annual session of the Medical Society of the State of New York, like most of its predecessors, was replete with much of scientific worth. The provisional program evidenced a careful attempt to deal with the most recent advance in medicine and surgery, and the list of participants was replete with names which stand high in the medical world. There seems to be a unanimity of opinion among the members against the proposition of the New York State Medical Association which would rob the society of its charter, granted in 1806, and many, who would be willing to concede all else for the sake of harmony, will fight to the last ditch against such a surrender. Again, there are those who under no circumstances will vote for the merger of the two bodies on the lines now proposed. An ex-president of the society in the presence of the writer recently declared himself as follows: "For a score of years we have maintained the position which declared in effect that gentlemen needed no written code in order to comport themselves properly. Slowly but

surely that idea has become the accepted one among the profession throughout the country. Now, when the victory is practically won, an association of physicians, who fought us and our views in all but "Donnybrook fair" fashion, have the temerity to ask us to disband in order that they, whose cause for existence is to this day unknown, excepting to combat and annoy us, may do likewise, and thus start afresh with us, probably to try to lead us in a joint organization. They will never get my vote for such a proposition, and the only man I know who is earnestly for this union, no matter what the basis, is a member of the profession who acts so ridiculously strenuous for harmony as to inspire the thought that he fears he may not live long enough, if harmony comes about naturally, to become President of the American Medical Association."

Progress of Medical Science.

The Boston Medical and Surgical Journal, Jan. 22, 1903.

Vaginal Cœliotomy, Its Scope and Limitations.—J. Riddle Goffe states that the more experience he has in the vaginal operation, the broader becomes the field of application, until it seems to him that any pathological condition that is confined to the true pelvis can be dealt with as satisfactorily, with as permanent results, and with far greater safety to the patient than through the abdominal incision. His cases have embraced every variety of disease from simple retroversion with adhesions to prolapsed and cystic ovaries, unilateral and bilateral salpingitis, ectopic gestation, fibroid tumors of the uterus and dermoid cysts. The method lends itself to every form of conservative work upon the uterus and its appendages that has been suggested in the trend of recent modern gynecology. The successful application of it requires patience, experience and skill, but when once the profession has been convinced of its superiority, it will steadily and rapidly grow in favor and become the accepted method for the man who practises the specialty of gynecology.

The Importance of Careful Examination and Frequent Cultures in Doubtful Throat Cases.—W. P. Coues reports the case of a patient who was seen on January 11, 1902. Three days before, he began to feel slight sore throat, not sufficient to keep him from his work. On inquiry it was learned that he had seen a little child on Christmas Day who subsequently developed diphtheria. The following day, on tipping up the uvula with a throat stick there was seen on its posterior surface a triangular piece of membrane the size of an almond. A culture was taken, and 4,000 units of antitoxin given. A positive report was not obtained until the third culture. The membrane remained confined to the posterior surface of the uvula. There was very slight constitutional disturbance. The patient made a good recovery. The author concludes by quoting from Dr. Fussell: "Always make a culture in throat cases. When called to see a sore throat of doubtful character, give antitoxin at once; give a large dose; 2,000 to 4,000 units have proved sufficient in the writer's experience, but in desperate cases much larger doses may be used."

New York Medical Journal, January 24, 1903.

A Study of the Deaths Occurring in New York City on the Opposites of Twenty Streets During the Year 1895.—This study was undertaken by A. E. Thayer in order to determine if there was any difference in the mortality on the northern sides of the streets as compared with that on the southern. He offers the following conclusions: (1) The mortality on the north side of any street in the district studied is liable to be higher than the mortality on the south side of the same street. (2) The higher northern mortality is due chiefly to three diseases: pneumonia, phthisis, and nephritis. The first two are especially fatal during cold weather, when the proper ventilation of living and sleeping rooms is most likely to be neglected; the third is also affected by lack of air and sunlight, both directly and also indirectly by the depression of mind consequent upon darkness and poor air. (3) On the south side the greater freedom from these causes of death is due chiefly to the advantages of sunlight and ventilation enjoyed. (4) The supply of air and sunlight has more effect upon the health of people living on the south side of a street and less upon the north, owing to the general habit of New Yorkers of living in the rear of the house, *i. e.* in the more sunny and airy rooms upon the south side and in the less sunny and airy upon the north. (5) Zymotic diseases appear to be independent of these conditions, and may occur in excess upon the south side of the street; in such cases the mortality also may be higher on that side. (6) "Rear" houses are situated less favorably than single houses on a lot, because not only are they darker and less ventilated themselves, but they also deprive the other house of its proper light and air. This is applicable to the south side of the street; on the north, the house on the street acts as a "rear" house to the one behind it, by cutting off its light and air. (7) The width of any street and the distance across yards, measured from the back of one house to the back of another, should be as nearly as possible the same, *i. e.* the latter should never be less than the former; and the height of dwelling-houses should bear some relation to these measurements, so that one house may not deprive another of its light and air. (8) In the case of contagious diseases in any family, the importance of keeping the other children from school is closely related to the question of infant mortality below the age of five years. (9) In general, people should be urged to keep their windows open and their shades up as much as possible, and this especially for dwellings on the north side of the streets and during the colder months of the year, when ventilation is most neglected.

Chronic Gastritis and Gastric Motor Insufficiency in Children.—F. L. Wachenheim believes that chronic gastritis is one of the most common diseases between the ages of two and twelve years, and that motor insufficiency is often associated with it either concurrently or secondarily. In the pure gastritis cases the patient is pale and looks underfed, occasionally is fairly stout, but is reported to have lost weight, has a coated tongue, headache, and more or less epigastric pain aggravated by feeding. Constipation is variable, and sleep more or less fitful. Reaction of the stomach contents is feebly acid. Free HCL. is scanty or absent, but some peptones are produced before the deficient gastric secretion is exhausted. Treatment of such cases is comprised in diet, lavage, and medication. Under the latter heading the use of hydrochloric acid and a bitter tonic is given, though the author admits that the practice is largely a useless one as compared with the great advantage of lavage. Cases of motor insufficiency present evidences of gastralgia, varying irregularly, often quite severe at times when the stomach should normally be empty, progressively increasing after the taking of food. Local tenderness is usually present, much more regularly and more marked than in simple gastritis. Second or even first among prominent symptoms should be placed constipation, usually very obstinate, most of all in rachitic cases. Anorexia is sometimes not very noticeable; we are frequently told that while the child is thriving poorly, it is taking abundant nourishment; perversion of the appetite is not so prominent, as it usually is in gastritis. Abundant eructation of gases is characteristic. Objectively the appearance of the child is apt to be rather worse than in even prolonged gastritis; general thinness is contrasted with a prominent abdomen; the facial cast is often suggestive; rachitis, of course, shows its well-known stigmata. In such cases lavage is of value only if there is very prolonged retention of ingesta, say over twelve hours, the best time in such cases being before breakfast, if possible; otherwise more will be accomplished by diet, attention being directed to the giving of small meals at three-hour intervals, the variety of food being adjusted, as far as possible, to the sufficiency of the gastric secretion as established by the chemical tests. Among drugs, nux vomica takes the front rank, acting as a general stimulant to peristalsis; it is well combined with bismuth and sodium bicarbonate to check fermentation, and magnesia to counteract the constipating tendency of these two. Sometimes the constipation dominates the picture and requires the most attention, and in these cases he has found cascara sagrada the most valuable drug. When circumstances permit, massage should be employed; while inapplicable to the *clientèle* of a dispensary, in private practice its value is promptly made evident.

Medical News, January 24, 1903.

Subphrenic Abscess as a Complication of Appendicitis.—Henry A. Christian and Louis C. Lehr have made a study of 4,028 autopsies, in eighty-six of which death was found to be due directly or indirectly to acute appendicitis. Of these eighty-six cases seven, or 8.13 per cent., showed an involvement of the subphrenic region in a purulent process, although, in a strict sense, not each one was a case of subphrenic abscess. The writers then review these cases, and give many interesting data. In these seven cases the affection was unilateral six times—four times on the right, two times on the left. In one case it was bilateral. Right-sided subphrenic abscess is far the more common following appendicitis. Subphrenic abscess secondary to appendicitis may occur in one of four ways: (1) As a localized abscess, a part of a general purulent peritonitis; (2) by extension of the diseased process from the appendix to the subphrenic region by an intraperitoneal route; (3) by extension of the diseased process by an extraperitoneal route, either by way of the lymphatics or by infiltration through the retroperitoneal tissues; (4) by way of the blood current as part of a general embolic process, or as a sequence of liver abscesses which are of

embolic origin by way of the portal vein. The greatest number of cases originate by extension, 2 and 3. Whether the route will be intra- or extraperitoneal depends upon the situation of the appendix and the periappendicular process. If the latter is retrocæcal, and so extraperitoneal, the chances are that the process will take an extraperitoneal route. When the abscess is retrocæcal, it is claimed that there is greater liability to the formation of a subphrenic abscess. In cases of appendicitis the pleura may become involved in an inflammatory process in two ways: (1) By extension from a pneumonic focus or infarct in the lung; (2) by extension from the abdominal cavity, either by way of the lymphatics or by erosion of the diaphragm. This latter form constitutes the appendicular pleurisy of the French writers, is very often associated with subphrenic abscess, as was the case in four of these seven cases, and is almost always right-sided.

Tonsillitis Classified as an Infectious Disease.—Walter Sands Mills declares that all catarrhal diseases of the nose and throat are more or less contagious. He defines an infectious disease as one that can be transmitted from person to person; one in which, in many cases, there is a definite history of exposure, followed by a period of incubation before the onset of symptoms in the new patient; or a disease one or more stages of which may be contagious, and set up a similar train of symptoms in a previously well person. The writer says that his reason for classifying tonsillitis as an infectious disease is based solely on its clinical history. There is no known specific bacillus for tonsillitis. He then reports a series of cases which will show the contagiousness of the disease. One attack predisposes to another. It is often found associated with many of the other infectious diseases. Mills suggests that it be called an acute infectious disease with local manifestations. Every patient with this disease should be isolated at once, put to bed, and placed on a liquid diet. For local treatment a gargle of cheap claret wine is used every two or three hours. At the very onset aconite in small doses, often repeated, is frequently of service, but not in the follicular stage. If there is intense congestion of the throat and high fever, a 1-per-cent. solution of belladonna is the best remedy. In follicular tonsillitis the best remedy is phytolacca. The writer uses drop doses and 1-per-cent. solution every one or two hours. Its action is almost specific. If suppuration has already begun when the case applies for treatment, sulphide of calcium in 1-100 grain doses is the best remedy for clearing it up. The writer, in his experience, has never had a case go on to suppuration.

American Medicine, January 24, 1903.

Transmissibility of Plague.—W. J. Calvert has contributed valuable data to the knowledge of this subject. While in Manila he performed many experiments in order to learn the characteristics of the plague organism. He inoculated sterile slips of writing paper with the bacillus, and found that an animal inoculated with these cultures recovered after two hours and forty-five minutes of exposure on a brick pavement to direct sunlight, developed a fatal attack of plague. The organism seems most susceptible to disinfectants; weak solutions of the several poisons kill the bacilli in a remarkably short time. On media, cultures maintain their virulence for many months. Even in a dried state virulence is long maintained. It is easy to explain the transmission of plague to foreign ports, since it has been proved that the organism can live forty-four days on dry paper and forty-eight days in dry organs. Favorable media are to be found in all of the Oriental cities. Lymphatic glands harbor the first organisms entering the body. Here they multiply and later gain access to all parts of the body. The blood may be infected from the second day of disease until death. Domestic animals are well known to be susceptible. All nationalities are susceptible. Raw material and fabrics may be infected by sputum, etc. Apparent racial immunity is due to some artificial protection arising from certain national characteristics. Of these, dress which best protects the individual, personal, and domestic cleanliness, are most important. Experimentation on animals has shown that an introduction of bacilli into the tissues is sufficient to produce plague. Much discussion has failed to decide the possibility of contracting plague through the digestive tract. Infection through the genitals, though rare, has been noted. Direct transmission plays a minor rôle in the spreading of plague. In indirect transmission the viability and virulence of the organism are of prime importance. In infected cities certain houses become, so to speak, endemic plague centers in which case after case develops in spite of thorough disinfection. The writer sums up this work as follows: It may be said that the plague organism is long lived; is carried by raw materials, insects, etc., gains access to the system through superficial abrasions, wounds, and the pulmonary tract, and that a relatively small number of organisms may cause the disease.

Influence of Nephrectomy upon Absorption.—S. J. Meltzer and W. Salant have observed that in the many nephrectomies which they have performed on rabbits and guinea-pigs that œdema never followed this operation. Other experimenters have not recorded an increase in transudation after the removal of the kidneys. They, therefore, subjected the question as to the behavior of absorption after nephrectomy to an experimental test. The experiments were made on rabbits by introducing salt solutions through a fine opening into the peritoneal cavity and removing it very carefully again after varying intervals. There was a normal control rabbit for each nephrectomized animal. Lumbar nephrectomy was practised and care taken not to injure the peritoneum. The results were surprising. The absorption in the nephrectomized rabbits was distinctly better than in the normal. Then another factor was considered: the increased osmotic pressure of the blood after nephrectomy. As the urine has usually a higher osmotic pressure than the blood, it seems quite obvious that after nephrectomy the osmotic pressure of the blood ought to be increased. If this be correct, then a solution of 0.8 per cent. sodium chloride, which is about isotonic with the blood of normal rabbits, is probably hypotonic with the blood of the nephrectomized ones; hence the better absorption in the latter animals. Several other series of experiments were followed out with stronger solutions of sodium chloride. The absorption of a solution of 1.2 per cent. was in nephrectomized animals at least twenty-four times as good as that which took place in normal ones. Only in the series with 2-per-cent. solutions was there one case among the nephrectomized animals in which more was recovered than was introduced. These experiments clearly show that after nephrectomy absorption is considerably improved. The first effect, then, of complete anuria is not an increase of the normal transudation, but an increase of the power of absorption of the blood.

Philadelphia Medical Journal, January 24, 1903.

Spontaneous Rupture of the Heart, with a Report of Seven Cases.—Arthur S. Hamilton states that spontaneous rupture rarely, if ever, occurs in a healthy human heart. There are both predisposing and exciting causes, the former being a pathological condition of the heart, and the latter some mental or physical strain. The principal predisposing cause is some pathological condition of the coronary arteries, resulting in various changes in the heart muscle. Fatty degeneration is particularly common. Many writers believe that some acute, exciting cause can generally be demonstrated. It occurs usually in individuals past sixty. It may be either partial or complete. The most common seat of rupture is in the wall of the left ventricle, on the anterior surface, a little above the apex and a little to the left of the septum. Death from this cause usually occurs suddenly and unexpectedly, and often without diagnostic signs. Even in the most favorable cases of total rupture, accurate diagnosis is difficult. In every case the prognosis is highly unfavorable. Healing probably never occurs, and death is but a question of time. Treatment is of no avail, except to alleviate the pain, and possibly to prolong life for a short time. The patient should be made to rest completely with an ice-bag over the heart. Morphine should be given freely for the pain. Stimulants may be advisable in some cases, but any increased intracardiac pressure is apt to cause fresh hemorrhage. Digitalis might be beneficial by slowing the heart.

Atmospheric Pressure and Epidemic Influenza in Philadelphia.—Howard S. Anders presents several tables in his study of this subject. In the first table twelve non-epidemic years are represented, followed by twelve epidemic years. He states that comparative inspection and analysis of these two groups of figures fail to justify any generalization. A study of the mean maximums and minimums for the same groups of months and years shows uniformly lower maximums and higher minimums of recorded monthly means, for the epidemic, as compared with the non-epidemic group of years. Nevertheless, an abnormal increase in the barometric pressure (highest maximums) occurs decidedly at the times of greatest influential morbidity. In the same manner, it can be seen that the monthly means of the greatest ranges of barometric record (between highest and lowest points) show nothing characteristic. But, in the Weather Bureau records, the greater monthly absolute range was a marked feature of severe influenzal periods as compared with mild or sporadic years, the difference amounting to as much as four inches higher for the epidemic months. The table of average greatest twelve-hour changes corroborates the suggestion that any relation between meteorological conditions and the prevalence of influenza that may exist

will probably be found in the sudden, frequent, rapid, and extreme variations and alterations of the phenomena occurring on certain days, just before or simultaneous with the influenzal outbursts, and not in data of the means of large groups of monthly and annual recordings. The author concludes: "As in the case of the investigation of sunshine percentage, the behavior of atmospheric pressure in relation to epidemic influenza is characteristic in the marked lack of equability; in the absolute daily (sometimes almost hourly) extremes, and not in the monthly or yearly averages or means."

The Lancet, January 17, 1903.

The Restoration of the Inferior Turbinate Body by Paraffin Injections in the Treatment of Atrophic Rhinitis.—R. Lake details his experience with this method. It is based on the conception that the absorption of the turbinate is not due entirely to the atrophic rhinitis *per se*, but that crust formation and shrinkage are largely instrumental in such absorption. Hence, if we can restore the turbinates to their former shape and reduce the nasal passages to their normal width, this artificial construction will render the removal of discharge by irrigation easier, and enable the air current to exercise its physiological office on the nasal mucosa, for Lake believes that the friction caused by the passage of air through the nose is most beneficial in maintaining the parts in their normal condition. The paraffin is injected in the usual way and under the usual precautions. The results have been gratifying, the patients expressing themselves as feeling much relieved by the increase in the size of the turbinates.

Some Observations on Cyanosis.—The paper of C. A. Gibson has a twofold object. First to show what relationship exists between the conditions of the blood in the different divisions of the circulatory apparatus, and, in the second place, to indicate the results which have been obtained by the use of oxygen in cases of cyanosis. Two clinical histories are given in full, from which it is deduced that in cyanosis there is a general increase throughout the whole circulation in the amount of hæmoglobin and in the number of erythrocytes, while the state of matters as regards the leucocytes is less constant. Cyanosis is produced by the obstruction to the circulation and venous stasis. Under these changed conditions there is an altered function of the red cells. In venous stasis the corpuscles are insufficiently oxygenated, they cannot perform such an active part as oxygen carriers, and they cannot yield so much oxygen to the tissues. It must further be remembered that in cyanosis there is less metabolism in the tissues and therefore less waste produced. In a word, the functions of the corpuscles being lessened, the tear and wear which they undergo is reduced, and the duration of their individual existence increased. The number of the corpuscles must in this way be proportionately augmented, and this must lead to the numerical increase, as well as to the high percentage of hæmoglobin, until a balance is struck between the production and the destruction of the blood-corpuscles. Observation of cases of cyanosis as actually occurring seem to show that the use of oxygen is barren of results, for it is generally understood that the atmosphere ordinarily contains more oxygen than can be absorbed under any circumstances.

British Medical Journal, January 10, 1903.

Excision of the Tonsils During an Attack of Acute Tonsillitis.—Robert Bleasdale gives his recent experience with cases of this nature. He has had excellent results from removing the tonsils during an attack of tonsillitis, and is confident that the attack was cut short several days by this treatment, and the throat was in much better condition afterward than it would have been if the tonsils had remained. He now paints on the throat a 2-per-cent. solution of b. eucaine as the anæsthetic.

Acute Dilatation of the Stomach Without Apparent Cause.—David A. Belilios discusses the case of a healthy infant of nine months brought up entirely on the breast It was found dead one morning, two hours after it had been nursed and put to bed. Nobody had been in the room. There was an entire absence of symptoms of any kind. Autopsy revealed a distended stomach. There was no stricture of the pylorus or adhesions. The duodenum was not dilated. There were no signs of inflammation of the gastric mucous membrane, and there was in the organ only a small quantity of clotted milk.

Three Cases of Acute Intussusception in the Same Family.—Robert G. Riddell describes these cases which occurred in a family of four children, one ending fatally, and two being relieved by operation. In each case there was a history of digestive troubles, probably due to careless feeding, and in two increased by dentition. It could not be determined at operation if there was any congenital condition common to all three, though this might be expected. It has been suggested that an abnormally movable cæcum predisposes to ileocæcal invagination, while a cæcum firmly fastened down may give rise to the ileocolic variety. It can also be conceived that when one part of the bowel is abnormally fixed, and an adjacent movable segment is thrown into violent peristalsis, an intussusception may be produced. But whatever the cause, it must be considered something more than a mere coincidence that this somewhat rare affection occurred in three children out of four in the same family.

Four Cases of Duodenal Ulcer Perforating Acutely.—D'Arcy Power draws the following lessons from these cases which he reports: (1) Duodenal ulcers occur more often in men than in women. (2) The extravasated fluid trickles into the iliac fossæ and causes a local peritonitis, which may be mistaken for an acute appendicitis. (3) The transparent or bile-stained succus entericus found in the peritoneal cavity is diagnostic of a perforated duodenal ulcer. It is quite different from the gastric contents escaping at a perforated ulcer of the stomach. (4) The prognosis of a duodenal ulcer is worse than that of a perforated gastric ulcer on account of the greater difficulty in closing it satisfactorily. (5) The prognosis should not be too sanguine until after the lapse of the eighth day, and it is always bad, however well the patient may appear, if the pulse-rate continues rapid. The pulse is a much better guide than the temperature. (6) Free drainage is imperative, both iliac fossæ, the recto-vesical pouch, and the space below the liver more particularly need tubes. It is better that the patient should recover with a scarred belly than that he should die with an abdomen full of pus. (7) The feeding of the patient is a matter of great importance. Small quantities of food should be given frequently, and if the patient feels sick the amount must be reduced at once. It is better to give nutrient enemata for some days after the operation than to administer food by the mouth.

British Medical Journal, January 17, 1903.

Removal of an Ovarian Fibroma from a Patient Aged Seventy-three Years.—Frederick J. McCann reports this case, which is of interest not merely because of the age of the patient, but because the history shows that a solid ovarian tumor may exist and increase in size after the climacteric, and yet be simple in character. It is probable that the new growth did not appear until after the cessation of menstruation. The first time the patient noticed that anything was wrong was in alighting from an omnibus one day when she felt a sensation as if something had "given way" in her abdomen. After this she felt a hard substance in the lower abdomen, and a sensation of weight in that region. The growth, which increased in size, soon interfered with the functions of bowels and bladder. Life became such a burden that the patient was anxious to undergo anything in preference to the suffering she was then enduring. At operation the tumor was found wedged into the pelvis. It was attached by a long, slender pedicle. The ovary on the left side was atrophied. There was no ascites. The pedicle was ligatured, and the tumor which grew from the right ovary was removed. The pelvic cavity was flushed with hot salt solution and the parietal wound closed. The patient made a good recovery.

A Clinical Lecture on Two Cases of Chorea Gravidarum.—D. Berry Hart describes these cases. The first patient was eighteen years of age and two months pregnant. She had had one child, which lived a month. The attack originated from a fright which she had from seeing a mouse run out of a closet by which she was standing. The father had been a heavy drinker, and the mother seems at one time to have had epileptic fits. She had never had chorea in her childhood. After she was brought to the hospital, she was never at rest while awake. She was mentally acute. Apart from her nervous disturbance, her systems were healthy. The ordinary remedies brought little or no relief. The patient developed delusions, and became so noisy that abortion was decided upon. Great care must be taken in this matter. Antiseptic precautions must be most carefully observed. Tupelo tents were inserted into the cervix, removed in twenty-four hours, and the dilatations completed with vulcanite dilators. The fingers of the right hand were passed into the vagina, the middle one being passed into the uterine cavity. The uterus was cleared out bimanually, washed out, and, together with the vagina, plugged with one long strip of iodoform gauze which had been kept in biniodide of mercury solution (1:3,000). There was no special hemorrhage. The next day the tampon was removed, and the uterus washed out. The result of the abortion was very marked. The chorea gradually passed off, and she finally made a perfect recovery. The second case was not so serious, and was treated by large doses of antipyrin. She was given sodium bromide and antipyrin, 15 gr. of each, four times a day. The beneficial effect was soon manifest, and she left the hospital quite well.

Deutsche medicinische Wochenschrift, December 25, 1902.

Influence of Temperature and Season upon the Occurrence of Primary Glaucoma.—Kurt Steindorff studies this question upon 102 cases. Of these, the smallest number occurred during the months of June, July, and August, and the largest number during January, February, May, and December. The explanation of the more frequent occurrence of primary glaucoma in the cold weather is not entirely clear. The intraocular pressure is dependent to a certain degree upon the general blood pressure, and it is well-known that the latter is higher during cold weather than warm. Also the pressure of the external air is, as a rule, higher in winter than in summer. The frequent so-called "colds" and catarrhal conditions which are prevalent in winter also exercise, in all probabilty, a certain influence. The practical importance of this subject consists in the endeavors which should be made to protect those predisposed to glaucoma during the winter season by sending them to warmer climates, similarly as is advocated in rheumatism and various other diseases.

Tremor and Urine Intoxication.—Alfred Hock reports a case which shows how partial retention of urine may give rise to severe nervous and general phenomena. The patient was an elderly man and sought medical advice on account of a severe generalized muscular tremor, marked digestive disturbances, and increasing prostration. All of these symptoms had been present for some time and had resisted treatment which had been employed. Hock at first diagnosed the case as one of tremor senilis, but upon subsequent examination the prostate was found to be enlarged and a considerable amount of residual urine present in the bladder. The only urinary symptom present was increased frequency of urination. From this time on the bladder was emptied at frequent intervals by catheterization. This resulted in a marked improvement in all the symptoms and a complete disappearance of the tremor. About five months thereafter the patient died from marked pulmonary lesions, the character of which is not stated. Shortly before death the tremor returned. The reappearance, however, is to be ascribed to deficient renal excretion occasioned by cardiac weakness. It seems certain that the original tremor was due to intoxication caused by the retained urine.

A New Bacillus of Syphilis.—Max Joseph and Piorkowski adds seventeen cases to the twenty-two which were reported by them in the *Berliner klinische Wochenschrift* of March 5, 1902. In all of these thirty-nine cases of active secondary syphilis a hitherto undiscribed bacillus was isolated from the spermatic fluid. The only way in which such solution was successful was by cultivating this fluid upon sterile placenta at the incubator temperature for two or three days. In the secondary generation the bacilli could be grown upon the ordinary artificial culture media. Upon such, however, they soon showed degenerative appearances and, unless retransplanted upon human media, soon died. With Loeffler's methylene blue they stain almost identical to the diphtheria bacillus; in size, however, they correspond to the bacillus subtilis. They stain positive with Gram. They are not pathogenic for the ordinary laboratory research animals. They are non-motile, coagulate milk, produce an abundant sediment in bouillon and grow in a white, shining layer upon potato. They produce neither gas nor indol, and spore formation has not been observed. They do not fluidify gelatin. These bacilli have never been cultivated from the spermatic fluid of normal men or of those suffering from tertiary syphilis. Fifteen of the former endeavors have been made and eleven of the latter. On the other hand, this bacillus has been frequently isolated from the mucous patches and enlarged inguinal glands of secondary syphilis. The effect of the administration of mercury upon the presence of the bacillus in the spermatic fluid is varied. In some cases under such treatment it soon disappears, while in others it remains for a long time. The authors think that the facts already produced warrant the assumption that this bacillus is the causative agent in the production of syphilis; they are, however, continuing their observations and adding more cases in order to make their contentions absolute.

Deutsche medicinische Wochenschrift, January 1, 1903.

Are Streptococci Present in the Mouths of Breast-fed Infants?—Julius Herzberg says that they are very frequently, if not constantly, so present. Ten infants were examined, of which eight were dispensary and two private. In all streptococci were isolated. The length of the chains varied. Many streptococci which were short-chained in the first generation, became long-chained in the second. It is hence evident that streptococci cannot be properly subdivided into short and long-chained species, as has been done by Lingelsheim, since these forms are undoubtedly transferable. In one-half of the cases cover-glass preparations made directly from the throat or tonsils did not show streptococci, although cultures made at the same time regularly showed their presence. Mice and guinea-pigs (number not stated) were in oculated intraperitoneally with pure bouillon cultures of the streptococci. Four of the mice thus inoculated died.

Cardiac Hypertrophy in Nephritis.—H. Senator gives his views concerning the origin of cardiac hypertrophy in nephritis, and in such the excessive hypertrophy of the left over the right ventricle. In chronic parenchymatous or subacute nephritis, on account of lessened functional renal activity, the blood becomes surcharged with deleterious nitrogen extractives. The walls of the vessels are injured thereby and undergo various degenerations. As the result of this the vessel walls transmit fluids more readily than normal, and dropsies appear in various locations. The various degenerations mentioned also result in a contraction of the vessels. This contraction, together with the pressure of the dropsical fluid markedly increases the work of the heart, and especially that of the left ventricle, for it is known that the changes mentioned occur last of all in the lung, so that the right ventricle is not called upon for extra work until long after the left ventricle has been obliged to perform the same. In this manner the cardiac hypertrophy and the excessive hypertrophy of the left ventricle is to be explained. In acute nephritis the amount of nitrogen extractives retained in the blood exceeds that present in the chronic form. In the former, however, the renal activity is, as a rule, soon restored and a normal condition reëstablished in the blood vessels before permanent damage has been done to the heart. In those cases of acute nephritis which pass into the subacute or chronic form, the same vascular and cardiac changes take place as above described. In chronic interstitial nephritis the causes of the cardiac hypertrophy are the same as in the chronic parenchymatous form. In the former, however, the hypertrophy appears much later than in the latter, because the renal activity is much more slowly damaged and consequently the amount of nitrogen extractives retained in the blood is much less.

Berliner klinische Wochenschrift, December 29, 1902.

Alopecia Areata.—E. Richter reports a case which substantiates the view that alopecia areata may be caused by an injury of division of the second cervical nerve. The patient was a female, fifty-two years of age. The previous history was good. The patient received a fall which resulted in a fracture of the second cervical vertebra. As sequels there developed a persistent neuralgia, and one and a half years later the development of two characteristic lesions of alopecia areata. In spite of all treatment the latter remained permanent. By careful exclusion no other cause could be discovered for the alopecia than the fracture of the vertebra above mentioned.

Surgery in Warm Countries.—Hans Ziemann reports a remarkable cæsarean section which was performed in Western Africa by a midwife. No anæsthetic was used, and the asepsis must have been very crude. The abdominal incision was made transversely. Both child and mother were saved. The uterus was not sutured. The abdominal wall was closed with catgut. Very little fever developed after the operation. Small doses of quinine readily controlled what little elevation of temperature there was. The patient was a white woman, but had been in Africa for some years. The author has often observed with what apparent impunity the residents of Africa withstand major surgical operations, but is not able to offer any explanation therefor.

Münchener medicinische Wochenschrift, Jan. 6, 1903.

Tuberculosis of the Optic Nerve.—V. Michel describes the pathological lesions. Tuberculosis of the optic nerve is chiefly met with in childhood. It may affect any portion of the nerve from the chiasma to the retinal ramifications. Blindness may or may not be present, according to the location of the lesions and the portion of the nerve involved. The retinal picture often shows miliary tubercles. When these are not present this picture corresponds to that of neuritis, atrophy of the papilla, or choked disc. The prognosis is, of course, fatal.

Primary Actinomycosis of the Tarsal Bones.—O. Bollinger reports a rare case. The patient was sixty-four years of age and had suffered for many years from periodical attacks of inflammation, swelling, and soreness in the left tarsal bones. These attacks had gradually increased in intensity and duration, so that at the time of his coming under observation walking was impossible. A diagnosis of purulent osteitis and necrosis of the tarsal bones was made and was thought to be tuberculous in nature. The foot was amputated. Upon examination no tubercle bacilli were found, but actinomycetes were isolated in pure culture. Recovery followed, no other pathological lesions developing in any region of the body. The date of infection was

supposed to date back many years to the time at which an injury to the foot was received while the patient was making a long march as a member of the army.

French and Italian Journals.

The Weight of Lecithin in Milk.—Bordas and Rackowski have been investigating the effect of various methods of heating milk, on the amount of lecithin contained in it. They have determined this question, which is one of great importance in the feeding of children. When milk is heated in a vessel that is placed directly over the fire, the lecithin contained is diminished one-third, while milk heated in a double boiler has its lecithin decreased only one-sixth. The natural teaching of these observations is that it is always important to heat, in a double boiler, milk intended for a child's feeding.—*La Presse Médicale.* January 7, 1903.

Treatment of Neuralgias by the Injection of Sterilized Air.—Marie and Crouzon are using a very simple apparatus for the injection of sterilized air. The results of this treatment are remarkable. In one case of sciatica, which had proved very rebellious to treatment, an injection of sterilized air at three or four of the painful points caused the disappearance of all the pain. In a case of herpes with intense neuralgia the cure took place after one injection—the same result took place in a tabetic, who had long suffered from persistent pain. In all of these cases the cure was final. The quantity of air injected varies from ¼ to ½ a liter. The mode of action is not known. Perhaps the air which is injected into the cellular tissue acts by spreading out the nerve filaments and causing an elongation of the nerve ramifications.—*La Tribune Médicale*, December 17, 1902.

A Case of Pseudarthrosis Treated by Freshening and Suture of the Fragments.—Bérard reports the case of an alcoholic patient, thirty years old, who, after having a fall, lay for seven hours before help arrived. The femur had been broken at its middle part, and the upper part had pierced the tissues. Approximate reduction was performed a plaster bandage fitted, and continuous traction applied. Suppuration followed for four months, but there was no consolidation. Ten months after the accident the leg was atrophied and the joints eroded. Radiography disclosed the presence of necrosed splinters between the fragments. Continuous extension reduced the shortening from 10 to 7 cm. Intervention was necessary, and the splinters were removed. Reduction was accomplished by the resection of 1 cm. of each fragment with a V-shaped notch in the lower fragment, which received the point of the upper fragment. The fragments were sutured and a splint applied. After three months there was perfect consolidation, with a shortening of 5 cm. —*Lyon Médical*, December 7, 1902.

Calcium as a Hæmostatic.—P. Regoli has found by his researches that the salts of calcium accelerate the coagulation of the blood only when it is deficient in calcium, for the addition of calcium to normal blood not only does not hasten coagulation, but interferes with the process, whereas it causes or increases coagulation, if the blood has previously been deprived of its calcium. From this fact we see that the question as to the usefulness of calcium as a hæmostatic is much more complex than appears at first, depending as it does upon peculiar clinical conditions. Moreover, we have to take into consideration the absorptive powers of the various preparations of calcium, and the method chosen for their introduction. The general physiological properties must also be borne in mind, especially when the endovenous method of administration is chosen. It will be seen that there are decided limitations to the use of calcium as a hæmostatic.—*Rivista Critica di Clinica Medica*, December 20, 1902.

The Separation of the Urine of the Two Kidneys.—Georges Luys gives some very interesting observations which he has made while using the little instrument which he calls his separator. It consists, essentially, of two hollow sounds, with orifices on their internal surfaces. These sounds are connected by a third part, and they are all provided with a rubber covering. It is of the greatest use in surgical cases to show which is the diseased kidney, and especially to show the functional condition of the kidney, which is supposed to be healthy. In medical cases it will show to what extent each organ is diseased. In every case in which the clinical signs and the results of the separation disagreed, surgical intervention showed that the separation had furnished perfectly correct data. One case noted is of considerable interest in this regard. All of the clinical signs tended to show that the right kidney was tuberculous, and indicated that that organ ought to be removed; on the contrary, the separator showed the right kidney to be the healthy one. Nephrectomy of the left kidney proved it to be completely atrophied and having no functional value.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, December 11, 1902.

Botryomycosis.—Savariaud and Deguy give this name to a parasitic affection. In man it is attended by pediculated tumors of the skin, which are filled with mulberry-form masses. Cultures of this give a micrococcus, which, up to this time, has been considered specific, the micrococcus botryogenes. Until recently the affection has been studied exclusively by veterinarians. In 1897 it was suspected to be present in a man. Sometimes the affection appears spontaneously, but more often the small tumor arises at the site of a septic inoculation, from a prick, for example. The course is rapid, generally a few months. As to treatment, ablation, pure and simple, is the only method. The tumors develop generally on the fingers. Bacteriological examination shows that they contain sometimes one kind of coccus only, botryococcus, or staphylococcus, while at other times the micrococcus is associated with different bacteria.—*Revue Française de Médecine et de Chirurgie*, January 5, 1903.

A Case of Cancer Originating from a Cicatrix.—Vittorio Martinelli reports the case of a man who, twenty years previously, had been seriously wounded in the leg by revolving machinery; the wound had healed very slowly and a large cicatrix remained. A few months before being seen by the author a heavy beam fell upon the leg, producing an extensive wound at the site of the cicatrix, with copious hemorrhage, which kept up for several days. As the wound did not heal, the physicians in charge of the case cauterized it with the actual cautery, and as the wound still continued to spread, they repeated the cauterization three times. The author was then called in consultation, and found a lesion which could not be considered as a simple ulceration, but from its rapid propagation, the frequent hemorrhages, the presence of epithelial masses, the appearance of nodules on the surrounding skin, and the swelling of the inguinal glands was diagnosed as a malignant neoplasm. The general condition was one of cachexia. The leg was amputated at the knee, and twenty months later the patient was in excellent condition. By examination with the microscope the growth was found to be an epithelioma.—*Giornale della Associazione Napoletana di Medici e Naturalisti*, September-October, 1902.

The Remote Sequelæ of Cerebrospinal Meningitis.—Widal and Lemierre discuss this question. Cases of this affection have been reported in which recovery was complete; while in others have been noted certain nervous troubles (deafness, muscular atrophy, incomplete paralysis) persisting some time after the cure of the acute meningitis. They report the case of a man, recovered now four years from an attack of suppurative cerebrospinal meningitis, which was diagnosed at the time by lumbar puncture. Since his recovery, the pursuance of his work has been laborious, and he hesitates in walking. At various times he has had sudden attacks of lumbar pain, as well as pain in his legs, for the relief of which he has been to the hospital several times. When he came under the care of Widal and Lemierre, he was suffering from intense lumbar pains and from a sciatica of the left leg, with Lasègue's sign and the classical painful points. Lumbar puncture revealed a slight but distinct lymphocytosis, which showed that there was a persistent meningeal irritation. It is interesting to connect this lymphocytosis with the nervous troubles which have recurred almost periodically for four years—that is, since the cure of the acute cerebrospinal meningitis.—*Le Bulletin Médical*, January 3, 1903.

Tuberculous Peritonitis.—Veit concludes that tuberculous peritonitis is always secondary. Two forms can be distinguished—the ascitic and the adhesive. The affection of the genital organs may be primary, and it may consist of tuberculosis of the peritoneal covering of the genital organs only. Peritonitis with extensive nodules, that can not be attributed to ovarian tumors or to carcinoma, ought, as a rule, to be regarded as tuberculous. Tuberculous peritonitis may be cured spontaneously, but this is rather rare. Tuberculous peritonitis is cured by laparotomy, although some unsuccessful cases have been noted, generally on account of the advanced tuberculous affection of other organs. There is not a unanimity of opinions in the explanation of these recoveries. The influence of normal serum, or antitoxic, is a very probable explanation. In recent cases there should be operation if the peritonitis causes pain; and a repetition of the operation may become necessary if the first one has been very early. Chronic cases ought to be under observation from the first; if spontaneous recovery is delayed, intervention is necessary. Operation consists in simple laparotomy in the linea alba, in the complete evacuation of the liquid and in the suture of the operative wound. Radical abdominal operation ought to be done only when at the same time there is found genital tuberculosis completely isolated.—*Gazette de Gynécologie*, January 1, 1903.

Society Reports.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Ninety-seventh Annual Meeting, Held in Albany, January 27, 28 and 29, 1903.

HENRY R. HOPKINS, M.D., OF BUFFALO, PRESIDENT.

FIRST DAY—TUESDAY, JANUARY 27.

THE sessions were held in the Council Chamber of the City Hall, Albany. The meeting was called to order by the President, Dr. Henry R. Hopkins of Buffalo, and the session was opened with prayer by the Rev. Father Oliver.

President's Inaugural Address.—Dr. HENRY R. HOPKINS delivered this address. He said that in the charter granted the society in 1806, and in all the earlier amendments of that charter, the composition of the society, as determined by the number of delegates that might be sent by county and other societies, was cautiously, jealously, and wisely guarded. It was his profound conviction that to this wise provision of the fathers this society owed its century of existence, and its well-established reputation for conservatism.

Renouncement of the Code of Ethics.—One of the most important and wisest steps taken by this society had been the renouncement of the Code of Ethics, a document of much value, dignity, and importance, but one containing certain faults, bad philosophy, and vicious tendencies. This action of the society was a virtual acknowledgment of an error in judgment on the part of the society, and a distinct proclamation that hereafter the members would be careful that they were governed by the laws of this State. This had led to an important law whereby the society was given the authority to regulate and control its own membership, and as a result, it had been enabled to increase more than fivefold its number of delegates. The crowning enactment in its favor was that giving the society authority to examine those applying for a license to practise medicine in this State.

Organization of Nurses.—Mention was made of the fact that a bill was to be introduced into the Legislature asking that trained nurses be licensed by the State in accordance with rules prescribed by the Board of Regents. The speaker was of the opinion that this movement was wise, timely, and in good hands, and deserved the hearty support of this society. He advised that the matter be referred to the Committee on Legislation, with instructions to support the measure in the Legislature in every way possible.

Hospital for Consumptives.—After long and discouraging delay, definite progress was now being made in the establishment of a State sanatorium for incipient cases of consumption. A building to give accommodation to 100 patients was now under contract.

A New Degree Suggested.—It was suggested that, in imitation of the custom prevailing in Great Britain, the degree of D.P.H.—"Doctor of Public Health"—be granted to those who had properly qualified themselves by the study of hygiene and sanitary science.

Unity of the Profession.—The speaker said that for many years the society had earnestly and consistently worked to secure the union of the three "systems" of medical societies in this State. A final campaign in this cause had been inaugurated by his predecessor in the chair, by the appointment of a committee of conference. As an incident of this campaign to restore legal medical unity this society had been without representation in the American Medical Association for many years. Because of the encouragement received by the reorganization on a broad platform of the American Medical Association, it seemed desirable that the society should make an overture in the direction of the resumption of diplomatic relations with the national body. The untimely death of Dr. A. M. Phelps had created a vacancy on the committee of conference, which had been filled by the appointment of Dr. Frank Van Fleet of New York. The unseemly and undignified divisions of the medical profession of this State were not a credit to the profession. He thought it would be well if this whole matter could be adjusted before this society should complete its present century. It was still more important that this settlement should be made with due regard to the rights of the minority, but this society could never agree to the sacrifice of those principles which had been maintained so long, and which had been the means of placing this State society prominently before the country and the world, with regard to the requirements for the right to practise medicine in this State.

Report of Committee on Hygiene.—Dr. JOHN L. HEFFRAN of Syracuse presented the report. It stated that tuberculosis continued to be the most prevalent of the preventable communicable diseases. From the fact that in recent years there had been a reduction in the death rate from tuberculosis in Great Britain of 45 per cent., and in New York City of 40 per cent., it was evident that this disease must be looked upon as very easy of control. This was still further emphasized by the report of Dr. Bowditch to the effect that, at the sanatarium at Rutland, 79 per cent. of the cases received in the first stage of pulmonary tuberculosis were arrested. The committee urged the society to exert itself to preserve all the good points of the present tenement-house law, and recommended the registration, by physicians, in proper offices, of every case of pulmonary tuberculosis, and the disinfection of premises after deaths from tuberculosis, by the health authorities. It was also recommended that receiving hospitals for tuberculosis be erected by each community, and be independent of the county poor-house. The Committee on Legislation was asked to secure the passage of a law which would allow of the appointment as health officers of only those showing special fitness for such duties.

The Tenement-house Law.—On motion of Dr. GEORGE B. FOWLER of New York the following resolution was adopted:

Whereas, Strenuous efforts are being made to induce the Legislature to utterly undo the great advances made in recent years in tenement-house reform and sanitation, and to prevent the permanent carrying into effect of the great improvements in the construction and management of tenement-houses in New York and Buffalo, which has been made possible by the recent Tenement-House Law; and

Whereas, Pulmonary tuberculosis is practically epidemic in the City of New York, there being eight thousand deaths and twenty thousand cases annually; and

Whereas, The lack of light and air in the rooms of the great masses of the people is one of the most potent causes in increasing the prevalence of this and other communicable diseases and constitute serious menaces to health and morality,

Be it Resolved, That the Medical Society of the State of New York deplores any weakening of the present Tenement-House Laws, and urgently requests the Legislature to permit no changes to be made that will in any way decrease the amount of light and air available for the people living in such houses, or in any way take a backward step in regard to their sanitary conditions.

Report of the State Board of Medical Examiners.—Dr. WILLIAM WARREN POTTER of Buffalo presented an abstract of this report: "The total number of candidates since the establishment of this board eleven years ago was 7,034, of which number 5,528, or 78.5 per cent., were successful, and 1,506, or 21.4 per cent., unsuccessful. The total number for the last academic year was 928, of which 685 applied for license, and 558 were successful. Of the number appearing before this board, 17.8 per cent. were rejected; of those appearing before the Homœopathic Board, 13.2 per cent. were rejected, while 50 per cent. were rejected by the Eclectic Board. The yearly average number of candidates appearing before these respective

boards was 586, 46, and 16. The board expressed itself as in favor of some action by which old practitioners from other States could be more leniently dealt with in regard to examination in the primary branches. The board recommended that the degree of "D. P. H."—Doctor of Public Health—be conferred.

Report of Committee on Unification of the Profession.—Dr. Henry L. Elsner of Syracuse presented this report. After reviewing the preliminaries and reading in full the correspondence, the report went on to say that the committee of the State Society was from the first impressed with the fact that the committee from the State Association was sincere and earnest in its effort to secure unity of the medical profession of this State. The latter committee held that the reorganized society must of necessity apply to the Legislature for a new charter, and accordingly the committee of the State Society obtained a legal opinion from Mr. Charles Andrews. This was to the effect that the State Society had power to change its by-laws by vote of the Society and without application to the Legislature. The Society could amend its constitution and by-laws without further legislation, and could incorporate into its membership all members of county societies; hence, the New York State Medical Association, if it so determined, might abandon its present organization, and its members might become members of the Medical Society of the State of New York by a change made by the latter society in its by-laws regarding the conditions of membership. It was thought to be important that this union should be effected without abandonment of the charter of the Medical Society of the State of New York, which had existed for nearly one hundred years. It was also held that the abandonment of the present charter of the Medical Society of the State of New York would end its existence. Continuing the report, the speaker referred to the revision of the by-laws of the American Medical Association, and said that, at the adjourned meeting held in Chicago, shortly after the Saratoga meeting, Chapter XV. no longer appeared in the revised by-laws, yet he had been assured by the present president of the American Medical Association that the Code of Ethics was still in existence and unchanged. Dr. Billings had also assured the committee of the State Society that the Code of Ethics of the American Medical Association would not be considered binding upon the State Association, but the committee did not feel that it could yet withdraw its former objections to union. It was true that in the unification of two powerful State bodies, such as the State Association and the State Society, many complex problems arose. The will of the individual members of the profession must be learned. Among the plans for reorganization thus far suggested might be mentioned a scheme by which all members of county societies become members of the State body, thus abolishing entirely the delegate system. Another scheme was to reorganize the State Society so as to extend it to the members of the New York State Medical Association, with a continuance of the county societies and the delegate system. Another plan, and one which would probably be presented to the American Medical Association at its coming meeting, was that by which all members of county societies, by the payment of a single fee to the State treasurer, become members of both the State and National bodies. This was the plan to which the American Medical Association had recently been lending its influence, and it contained the elements which tended to secure unity of the profession throughout the county. The committee entered an emphatic protest against the resolution introduced by Dr. E. D. Ferguson of Troy at the October meeting of the New York State Medical Association, and adopted by that association. The part especially objected to was the resolution that "if the Medical Society of the State of New York shall fail to approve such plan of union by a charter to be secured at the approaching session of the Legislature in 1903, then this committee shall be considered as discharged, and the proposition of the association withdrawn." The committee of the State Society felt that it could not consent to the time limit thus insisted upon, believing that the spirit was not in keeping with the earnest desire for unity and harmony so often expressed at the previous conferences. Quoting from the report of the treasurer of the State Association, it was shown that the publication of the *New York State Journal of Medicine* and of the "Medical Directory," which latter was characterized as a useful and worthy publication, had been carried on at a great financial loss to the State Association, and it was argued that the reorganized State bodies could not maintain this costly work, for, it should be remembered, the income of the united State bodies would not equal the combined incomes of the present association and society, because of the surprisingly large proportion of members who were affiliated with and paid dues to both bodies. The committee declared that it could not consent to any arrangement which would in any way interfere with the life of the Medical Society of the State of New York. The Code of Ethics being still in existence, the Committee did not feel that it was in its power to recommend that action be taken by the Medical Society of the State of New York until the American Medical Association should make it possible for that society to subscribe to its constitution and by-laws and written rules of order, and could do this consistently and without sacrifice of principle. In conclusion, the committee reported progress and asked that its report be received and that further time be given to the committee to prosecute its work."

The report of the committee was received amid great applause. On motion of Dr. F. R. Sturgis the committee was continued, with instructions to ascertain what further action could be taken in the matter and to report at the next meeting of the State Society. It was also voted that this report be printed immediately and a copy sent to every member of every county society in the State

Arguments for the Existence of a Separate Cortical Center for Writing.—Dr. Herman C. Gordinier of Troy presented this paper. He said that there were two principal views on this subject. The older one was that the focal corticle center for writing did not exist. The other view maintained that the act of writing was independent of the faculty of expression by articulate speech, and that when it was in abeyance it was because of the destruction of a cortical center probably situated at the base of the second left convolution. In support of this view the speaker said that sufficient pathological and clinical data existed to show that destruction of Broca's center did not necessarily cause agraphia. Trousseau had stated that the inability to write was in proportion to the inability to speak. To show the fallacy of Trousseau's reasoning, the author introduced citations from various clinical reports, including one made by Trousseau himself. Four cases were reported, the only ones known by him to exist in literature, in which there was motor agraphia and motor aphasia with a pathological lesion at the base of the second and third left frontal convolutions. Isolated motor agraphia, though very rare, certainly did occur. The author reported a case of his own, one of glioma at the base of the second left frontal convolution.

Medical School Inspection in the City of New York.—Dr. Henrietta P. Johnson of New York presented this paper. She said that the system of medical inspection of the schools of New York City had been organized by the Board of Health, the city being divided into thirty-five districts. One hundred and fifty men and women were selected as inspectors from the civil service list. In the first year of this work, 108,638 examinations were made, and the total number of exclusions for all diseases was 6,829. On the day the schools opened in the fall of 1900 there were presented 100 cases of catarrhal con-

junctivitis in one school. In September, 1902, a new method of school inspection was adopted. This required daily morning observations as before, and in addition a weekly examination of every child in every class. The examinations included inspection of the eyes, throats, and hands. From December, 1902, to January 11, 1903, a period of twenty-five days, there were 950 new cases of trachoma presented for treatment, and 127 operations were performed.

The Care of the Insane.—Dr. CHARLES G. WAGNER, of Binghamton read this paper. He compared the old régime with the modern one, and showed the beneficent results of the earnest and persistent preaching of the gospel of non-restraint. The hospital for the insane of to-day, instead of being like a prison, was more like a thriving town. The fundamental principle of the new treatment was the greatest personal liberty consistent with safety. Occupation was the keynote of the care and treatment after the acute stage had once passed, and by such means the germ of hope was implanted where before was nought but despair. The acute cases should be carefully examined, the causes of the mental disturbance ascertained and noted, and then rest and quiet enjoined together with the most nourishing diet. A skilful and tactful nurse could often persuade those patients to take the requisite amount of nourishment. It would often be found that ten or twelve eggs a day would prove a useful addition to the diet.

Differential Diagnosis of the Familial Forms of Spinal Disease.—Dr. FLOYD S. CREGO of Buffalo was the author of this paper. As a general rule, hemiplegias were the result of brain disease, although sometimes due to spinal disease. The commonest of all diagnostic errors was the confounding of functional and organic diseases of the cord. It should be borne in mind that the prominent symptom was the functional or hysterical lesion, but under this would be found the organic lesion. Thus, paraplegia, occurring in hysterical patients, was not necessarily functional, and might have an organic basis. The symptomatology of acute myelitis was varied. The more common form was complete transverse softening, involving the mid-dorsal region. There was complete anæsthesia below the front of the lesion, and the muscles gradually wasted. The reflexes were greatly exaggerated, and marked ankle clonus was present. As the disease increased, all four extremities became paralyzed. In lumbar myelitis there was loss of the reflexes, instead of an exaggeration. This disease was often mistaken for Lander's disease—an acute ascending paralysis. The cause of the latter was probably some toxic principle, having an affinity for the nervous system, as post-mortem examinations, in such cases, had uniformly yielded negative results. In this disease there was gradual loss of power; in myelitis there was a rapid loss of power and sensation. In hysteria one would find patches of anæsthesia, and with hysterical paralysis there was no analgesia, and no loss of the heat sense.

Erythrophlœum: A Clinical Study.—Dr. REYNOLD W. WILCOX presented this paper. He said that this drug acted very much like digitalis in many respects. It enormously increased the blood pressure, and slowed the heart; it increased the rapidity of respiration, while it obliterated the respiratory oscillations in blood-pressure. He had found that the drug was indicated in cases showing a rapid heart action, with low tension and venous congestion. Its use was contraindicated in extremely weak hearts. It was chiefly useful in rather stout persons, suffering from tachycardia, and in cases exhibiting a fair degree of compensation, and in which digitalis had failed. It possessed the advantage over digitalis of greater rapidity.

Observations on American Climates and Localities in the Treatment of Pulmonary Tuberculosis.—Dr. JAMES K. CROOK of New York read this paper. It was his opinion that the scourge of tuberculosis would eventually be mastered by the science of the human race, as the nature and causes of the disease were adequately understood and it was known to be preventable, and morbidity tables were already being influenced in some localities by sanitary measures recently put in operation. For a very considerable period to come, however, the present ratio, of one death from tuberculosis to seven from all causes, would probably not be materially altered. It would thus appear that, of the present population of the United States, something like 10,500,000 would succumb to phthisis. The reader of the paper thought that no other measure, or combination of measures, which might be called into operation would occupy so important a part in the war being waged against this disease as a proper appreciation and utilization of the value of climatic treatment. Instead of recommending a change of environment as a last resort, as was at present so often done, this step should be taken as soon as the presence of tuberculosis was recognized. If this were not done the chances that the disease would progress were about 99 in 100. The fact that the bacillus had been able to gain a foothold in the patient's system indicated a favorable relation between his environment and the bacillary growth, and, as a rule, but one outcome could be expected. Within the confines of the United States could be found typical examples of all the best forms of climate possessed by the old world. Some of these localities were within very easy reach of New York City. The trouble was the profession had been tied down to two or three climatic regions, which, though valuable enough in properly selected cases, had lost some of their reputation as a result of an indiscriminate influx of all kinds and conditions of tuberculous patients, many of whom would have been better off had they remained at home. The reader of the paper then briefly outlined some of the available climatic areas of the United States, many of which, though at present scarcely utilized at all for the purpose, would be found as efficacious in arresting the progress of tuberculosis as the best of the old-time resorts. The reader was not in favor of "throwing physic to the dogs" and blindly relying upon climate alone. The latter, he stated, could not be regarded as a specific for consumption, but only as one of our most highly-prized aids. While reposing much hope and confidence in the value of climatic change, he would at the same time not disregard the undoubted value of certain pharmaceutical preparations, of good food and of proper hygiene. If it were possible to place each patient without delay under an environment uniting good air, good food, good sanitation, and skilful medical supervision, a long step would be taken in the direction of overcoming the ravages of the disease. The patient would not only thus have the best opportunity for recovery, but would cease to be a menace to his associates and to the community at large. This, he said, could only be brought about by the establishment of properly equipped sanatoria in localities having the requisite climate, and this, he considered, to be a *sine qua non*. The most important condition of all, proper air, could not be brought into the city; and hence it became necessary to seek it in its habitat. Dr. Crook did not decry the many benefactions donated of recent years by our philanthropists to various purposes, but it was his firm conviction that the rich man who would establish and endow one sanatorium, where his suffering and dying fellow creatures might be won back to health and strength and usefulness, was worthy of greater love and honor from his countrymen, and would occupy a higher place in the Final Accounting than he who embellished a costly church, built a library, or founded a university.

Retinoscopy.—Dr. D. H. WIESNER of New York read this paper. He described the retinoscope as consisting of a plain mirror of glass, circular in shape, and about one and one-half inches in diameter, mounted on a handle and having a central aperture in the mirror. The source of illumination, preferably an Argand burner, should be to the right of the patient and at a distance of forty inches.

Using the retina as a point of illumination, the rotation of the mirror showed whether or not the refractive condition of the eye was normal. Both the horizontal and the vertical meridians should be studied. When the illumination moved *with* the rotation of the mirror in both meridians, it indicated that the eye was hyperopic. When the movement of the illumination was in a direction *opposite* to that of the mirror, the case was one of myopia. Simple hyperopic astigmatism, if not too high, could be recognized by the illumination assuming the form of a band of light instead of a circle. If the movement of the illumination was against that of the mirror in one meridian and with it in the other, the case was one of myopic astigmatism.

The Physician and the Ophthalmoscope.—Dr. Francis Valk of New York presented this paper. He declared that there were few instruments which were capable of giving such important and reliable diagnostic information as the ophthalmoscope. It was not infrequent for the diagnosis of Bright's disease, to be made first by the results of an ophthalmoscopic examination. Having placed the light in a proper position the observer, should, if possible, keep open the eye not in use. On reflecting the light into the patient's eye, an orange-red reflex from the retina should become visible. If not, then a +6 glass should be brought before the aperture. This should enable one to obtain a clear view if there were no opacity. The beginner found great difficulty in adjusting his eye to the rays of light emanating from the patient's eye. This was most easily accomplished by placing one of the concave lenses—those marked with a red figure—before the aperture. This would neutralize the action for the accommodation of the observer, make the rays of light divergent, and bring the details of the retina into view. If the examination were made upon a young person with a large pupil, it would be found comparatively easy to study the appearance presented by the normal eye. If the pupil were not wide enough, a little cocaine or bromotropine might be dropped into the eye. This would dilate the pupil sufficiently for the examination, and not give the patient any inconvenience after twenty-four hours. Brunettes generally presented a much darker eye-ground than blondes, owing to the greater deposit of pigment. In the region of the macula or yellow spot, found toward the temple, the pigment was somewhat darker. The nerve entrance was readily made out and was of a grayish-white color, and apparently semi-transparent. The retina itself in health could not generally be seen except by an expert. The arteries could be distinguished from the veins by their lighter color and a line along the center.

Incomplete Transverse Congenital Occlusion of the Vagina.—Dr. Samuel M. Brickner of New York presented an abstract of this paper on this subject, reporting four cases in each of which there was an occluding septum found above the hymen. His conclusions were: (1) That transverse vaginal septa were due to an embryonal fold, and (2) that this was due to a return to an ancestral type. He was of the opinion that the fusion of the Müllerian and Wolffian ducts became more intimate at one place, and that then an invagination took place.

Some Scientific and Practical Details Regarding Vaccine and Vaccination.—Dr. Peter H. Bryce, Secretary of the Provincial Board of Health of Ontario, presented this communication. He said that vaccination produced complete protection against smallpox practically in all persons for ten years, and in a large proportion for twenty years. It had been shown by some investigators in Paris that active vaccine lymph could be neutralized by adding to it in test-tubes the serum from vaccinated monkeys, or from human beings recently affected with variola. It was, therefore, a bacterial disease, and it was apparently a fact that the special microorganism had been isolated. It was remarkable that, while the medical profession and the laity generally had accepted the antitoxin treatment of diphtheria, there was still a marked opposition to vaccination. He believed the reason for this was to be found in the fact that vaccination had been made compulsory, and he was of the opinion that if the toxin treatment of diphtheria had been made compulsory the same opposition would have developed.

Reasons for Compulsory Vaccination.—The chief reasons for insisting upon compulsory vaccination were: (1) The theory of the immunity conferred by vaccination was founded on indisputable scientific evidence. (2) The infectiveness of smallpox was uncontrollable, and the experience of every country showed that even the most complete sanitary organization had utterly failed again and again to eradicate smallpox from a community without vaccination. (3) Vaccination was adequate to protect completely against the disease after exposure had taken place, even up to the fourth day, and of reducing the severity of the disease to a non-fatal issue in almost every instance in which the vaccination was concurrent with exposure to the disease.

Vaccine.—The speaker then considered some of the modern vaccine lymphs, and the new rules promulgated concerning their use, and pointed out the necessity for having the manufacture of vaccine lymph under State supervision, or else actually made by State officers. That glycerinated lymph was effective was well shown by the fact that, out of 126,000 vaccinations with this lymph, 98 per cent. were successful. Contrary to modern notions regarding immunity, there was evidence to prove that better protection was given by several simultaneous insertions or scarifications. He firmly believed that the laws should be so framed as to secure the appointment from year to year of properly qualified public vaccinators for every municipality.

Treatment of Purulent Conjunctivitis.—Dr. Edgar S. Thomson of New York read this paper. He said that the first step should be the microscopical examination of the pus to ascertain the variety of microorganism present, yet the treatment should not be delayed on this account. Cases having the appearance of a gonorrhœal inflammation should be promptly treated by the use of a powerful germicide, and for this purpose nitrate of silver was the best agent. The application should be made at the earliest possible moment. If the gonococcus had an opportunity to penetrate the conjunctiva the eye would probably be lost. In babies the result was not apt to be so serious. When the lids were not greatly swollen a two-per-cent solution of nitrate of silver should be applied with a swab to the *entire* conjunctiva, not forgetting the upper cul-de-sac. When the disease was less advanced, stronger solutions might be employed. The abortive treatment should be attempted whenever there was a prospect of success, using a three or four-per-cent. solution of nitrate of silver, and a two-per-cent. solution as a daily application. With the stronger solutions it was well to apply salt solution to neutralize the action of the silver. Protargol was very much less irritating than nitrate of silver, and might be employed as strong as 6 per cent. It was a valuable application in ophthalmia neonatorum when dropped into the eye twice daily. In other forms of purulent conjunctivitis nitrate of silver should not be used, but instead a six-per-cent. solution of protargol. It did not readily stain the conjuctiva. In addition to the above treatment, the eye should be very frequently cleansed with boric-acid solution.

Transportation and the Ophthalmic Referee.—Dr. Justin L. Barnes of New York was the author of this paper. He had addressed a confidential letter to fifty railway companies, and of the thirty-two replies received twenty-one stated that they retained an ophthalmologist for the examination of the eyes of their employees. Apparently at least one-third of the railway companies relied upon lay advice. It was important to test binocular as well as single vision. The reason was obvious; the engineer might have one eye temporarily disabled by a cinder in it, and so might be forced to rely wholly upon the defective

eye. Color blindness might be temporary or permanent, congenital or acquired. A man who had been proved to have a perfect color sense might lose this subsequently, often from the abuse of tobacco. In testing color perception it was very important that the person examined should not be allowed to turn the head from side to side. It was a curious fact that the color-blind person often acquired the ability to distinguish colors merely by the difference of illumination. It was easy to see how an interposed cloud of steam or mist might cause confusion and disaster. It was because of varying degrees of illumination that a man could often pass an examination for color blindness if this were carried out with yard signals, but the ability to distinguish colors in this way was wholly unreliable with changing atmospheric conditions.

Dr. Percy Fridenberg of New York said that the railroad men objected to being examined as to their ability to pick out and match various shades of color on the ground that the conditions were entirely different from those which they met in practice. Moreover, those who could pass the examination with colored wools often failed with the lantern test.

Eye-strain and Headache.— Dr. Lucien Howe of Buffalo presented this paper. The author essayed to give an anatomical explanation of eye-strain, and endeavored to show that it was muscular. He pointed out that recently Helmholz's theory of accommodation had been shown to be in a measure erroneous, and that the act of accommodation was not partly passive, but wholly active. During accommodation the posterior surface of the lens remained the same, and the anterior surface became more convex. This explained the conscious effort associated with looking at a near object. Both the anterior and posterior fibers of the occipitofrontalis muscle were accessories in the act of accommodation, thus explaining the frontal and occipital headache of eye-strain.

Hydrops Tubæ.—Dr. Henry D. Ingraham of Buffalo presented in this paper a report of two cases. He thought the cause in the first case was childbirth and the resulting complications, and in the second case long-standing constipation.

Sterilized Milk, Pasteurized Milk, or Clean Milk.—Dr. C. W. M. Brown of Elmira presented a paper with this title. It was a review of the well-known facts bearing on this subject and was given with the object of emphasizing their importance. The arguments presented were altogether in favor of pasteurization, yet this method required more care and intelligence and more special apparatus, and if not properly done, was apt to be worse than no treatment of the milk. When no ice was available, it was certainly safer to sterilize the milk in summer.

The Examination of Milk by the General Practitioner.— Dr. Henry K. L. Shaw of Albany presented this subject. A scheme was outlined for a rapid, simple, and accurate method of examining either human or cow's milk, and the importance of testing the acidity of the milk was dwelt upon. Milk with an acidity over two-tenths of one per cent. was not fit for drinking purposes. The determination could be made either by a simplified titration method or by the use of Farrington's alkaline test tablets. The next step was to obtain the specific gravity. The author had had a small Quevenne lactometer constructed with a thermometer. This was graduated from 1020 to 1050 and required a little over half an ounce for a reading. Lactometers were standardized at 60° F. and the correct reading could easily be obtained when the temperature of the milk was known. The specific gravity of mother's milk averaged 1030 and it was lowered by an increase in fat and raised by a high percentage of proteid. If the specific gravity of cow's milk was less than the normal (1029 at 60° F.), one of two things might be assumed: either the milk contained an unusual amount of cream or the milk had been watered. If, on the other hand, the specific gravity was higher than normal and the percentage of fat was low, it was fair to assume that the milk had been skimmed. The percentage of fat was obtained in many ways, but the writer preferred the Babcock method. A small hand centrifugal machine had been made for him by O. H. Burrell & Co. of Little Falls, N. Y., which took up very little room and used the regulation size test bottles. This machine could be used for urinary and bacteriological work. The percentage of sugar varied very little and its estimation was not required in an ordinary routine examination. The quantitative Fehling test used for uranalysis could be used.

The total solids of the milk could be determined from the corrected specific gravity and the percentage of fat. The Babcock formula consisted of dividing the specific gravity of the milk by four and adding to this one-fifth the per cent. of fat. This would give the solids not fat, and adding the per cent. of fat to this product the amount of the total solids is obtained.

A sliding milk scale has been recommended by Richmond based on this formula. By it the corrected lactometer reading and total solids could be ascertained at a glance without applying any mathematical formulæ. The amount of proteids could be estimated approximately by subtracting the percentages of fat, sugar, and salts from the total solids. The Hehner and Phloroglucin tests were recommended for the detection of formalin in milk.

Dr. E. E. Smith of New York did not consider that the author's method of estimating the proteids was sufficient. One important difference between mother's milk and cow's milk was in the relative percentages of albumin and casein. When the amount of casein was increased in human milk, certain infantile disorders arose.

Symposium on Hæmatology.—This comprised the following papers:

Blood Examination in General Practice.—Dr. Irving P. Lyon of Buffalo presented this subject in the form of a report of a number of illustrative cases.

The Eosinophiles: Their Etiology and Value in Diagnosis and Prognosis.—Dr. Thomas R. Brown of Baltimore was the author of this paper. In his unavoidable absence, it was read by Dr. Bulkley. He stated that the enormous increase of these cells in splenomyelogenous leukæmia served to differentiate it from the lymphatic form in which they were practically absent. In trichinosis there was a marked increase in the percentage of eosinophiles in the blood, associated with a considerable leucocytosis, and it constituted a valuable diagnostic sign. The increase in the eosinophiles was sometimes of assistance in scarlet fever, tuberculosis, typhoid fever, malaria, chickenpox, smallpox, and other acute infectious diseases.

Degeneration of the Erythrocyte.—Dr. J. C. Da Costa, Jr., of Philadelphia, Pa., presented this paper. He described minutely the microscopic changes observed in this cell. He said that polychromatophilia was a sign of extreme blood impoverishment. The presence of the nucleated erythrocytes of the megaloblastic type was evidence of a severe, though not necessarily fatal, anæmia. He was convinced that they were the prevailing form in every case of pernicious anæmia. Granular punctate basic degeneration was never found in normal blood, and should lead to a careful search for the true cause of the anæmia. The condition had been produced experimentally by the administration of lead, atropine, methylene blue, and other poisons. Clinically, it was constantly found in cases of lead poisoning before the other blood charges were observed, and was sometimes associated with various toxæmias, and the presence of intestinal parasites. It was very frequently present in malaria.

The Iodine Reaction and Its Diagnostic Significance.— Dr. Edwin Allen Locke of Boston, Mass., presented this paper, illustrating it with photomicrographs and lantern slides. A thin film of blood should be spread upon a cover-glass and allowed to dry in the air. It was then mounted on a slide with a drop of the iodine solution, and

examined either immediately or at any convenient time. The examination should be made with an oil immersion lens and a strong illumination, preferably daylight. Normal blood cells exhibited a uniform yellow color. The reaction consisted in the presence of brownish granules in the protoplasm, or a diffuse brownish tint of the cells, or the presence of diffuse brown masses outside of the cells. The latter were usually round or oval. The intercellular reaction was never found in health. The intensity of the reaction in the individual cells seemed to be of as much importance as the number of cells affected. In all doubtful cases, at least 100 white cells should be counted before concluding that the reaction was negative. It was probable that the reaction was dependent upon a change in the cells resulting from toxæmia.

SECOND DAY—WEDNESDAY, JANUARY 28.

The Surgeon's Enemy, the Skin.—Dr. ROBERT H. M. DAWBARN of New York read this paper.

Chemical Shaving.—He advocated the use of chemical shaving in certain cases instead of the razor, and for this purpose recommended Merck's sodium sulphohydrate, a yellow powder. It was best employed in 25 per cent. aqueous solution containing a little glycerin. The hair would be thoroughly removed in ten minutes, and would grow again as quickly as after ordinary shaving.

Mending Rubber Gloves.—For the mending of rubber gloves one should provide a cautery set such as was used for burnt leather work, several test tubes, and two flat-irons. If the end of the finger required to be renewed, the end of the glove finger should be squarely trimmed off, and the tip of the finger from another old glove used as a cap. With the cautery the edges of the rubber should be slightly melted, the patch applied and adjusted by the aid of a test-tube, placed bottom up inside of the glove finger. The patch should be held in place by twine. For mending the flat part of a glove, the flat-irons were used, one as a flat surface, and the other as a weight to hold the patch in place. This method of mending rubber gloves would withstand boiling.

Avoidance of Perspiration in the Operative Field.—The danger of infection from perspiration getting into the wound was dwelt upon, and it was advised that the following method be used to avoid this source of contamination: Some indifferent powder, such as lycopodium, talcum, or stearate of zinc, is mixed with 20 per cent. of alum, and the mixture heated to a temperature which would insure sterilization. One hour before operation the nurse should pour the mixture freely upon the skin, and with a sterile gauze pad should vigorously rub the powder into the skin over the line of the proposed incision and generally over the operative field, and the powder should be left upon the surface. At the time of the operation the powder was washed away, and the usual cleansing applications made. No matter how free the perspiration on other parts of the patient's pody, there would be none over the area treated with the powder during the time necessary for an operation.

The Technique of Prostatectomy.—Dr. RAMÓN GUITÉRAS of New York was the author of this paper. He said that in 1900 he had conceived the idea of taking out the prostate through the urethra after having performed external perineal urethrotomy. Although a search through the literature had led him to think at that time that the operation was original with him and had not been done previously, he had since learned that a surgeon in St. Louis and one in New York City had done the operation. On performing prostatectomy, after having opened the membranous urethra, the tip of the forefinger should be introduced and the prostate separated from the external capsule. The author's curved depressor, an instrument modeled after a urethral sound, was used to hold the prostate, and its curve kept it entirely out of the way of the finger. When one lateral lobe had been freed it could be delivered. The prostate usually came away in two pieces with the so-called middle lobe adherent to one of the lateral lobes. The gland having been removed, artery forceps should be fastened on either side of the incision and the bladder digitally explored to make sure that that viscus was free. After irrigation and the insertion of a perineal drainage tube the artery forceps could be removed; if done before this, great difficulty would be experienced in the introduction of the drainage tube.

Periduodenal Abscess Secondary to Perforative Ulcer of the Duodenum.—Dr. WILLIAM S. BAINBRIDGE of New York presented an abstract of his paper on this subject: He said that there were twenty-two cases on record in which death had occurred without the diagnosis having been made. Two of these had been operated upon, but the diagnosis had not been made until the operation. The author reported one case, with post-mortem examination. Attention was called to the fact that the body temperature of a patient suffering from this condition was usually normal or subnormal until the occurrence of complications. The onset was sudden and accompanied by shock, and there was usually a history of precedent gastric or gastro-intestinal disturbance. The chief symptoms were vomiting, pain, tenderness, and resistance in the epigastrium and right hypochondrium; and constipation.

Dr. LEWIS S. PILCHER of Brooklyn reported briefly his case, and pointed out that although there was an extensive and long-standing ulceration of the duodenum there had been a total absence of symptoms until, in the later stages, the tumor formation had approached the surface.

Dr. H. L. ELSNER of Syracuse, apparently confounding the condition with duodenal ulcer, called attention to the fact that a large number of cases of duodenal ulcer were associated with parenchymatous nephritis, and contended that it was not difficult, in the majority of cases, to make the diagnosis. What difficulty did exist arose from the long intervals without symptoms. He maintained that there was usually a history of the discharge of blood in the stools.

Some Points Regarding the Treatment of the Functional Disorders of the Sexual Organs in the Male.—Dr. FREDERICK R. STURGIS of New York considered in this paper more especially the functional diseases leading to lack of sexual power in the male. In his opinion masturbation was a comparatively infrequent cause, although it played a minor part in the causation of such disorders. A more important cause was "withdrawal" at the time of coition, because the congestion thus produced by erection and copulation was unsatisfied. Another cause was excessive sexual indulgence. He thought that not more than 50 per cent. of these cases were the result of a gonorrhœa which had remained uncured. The physical cause in the gonorrhœal cases was the presence of a urethral stricture, for experience had taught him that by removing the stricture the sexual debility was removed. A similar cause was the presence of granulations in the urethral canal, with or without congestion. The keynote of the successful treatment of these cases was the use of sedatives. Medical men were exceedingly firm in the belief that remedies taken by the mouth were the only things of benefit. His own experience had taught him that this was a most fallacious belief. Medicines given internally were only useful as adjuvants; local remedies were what were required. There was nothing better than nitrate of silver, though the use of sounds and of hot and cold applications were beneficial. The use of sedatives was of far greater advantage than the use of stimulants. Nitrate of silver was more a sedative than an irritant in these cases. With regard to the treatment of sterility there was little to be said, for little could be done. Probably 90 per cent. of the cases of sterility in the male was the result of disease of the epididymis, by which spermatozoa were not allowed to escape, although the usual quantity of semen was ejaculated. Electricity had proved disappointing in his hands, though weak galvanic currents were far better than the faradic current. In the class of

patients under discussion, not only should alcoholic stimulants be interdicted but also coffee.

Dr. R. H. M. Dawbarn of New York thought the medical profession should generally advocate circumcision, not only as a means of preventing venereal disease, but as an aid to sexual weaklings, because of its action in retarding the orgasm. The tying off of a few of the veins at the base of the penis often increased the vigor of the erection. As a not infrequent accident in herniotomies was the division of the vas deferens, it was reassuring to know that Gerster had restored the continuity of this duct and restored its function by using a piece of fine catgut as a mandril and sewing the divided ends of the vas together with fine interrupted silk sutures.

Dr. A. Jacobi of New York was of the opinion that circumcision often proved useful by reason of the profound mental impression it produced. He insisted that masturbation was a powerful cause of sexual impotence, because it weakened self-confidence. In this fact was to be found the key to the treatment of cases of this class.

Dr. Sturgis, in closing the discussion, expressed his belief that masturbation was no more debilitating than natural sexual intercourse indulged in to the same extent.

In Memoriam: Rudolf Virchow.—Dr. Charles A. L. Reed of Cincinnati, Ohio, delivered this address, sketching in an interesting manner the life and work of this great scientist.

Dr. H. Jacobi supplemented this address with a few remarks on Virchow's penchant toward America and American students and physicians.

President's Address: Progress, Unity, Liberty.—Dr. Henry R. Hopkins of Buffalo delivered this address. He said that unity in medicine was absolutely essential to progress in State medicine, the supreme function of our profession. Satisfactory progress in this field could only obtain in this country through the establishment in the Cabinet at Washington of a Secretary of Health. It was well to bear in mind that medical unity would never be made easier by dwelling upon the limitations or imperfections in the practice of our brethren. The most important event in the history of the medical profession in the past half century was the inauguration of the system of State license for the practice of the healing art. Our best thought and endeavor should be given to the extension of this beneficent system. There were unfortunately at present three examining boards in this State, and the responsibility for this cumbersome legal machinery rested primarily upon this society; yet it was within our power, and, the speaker thought, was our bounden duty, to sweep away this incongruity and secure unity in form as well as unity in spirit. The twentieth century saw empiricism fading and modern scientific medicine auspiciously inaugurated.

Plasmodiophora Brassicæ.—Dr. Harvey R. Gaylord of Buffalo was the author of this paper. Certain forms of this organism, he said, presented an appearance so closely resembling tissue cells that it became difficult to differentiate it from them. It shared with many of the protozoa the property of being blackened by osmic acid, making it likely to be mistaken for fat.

Primary Carcinoma of the Vermiform Appendix.—Dr. Arthur W. Elting of Albany was the author of this paper. He said that he had collected from the literature forty cases, of which eight were probably not true primary carcinoma. Three recent cases, studied by Dr. Elting, were reported. It was pointed out that, theoretically, the appendix should be frequently the seat of carcinoma. One of the reasons for expecting its more frequent occurrence here was that carcinoma was a common sequel of chronic inflammation. As several of these carcinomata of the appendix had been accidentally discovered at autopsy, there having been no symptoms pointing to such disease, there was reason to believe that many cases were overlooked. The chief symptom was pain in the region of the appendix. Primary carcinoma showed a tendency to development in early life, but no disposition to extension or metastasis.

Symposium on Arteriosclerosis.—This comprised the following papers:

The Early Recognition and Symptoms of Arteriosclerosis.—Dr. Delancey Rochester of Buffalo presented this paper: The cases could be roughly classified thus: (1) Those due to strain of occupation; (2) those the result of the introduction into the system of poisons from without, *e. g.* syphilis, lead, and alcohol, and (3) those cases dependent upon poisons arising from within as a result of faulty metabolism. The interference with the blood supply gave rise to perversions of function, *e. g.* constipation and indigestion, both gastric and intestinal. In many cases the disease began in the capillaries, and hence hypertrophy of the heart was present early, and could be appreciated by a careful study of the pulse, using three fingers and varying pressure to determine the arterial tension.

Arteriosclerosis and the Heart.—Dr. Glentworth R. Butler of Brooklyn read this paper. He said that the cases in which the heart was affected in arteriosclerosis naturally fell into two groups depending on whether or not the coronary arteries were involved in the sclerotic process. Cardiac hypertrophy was not a necessary result of arteriosclerosis. In the senile form the heart was frequently not enlarged or the arterial tension increased. Arteriosclerotic hypertrophy reached its highest degree in middle age, though it was sometimes observed in quite young and robust men. In the course of time the simple hypertrophy gave place to dilatation and a train of symptoms which were difficult to distinguish from those of ordinary organic heart disease. These persons were apt to present a sallow, pallid face, enlarged venous radicles, a wet skin, a weak pulse when compared with the apex beat, and a distinct loss of strength. In quite advanced cases anginal attacks with an irregular, weak, and slow pulse were rather characteristic. True angina pectoris was, however, a rather rare symptom, and was almost invariably dependent upon a sclerotic process in the coronary arteries and myocardium. The speaker said experience had taught him to be suspicious of cases presenting marked or painful gastric attacks, occurring in elderly persons showing myocardial and arterial degeneration.

Arteriosclerosis and the Kidney.—Dr. Irving P. Lyon of Buffalo was the author of this paper. Syphilis, alcoholism, plumbism, gout, and prolonged physical strain were laid down as the important etiological factors. The first step should be to determine the primary seat of the disease.

Arteriosclerosis and the Digestive System.—Dr. Charles G. Stockton of Buffalo presented this paper. He dwelt upon the possibility of gastric ulcer arising from this cause, and advised caution in ascribing abdominal disease to arteriosclerosis. Of course, when it was evident that the arterial supply was greatly diminished as a result of vascular disease, such an assumption might be warranted. However, arteriosclerosis was indirectly a common cause of digestive disturbance. Among the direct effects on the digestive apparatus was the somewhat unusual one of intense abdominal pain, generally referred to the "pit" of the stomach, and closely resembling gastralgia. The opinion was gaining ground that arteriosclerosis was more often a direct cause of gastric disease than had been hitherto held.

Arteriosclerosis and the Nervous System.—Dr. William Browning of Brooklyn discussed this aspect of the subject. He enumerated a large variety of symptoms that might be found in a great many other conditions also, and very properly observed that skill and experience were necessary to interpret aright this diverse symptomatology.

Arteriosclerosis and Mental Disease.—Dr. Adolf Meyer of New York presented this subject. He believed that the frequency of mental disease attributable to dis-

ease of the kidney was ordinarily exaggerated. Arteriosclerosis of the heart and aorta was exceedingly frequent in the insane, but it was not often that mental disorders could be directly ascribed to these affections. This could could only be done in cases of arteriosclerosis of the brain itself, and even here many difficulties were encountered. Arteriosclerosis of the brain was often associated with loss of memory of the immediate past and transitory delirium or mental confusion Sometimes these persons were guilty of setting fire to houses, stealing, or sexual misconduct. Mental disease, occurring at that period of life in which arteriosclerosis was most common, showed no differences in its nature and course that could not be fairly accounted for by the diminished resistance of later life. In short, there was no justification for speaking of arteriosclerotic insanity, though it was possible to recognize clinically senile and pre-senile involution. Naturally enough, then, there was no special treatment for cases in which the underlying condition was arteriosclerosis. The knowledge of the existence of this element in a case was chiefly of value in prognosis.

Pulsus Infrequens.—Dr. Thomas E. Satterthwaite presented this paper. He thought it was unfortunate to designate the condition by words having the termination "cardia," for this tended to lead one away from the main feature, the pulse, to the heart. For this reason he preferred the term *pulsus infrequens*. By general consent a pulse below 60 was regarded as "infrequent." According to his experience, the infrequent pulse was most often seen at or about the middle period of life and was five times more frequent in the male. The infrequent pulse was of two varieties, viz.: (1) physiological and (2) pathological. There were two well-known varieties of the first—the infrequent pulse of inheritance and the slow pulse of pregnancy. The pathologically infrequent pulse was subdivided into: (*a*) the paroxysmal, periodic, or temporary variety and (*b*) the chronic variety. The latter was uncommon. The physiological variety gave rise to no untoward symptoms—indeed, an increase in the pulse rate often caused discomfort. There was a group of cases that appeared to be dependent upon gastrointestinal irritation. As the physiological and paroxysmal forms were thought to represent 80 per cent. of all cases of infrequent pulse, it was evident that the prognosis was, on the whole, favorable. The prognosis was not so good in the chronic form. Experience had shown that medicinal treatment, having for its object an increase in the frequency of the pulse, was invariably harmful. Even alcoholic stimulants should be used with caution. The infrequent pulse alone should not be treated, but rather the underlying condition. The first point to determine was whether the pulse was of the physiological or pathological variety and whether the pulse was intermittent or deficient. The author commented upon the relation of his cases to mitral disease, especially stenosis, arteriosclerosis, brain disorder, diabetes and chronic nephritis, and pointed out the danger of giving digitalis in the large doses often used in our hospitals and the fact that milder cardiac remedies, to the almost total exclusion of digitalis or its congeners, might alone, or in conjunction with hydrotherapy, resistance exercises, massage, electricity, and compressed air, be effective remedies.

Dr. E. Libman of New York said that there could be no doubt that obstruction to the circulation caused arteriosclerosis. Atheroma was not infrequent in young persons. It was important to examine the arteries of both the upper and lower extremities when making the diagnosis of arteriosclerosis. There might be extensive calcification of the peripheral arteries without any involvement of the aorta proper. It was probably within the experience of many, that pulmonary œdema developed in persons exhibiting arteriosclerosis without other assignable cause. Disease of the vessels of the lower extremities had been noticed in the lower extremities of persons between thirty and forty years of age, especially among Russian and Polish Jews. The lesion was usually an obliterating endarteritis with thrombosis above or below the point of narrowing of the vessel. In connection with the occurrence of infections in those having arteriosclerosis it should be remembered that these persons are peculiarly susceptible to the development of systemic infections. They were especially liable to acute endocarditis, and the thickened valve here was just as much a point of least resistance as in acute rheumatism.

Dr. A. L. Benedict of Buffalo said, with regard to the use of hot-air baths in cases of arteriosclerosis, that of course anything which would exercise the arteries and change the arterial tension was contraindicated, but in the earlier stages baths were useful. He was of the opinion that, in connection with hepatic sclerosis, too much attention had been paid to alcohol as a causal factor, and that arteriosclerotic changes had a great deal to do with hepatic cirrhosis.

Dr. Edward D. Fisher of New York said that in syphilis there was not an ordinary and general endarteritis but one affecting exclusively or specially the vessels of the nervous system. This gave rise to thrombosis and hemorrhages in the brain and to disease of the vessels in the spinal cord, thus causing mixed spinal paralyses. In cases of apoplexy occurring in comparatively young persons the cause was probably a disease affecting the muscular coat of the arteries.

Dr. Henry L. Elsner of Syracuse reported an interesting case in which the Stokes-Adams' phenomenon had been present to a very marked degree. In doubtful cases of vascular disease the sphygmograph should be called to our aid. In the cases of erythromylalgia that he had reported there had been found far-reaching changes in the peripheral vessels.

Dr. Stewart of Elmira reported a case of severe gastralgia of twenty years' standing that had terminated in a fatal attack of angina pectoris.

Dr. J. J. Walsh of New York referred to the influence of heredity and instanced the fact that where whole families succumbed at a comparatively early age, careful observation in early life usually showed the presence of arteriosclerosis. He also reported an interesting case of pulsus infrequens occurring in a theatrical dancer. Although her pulse rate was never over 30, it gave rise to no discomfort and did not interfere with her rather arduous duties. Apparently the condition had been acquired, for although she had suffered from all of the usual diseases of childhood no physician had made any comment upon the pulse, and the existence of this slow pulse had not been noted until after an attack of the grip.

Dr. Satterthwaite said that arteriosclerosis was by no means always general; it was sometimes confined to the Sylvian artery at the base of the brain. The iodides should be given persistently for months and years and would do good in the mild cases.

Some Points Pertaining to the Therapeutic Management of the Uræmic State.—Dr. Heinrich Stern of New York read this paper. He said that the diversity of opinion in regard to the various procedures and medicinal agents in the treatment of uræmia could be attributed only to insufficient consideration of the original affection, on the basis of which uræmia had been produced. Uræmia was not the result of one and the same causative factor in every instance; the serum of each variety exhibited some special features. This diversity might be due to the different underlying renal condition, to the specific material of infectious diseases, and to the decomposition products of the retained substances.

In the large white kidney the outflow of water was seriously hampered; in the sclerotic kidney this was not the case. The tendency to convulsions in parenchymatous, and to coma in interstitial, nephritis seemed to be caused

by the varying constitution and physico-electric condition of the respective blood sera.

The large quantities of retention nitrogen in the serum of chronic interstitial nephritis apparently stood in causal relationship to the natural termination of this disease—uræmia.

In chronic parenchymatous nephritis uræmia did not occur so often and was not so grave. *Sweating* was indicated under certain restrictions in every instance of acute uræmia, and should be employed soon after the onset of the attack. Its action was more beneficial and lasting in uræmia dependent on chronic parenchymatous nephritis. By free sweating, large amounts of catabolic substances were eliminated from the blood serum. Enteroclysis or hypodermoclysis might be employed in conjunction with sweating if this were continued for some time. *Venesection* produced the most lasting results in cases following acute nephritic conditions. In children, the usual amount abstracted varied between 100 and 250 c.c.; in adults, 300, 400, and even 500 c.c. might be abstracted. The good effects could be ascribed to the abstraction of a few hundred cubic centimeters of blood and a corresponding amount of retention material. Withdrawal of blood did not alter the molecular concentration of the remaining blood, and did not increase the electrical conductivity of the blood serum. Oxidation was also not augmented. The improvement following venesection seemed to be due to the relief of vasoconstriction in the kidneys, or central nervous system, or in both. The effect of hypodermoclysis and infusion were of a more or less transitory character, but might endure sufficiently long to bridge over a critical phase in the uræmic attack. Isotonic solutions of chloride of sodium were not so good in uræmia as hypotonic solutions; hence a 0.5 per cent., or 0.6 per cent., solution sufficed. These agents were of special value in acute renal conditions and in chronic parenchymatous nephritis. While morphine in small doses was innocuous in the uræmia of acute renal disease and chronic parenchymatous nephritis, and might possibly help to control the convulsive manifestations, it was not indicated in the uræmia of chronic interstitial nephritis, in which convulsions hardly ever appeared, and might even do harm.

Hepatic Ballottement or Bimanual Palpation.—Dr. A. L. Benedict of Buffalo substituted for the reading of this paper a demonstration of the method. By making pressure downward, forward, and to the left, both hands were made available for palpation, with the additional advantage afforded by the greater ease with which a moving body could be felt and outlined.

THIRD DAY—JANUARY 29.

Cancer of the Cervix Uteri Treated by the X-ray.—Dr. Thomas S. Scully read this paper. The method employed was to use an elongated *x*-ray tube capable of being inserted into either vagina or rectum. The treatment was given for fifteen minutes or more on alternate days. Three cases were reported in which the results had been encouraging.

An Operation for Cicatricial Contractures of the Upper Extremities.—Dr. A. H. Traver of Albany described the method he had successfully employed in a case of extensive cicatricial contraction rendering the arm practically useless. The cicatrices were divided and a series of four operations with "sling" flaps constituted the treatment.

Officers Elected.—*President*, Dr. A. T. Bristow of Brooklyn; *Vice-President*, Dr. Edward B. Angell of Rochester; *Secretary*, Dr. L. C. Curtis of Albany; *Treasurer*, Dr. O. D. Ball.

First Mention of Surgeons in the British Army.—The first mention of surgeons in the British Army was in 1223. Edward I. had a paid surgeon accompanying his army in Scotland in 1296.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending January 24, 1903:

	Cases.	Deaths.
Measles	158	7
Diphtheria and croup	391	46
Scarlet fever	250	17
Smallpox	1	..
Varicella	99	..
Tuberculosis	285	168
Typhoid fever	59	5
Cerebrospinal meningitis	..	..

Health Report.—The following cases of smallpox yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service during the week ending January 24, 1903:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS
California, San Francisco	Dec. 28–Jan. 11	10	..
Colorado, Denver	Jan. 3–10	7	..
District of Columbia, Washington	Jan. 10–17	2	..
Illinois, Chicago	Jan. 10–17	14	..
Indiana, Evansville	Jan. 10–17	3	two imported, 1 on river steamer.
South Bend	Jan. 10–17	5	..
Kansas, Wichita	Jan. 10–17	1	..
Kentucky, Lexington	Jan. 10–17	1	..
Louisville	Jan. 14 ..	1	..
Louisiana, New Orleans	Jan. 10–17	1	..
Maine, Biddeford	Jan. 10–17	15	..
Lewiston	Jan. 10–17	7	..
Massachusetts, Boston	Jan 10–17	15	..
Cambridge	Jan. 10–17	1	..
Chelsea	Jan. 10–17	1	..
Melrose	Jan. 10–17	1	..
Michigan, Grand Rapids	Jan. 10–17	6	..
Missouri, St. Louis	Jan. 4–18	31	..
Nebraska, Omaha	Jan. 10–17	10	..
New Hampshire, Nashua	Jan. 10–17	4	..
New Jersey, Camden	Jan. 10–17	3	..
Newark	Jan. 10–17	3	1
Plainfield	Jan. 10–17	2	..
New York, Buffalo	Jan. 10–17	5	..
New York	Jan. 10–17	2	1
Ohio, Cincinnati	Jan. 2–16	22	..
Cleveland	Jan. 10–17	16	..
Dayton	Jan. 10–17	4	..
Hamilton	Jan. 10–17	1	..
Pennsylvania, Altoona	Jan. 10–17	1	..
Erie	Jan. 10–17	4	1
Johnstown	Jan. 10–17	8	..
McKeesport	Jan. 10–17	3	..
Philadelphia	Jan. 10–17	35	2
Pittsburg	Jan. 10–17	10	3
South Carolina, Charleston	Jan. 3–17	9	..
Tennessee Memphis	Jan. 10–17	4	..
Texas, San Antonio	Dec. 1–31	3	..
Utah, Salt Lake City	Jan. 3–17	45	1
Virginia, Danville	Jan. 10–17	9	1
Wisconsin, Greenbay	Jan. 11–18	1	..
Milwaukee	Jan. 10–17	13	..

SMALLPOX—FOREIGN.

Austria, Prague	Dec. 20–27	5	..
Barbadoes	Dec. 19–Jan. 2	0	1
Belgium, Antwerp	Dec. 20–27	4	1
Brussels	Dec. 20–27	..	2
Brazil, Bahia	Dec. 13–27	4	..
Canada, Amherstburg	Jan 10–17	2	..
Canary Islands, Las Palmas	Dec 6–13	2	..
Great Britain, Birmingham	Dec. 27–Jan. 3	2	..
Leeds	Dec. 27–Jan. 3	7	..
Liverpool	Dec. 27–Jan. 3	48	3
London	Dec. 27–Jan. 3	14	..
Manchester	Dec. 27–Jan. 3	5	..
India, Bombay	Dec. 9–23	..	10
Madras	Nov. 27–Dec. 12	..	2
Italy, Palermo	Dec. 20–27	13	1
Mexico, City of Mexico	Jan. 4–14	4	2
Russia, Moscow	Dec. 13–20	2	2
Odessa	Dec. 20–27	5	2
St. Petersburg	Dec. 20–27	21	2
Straits Settlements, Singapore	Nov. 8–Dec. 6	..	12

YELLOW FEVER.

Colombia, Panama	Dec. 29–Jan. 12	9	3
Ecuador, Guayaquil	Dec. 20–Jan. 3	..	22
Mexico, Tampico	Jan. 3–10	..	6
Vera Cruz	Jan. 3–17	9	8

CHOLERA—INSULAR.

Philippines, Manila	Nov. 16–Dec. 6	154	126
Total to Dec. 9, 4,533 cases and 3,402 deaths.			
Provinces	Nov. 16–Dec. 6	1,358	852
Total to Dec. 9, approximate 117,246 cases and 74,505 deaths			

CHOLERA—FOREIGN.

Egypt, Alexandria	Dec. 12–26	21	16
India, Bombay	Dec. 9–23	..	3
Calcutta	Dec. 6–13	..	35

PLAGUE—FOREIGN.

India, Bombay	Dec. 8–23	..	243
Calcutta	Dec. 6–13	..	18
Karachi	Dec 7–1	17	1

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Original Articles.

THEORY AND PRACTICE OF SPINAL COCAINIZATION.

BY G. K. DICKINSON, M.D.,
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THE history of spinal cocainization reveals a phase of mind in the medical profession not dissimilar to that prevalent at the time of the attempted introduction of general anæsthesia, in fact, of any other new truth. Corning, in 1885, after a series of experiments on animals, proving the effect of cocaine thrown in the neighborhood of the cord, remarks: "Whether the method will ever find an application as a substitute for etherization in genitourinary or other branches of surgery, further experience alone can show. Be the destiny of the observation what it may, it has seemed to me, on the whole, worth recording." This modest statement epitomizes the results of a series of laboratory experiments made by a man possessing a competent knowledge of physiological anatomy and the effect of this drug. His observations were unnoticed and his prediction remained unverified until Bier, in 1899, fifteen years later, published an article recommending the same in genitourinary work. Tuffier, in the same year, extended its application to operations on the lower part of the body. To both of these surgeons is due the credit of having worked out the technique of the day. The former, more conservative and less confident, has done much to induce the present fear of misfortune. Tuffier, with perhaps a keener insight, has kept the method in its proper place as to the profession, and though it is and will be for a few years in an experimental stage, yet it has a *raison d'être*. As Corning has remarked, apparently "spasmodic hardihood, defective technique," and I may add, careless methods of sterilization and selection of the cocaine have tended to a gradual loss of confidence in the procedure. In order better to comprehend the advantages and limitations of this method of analgesia, it will be necessary to study in detail the anatomy, physiology, and practical application of the same.

The structures overlaying the spine in the lumbar region, through which the subarachnoid space is entered, are skin, muscle, considerably mixed with the apponeurotic fibers, and more or less fat. The skin may be dimpled at the spine line, perhaps elevated as it runs over the prominent spines. The fibrous tissues are frequently condensed at the bone, and are sometimes so firm as to deceive the tyro and produce, when the needle is pushed through it, a feeling as though bone had been reached. If this condition is extreme, some doubt may prevail as to whether the canal has been entered or not. At times the depth of fat is sufficient to make the distance to the canal greater than the length of the needle, and some ingenuity is required to make an entrance at the first attempt, particularly if the spine landmarks are not found.

Extending from one articular process to the other is an interval of about a quarter of an inch, in which is the ligament subflava. The dimensions of this space is modified somewhat by position, so that on bending forward and to the left, the space on the right side is moderately increased in size. Between the laminæ the ligament contains an excess of yellow elastic tissue. Nearer the transverse processes this tissue is deficient and the tougher white tissue is more abundant. A needle pushed through the ligamentum subflavum at its middle or near the spine line will meet with temporary resistance, only followed by a quick progress of the point as the intraspinal membranes are entered, the latter not possessing any sense of resistance. If the needle enter near the transverse processes, the sense of touch will be as though no membrane was encountered and passed, but the pedicles of the spine will be reached without fluid being exuded. The needle being pushed to its limit and bone found, though the operator knows from experience that the canal has been entered, is now gently withdrawn and a little clear fluid will flow.

The medulla ends at the lower level of the first lumbar vertebra. From this descend the cauda equina, the filum terminale, and the conus medullaris. The nerves forming the cauda equina are structurally the same as the nerves outside of the canal. The ganglions of the sensory roots are at variable distances from the medulla, some lower than the point selected for injection. The nerves forming the cauda seem to be bunched with constant uniformity, capillaries and lymphatics running between them and surrounded by a venus plexus. The cauda is held in position by the membranes. The distance from the ligamentum-subflavum to the nerves composing the cauda equina varies, but if the sensation of pain or distress in one or the other foot can be taken as a guide, in the mesial line there is at least a quarter of an inch of fluid. The penetrating needle does not enter the canal in the same direction each time. Though the effort is to pass from a point hypothetically constant, yet on account of the fact that the one anatomical guide, the spinous process, being so variable, in shape, and the depth to the ligamentum-subflavum being so inconstant, the needle will often be misdirected and pass over to the left side, perforating the ligament just under the spinous process. At other times it will enter well toward the right transverse process. In the former the needle will transverse some distance before the cauda equina can be punctured, and at the latter point of entrance it may more easily be touched. Pricking of the cauda equina is inferred by complaint of pain, either in one foot or the other, each having been observed. Also by an excess of blocking of the function of the nerves of the side invaded, and a more prolonged effect of the cocaine in that limb. As Corning has shown in his physiological experiments that cocaine thrown into the veins outside of the cord will be drawn into it and produce an effect even sufficient for the production of paranalgesia, but not so positive nor so certain as the same drug thrown into the subarachnoid space.

The effect produced will depend on several factors, anatomical and physiological. The fluid in the subarachnoid space is variously stated by our writers to amount to over a half an ounce or two ounces. This fills the subarachnoid space in the spinal cord and the ventricles of the brain, the two cavities being connected by the foramen of Magendie. According to several authorities, this foramen is not always patent, and it is a fair presumption, though not mentioned, that at times the foramen is not sufficiently patent to permit of a free flow of fluid through it. The motion of the spinal fluid is produced in part by respiration and partly by motion of the body, so that cocaine sent into the subarachnoid space cannot reach the fourth ventricle and the base of the brain, except this foramen be sufficiently patent to allow passage by the motion induced by respiration and osmosis. Experiments on dogs have shown that in them a pigment in the fluid thrown into the canal at the lumbar level will paint the base of the brain in thirty seconds. This may be accepted in that animal, but it does not prove that cocaine can be so quickly distributed to the important structures at the base of the brain; and the medulla in sufficient potency to produce a physiological toxic effect. Clinical experience has not as yet proved it.

Cocaine, first put on the market in 1884, has perplexed the commercial chemists, as have other substances, such as bismuth, chloral, and antitoxin of diphtheria. Each one of these medicaments was introduced to the profession before the product used was in a state of purity sufficient to the obtaining of a uniform and reliable effect. Commercial cocaine is a difficult alkaloid to obtain chemically pure and particularly to separate from isoatropyl cocaine, a cardiac depressant of great potency, and undoubtedly the cause of the numerous deaths ascribed to cocaine in the early days of its use. At the present time care must be taken in the selection of the article used, to prevent mishap and the subsequent distrust of the drug. Pure cocaine, free from any adulterant, is safe in proper doses, and can be relied upon to have a uniform effect, being an ether base, it is rapid in its action, both local and systemic. The local effect begins at once and reaches its full intensity in a few minutes. This effect is the sole one until such time as the salt enters the circulation by the veins and produces its secondary systemic effect. Distribution by means of the fluid in the subarachnoid space is possible and presumably effected to some extent, but the circulation of the subdural fluid is not an organic one and, depending on respiration and body motion, must be slow and uncertain. Osmosis also is an unsatisfactory explanation of possible effects on the medulla and higher centers. The fact that pigments do reach the base of the brain in thirty seconds cannot mean that this salt will do so in sufficient strength to paralyze the centers there. The local effect is in from three to five minutes to produce a complete analgesia of the superficial nerves of that part of the body below the point of puncture. In five minutes more the deeper nerves are affected in the same way. The strength of the intraspinal solution of the drug diminishes as it spreads through the space and with the rapidity of its intravascular absorption, so that as the primary analgesia extends upward it becomes surgically more uncertain, and though sometimes complete cannot be counted upon. At the mammary line it generally stops so far as surgical procedures are concerned. After twenty minutes have expired from the time of puncture systemic results may be expected. Being in the dose ordinarily used ($\frac{1}{2}$ grain) a vasomotor stimulant, the skin blanches, the cerebrum becomes anæmic, and vomiting results; in the act of vomiting the anus, being relaxed and lacking in apprehension, fails to contract and involuntary defecation may result. In some fibrillary contraction of the muscles and mild intoxication may ensue. Some authors claim that the kidneys are not affected by a therapeutic dose of cocaine, though animal experimentation shows that in toxic doses suppression occurs.

This analgesia is progressive and at times irregular in primary manifestation, showing first in the pudendal region, at other times in the feet. Areas of analgesia coalesce until the complete effect is produced. If cutaneous sensibility is complete, deep sensation is also complete. Manipulation of the omentum, being felt as an obscure ache in the abdomen, even when the superficial nerves are completely affected. If the cocaine pass to the medulla and there is not sufficient dilution or absorption in the meantime, an effect may be produced on the centers, in the medulla, producing cardiorespiratory effects of panting and rapid heart action with a sense of suffocation. These latter phenomena have never been noticed by the writer in the least degree, with the half-grain injection, but as this procedure is in its infancy, it has been watched for, and no patient is allowed to be left without an attendant for two hours after puncture. Sometimes the respiration is accelerated, but not sufficient to be noticed by the patient as a distress. The heat center, either by a local effect or by the drug acting after absorption, is affected, and by increased metabolism the temperature as read in the rectum may rise from one to five degrees. Some complain of a headache, and at times it is severe, general, and not easily relieved.

A more constant effect is a severe ache in the back and thigh. This comes on soon after the analgesia effect has worn off, and persists for several hours, particularly in those having previously suffered from the same pain, as a uterine neurosis.

The method of lumbar puncture is an art, and to be uniformly successful experience is necessary. The surgeon attempting this for the first time will often make several attempts before he will succeed, and perhaps then in the end fail. Conditions may exist to prevent absolutely a successful accomplishment, such as ossification of the ligamentum subflavum or hyperostosis of the lamina.

These complications are rare, and it may be taken as an established fact that if entrance is not made the fault is that of the operator. The skin of the back and loin should be prepared as carefully as before an abdominal operation, so that free manipulation of the back and a proper search for the spinous processes made. The spinous process is the guide, and if this is not found, further effort is in the dark. Then, again, if the spine is not properly estimated as to its size or the position of its lowermost point, the point of entrance will not be rightly located. A good plan is to have the patient sit well bowed forward with the bend at the lumbar region and with the forefinger of the left hand supported by the thumb pressed against its pulp, push the nail of the forefinger repeatedly up and under the spine to be located. By doing this the parts are pressed in and the undermost part of the spine found. (Ordinary pressure on the spine does not find the lower edge, but the lowermost prominent point.) Finding the lower limit of the spine selected, generally the third, take a point a little less than a quarter of an inch below and a half inch to the right for the point of entrance of the needle. As the only sensitive tissue is the skin, this can be

frozen with a spray of ethyl-chloride and a puncture made with a bistoury. This will also prevent the possible pushing in of skin microbes.

This being done, the needle is introduced through the wound, pointing to "five o'clock," directing the point a little upward and toward the ligamentum subflavium.

Generally the needle will enter jumping through the ligamentum subflavum with a sense easily appreciated by the finger. If the needle pass a little too far to the right, the fibrous tissue near the transverse process will be punctured and a sense of continuous interference felt and, perhaps, no fluid flow. Once in the canal, fluid generally comes, but at times it must be started by a cough or straining effort. The spinal fluid will, at times, rush out in a steady stream an inch from the end of the needle, though generally it comes in drops. This fluid is always clear and limpid. In the earlier operations no fluid was allowed, if possible, to escape, but of late an effort has been made in the other direction, and about twice the amount was allowed to escape as thrown in. Over the puncture a sterile gauze should be applied and maintained by adhesive strips.

The possibilities of harm present or remote arising from the use of the procedure under examination is suggested by the known physiological action of the drug in the laboratory, and from the experience obtained by the observant surgeon. The latter is the only sure test, but requires years of careful and unprejudiced work. The over-enthusiastic, as well as the timid, who do not possess the proper knowledge of pathology and physiology may not read their results clearly and give the procedure the proper place in the techniques of the day. The problem is not alone cocaine, but cocaine plus the lesion operated for and the physical state incident to the time.

Cardiorespiratory phenomena are the dangers to be apprehended in the main, and if it can be shown in time that the risk is sufficiently minimized it will prove the true value of the method. The possibilities of a blocking of the centers in the medulla are certain if large doses are given, but can half a grain even in any person, an adult, suffice to induce alarming symptoms? As yet the opinions of the different reporters vary, as is common when a new method is introduced. Speaking for myself, of work done at Christ Hospital in a series of over 200 cases, no anxiety need be felt. Not once has there been any distress to a patient from dyspnœa or palpitation. The blanching of the skin and consequent nausea have been observed at times with vomiting in a few cases shortly after the puncture, or later when disturbed by being transferred to the bed. In the earlier cases, when but few drops of the spinal fluid was lost, or perhaps due to faulty choice of cocaine, the nausea and vomiting was more frequent and persistent, but in the last 135, with a removal of the same quantity thrown in, this phenomena has been reduced to such a minimum as to be quite unusual.

Danger of infection of the cord is an idle one to a careful surgeon accustomed to careful sterilization of instruments and skin, when the cocaine has been properly sterilized. A temperature above 180° will more or less rapidly destroy the drug producing the innocuous ecgonine. To sterilize a solution without destroying it, a plan suggested to and carefully carried out by Van Horne of New York is to make a two-per-cent. solution in sterilized water and put 25 minims into small glass capsules. This is exposed to a temperature of 176° for four hours for four successive days. A procedure of this kind renders the solution safe surgically and does not influence the drug effect. Suppression of urine has been observed in animal experimentation, but is hardly probable in the dose usually given.

The most concern must be felt from the conditions known as idiosyncrasy. A case of ether suppression of urine in a woman who had but a cervix to be repaired and who had but an ounce administered by the closed method led to this investigation of cocaine spinal analgesia. In this case the epithelia lining the tubules had all exploded. Not alone to ether do we find idiosyncrasies, but to many other drugs as well as common articles of diet. The test is in their relative frequency. Cocaine analgesia is to be preferred to ether in all cases when the patient will not be over-much mentally disturbed by the time and surroundings. No meals are lost, no metabolic changes are induced; contentment and a serene mind make for a speedy convalescence. The claim is that this procedure is not empirical, but based on clear physiological grounds that the action of the drug is not uncertain if pure, and that, in regulated doses, its action can be predicted with much certainty; but nevertheless many more cases must be carefully observed before it can be rated with ether and chloroform in safety. It is not proven to carry enough risk to prohibit careful clinical experimentation.

On the one side we have a busy and perhaps distracted operator trusting his anæsthesia to a young interne learning the art with the ordinary risks of the ether or chloroform and the added ones of the tyro, on the other hand is a local anæsthetic given by the surgeon himself. All cases of general anæsthesia are watched for some time after the anæsthesia has ceased, certainly until the patients can do for themselves, and certainly all cases of spinal analgesia must be watched, for possible chance of cardiorespiratory failure has passed. Until at least 100,000 cases have been observed and properly recorded it will be idle to condemn or laud this method.

Surgical analgesia of the lower limbs will be attained in three or five minutes in the great majority of the cases, but for operations on the mammal or head at least thirty minutes must elapse. The writer has not yet experimented with cocaine thrown in other regions as to the ability to obtain a similar result, and perhaps if such effort were made it might be found successful. With few exceptions all operations may be performed with comfort to the patient and no disturbance to the operator.

278 Montgomery Street.

Treatment of the Pains in Locomotor Ataxia.—Given Campbell finds that the chloride of aluminum, first recommended by Gowers, gives absolute relief from the fulgurant pains in locomotor ataxia. The pains are usually controlled before the dose reaches 5 centigrams, or ½ gr. This dose, administered three times a day, largely diluted, after meals, has been given by the author to a number of patients for periods varying from a year to less with absolutely no disturbance of the digestion, or of the general health. On the contrary, the immunity from the pains has enabled them greatly to improve in general health, and this improvement has reacted favorably on the other symptoms of the disease. A result such as this, attained without the use of narcotics or heart depressing analgesics, and with a certainty that amounts almost to specificity, is well worthy of a trial, especially in a class of patients who, in addition to these pains, have much to make their lives miserable.—*St. Louis Medical Review.*

ESSENTIAL AND PAROXYSMAL TACHYCARDIA.*

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It may be well, at the outset, to define tachycardia not as simple "heart hurry," but as a species of rapid heart, depending upon causes within the heart itself, or produced by other causes more or less removed from the cardiac region. There are certain peculiarities which distinguish true tachycardia from the evanescent "heart hurry" so frequently produced by the most trivial causes. (1) The attack is sudden in its onset, reaching its height almost immediately. (2) The patient may or may not be entirely unconscious of the great degree of palpitation. (3) There is generally a definite period covered by the attack. (4) The reversion to the normal condition is as sudden as the onset, the vestiges of the storm through which the patient has passed rapidly disappearing. Let me add, further, that the main characteristic of tachycardia is the tendency to paroxysmal and recurrent attacks of palpitation, during which there may be great mental distress, prostration, and dyspnœa, with periods of intermission between the paroxysms, in which the pulse-rate is normal. The temperature is slightly raised during the attack, and with some individuals it appears to be constantly higher than in the normal condition.

I do not regard the temperature elevation as of any special significance in tachycardia, any more than in any other condition in which there is a decided disturbance of the relations existing between the organs. The attacks may persist for years with slight or prolonged intermissions. In some few cases they may follow the slightest subjective disturbance; in others they occur only when great mental agitation upsets the equilibrium of the system. We notice in the heart itself, during the attack, a decided accentuation of the cardiac sounds, and the presence of murmurs which rapidly disappear with the culmination of the disturbance. The action of the heart may be regular, or arrhythmia may be present during the seizure. The cardiac dulness is measurably increased, acute dilatation rapidly supervening upon the beginning of an attack, and as quickly disappearing upon recovery. Tachycardia, from being intermittent, may become continuous, and its persistency result in all the symptoms of advanced dilatation, dyspnœa, orthopnœa, dropsy, and, frequently, apoplectic seizures. When these signs and symptoms of advanced heart disease occur, the question arises as to whether interference with the functions of the heart did not already exist from disease well established. It is at times difficult for even the most astute diagnostician to ascertain the absolute amount of mischief produced by cardiac disease. The heart of the individual patient, even when diseased, has to bear the stress of many trials ere we can accurately judge of its power to cope successfully with difficult situations. Two hearts may be clinically alike, which pathologically are entirely different. So that attacks of tachycardia may precipitate in some hearts all the consequences of advanced disease, while in another, in which structural degeneration has not taken place, the burden is lightly borne.

From a report of the histories given, tachycardia, as to time, may be classified as "short" and "long." The first is accompanied with vertigo, epigastric distress, and, at times, a sensation of cardiac expansion. There is no discoverable cause, and the symptoms are mainly subjective in character, with the exception of a slight bruit, which it is oftentimes difficult to localize, and a vibration of the chest wall felt on palpitation. The pulse rate at once ascends to two hundred or more; it is not a gradual ascension, as if some slight interference with the inhibitory power of the heart was taking place, but rises immediately, while the resumption of the normal heart beat may take place more slowly, the subjective symptoms quickly disappearing.

The long attack may cover a period of days, to the great distress of the patient, who may suffer seriously from the aggravated symptoms of cardiac failure, as dyspnœa, cyanosis, and a feeling of impending death, similar to angina pectoris, minus the sense of constriction so bitterly complained of in the latter disease. Percussion demonstrates the presence of considerable cardiac dilatation. The long attack may result in death.

Out of the eleven cases collected by Bouveret, four died during the prolonged attack. In the remissions the patients suffer very slightly, though the fear of an impending attack is constantly before them. The weak and the strong, the feeble and the robust, those who are engaged in mental occupation as well as the more arduous labors of the shop and the factory, are liable to suffer from this affection.

It is found more commonly between the ages of twenty and forty years, and attacks about equally both sexes. That it is also seen in very advanced years, the following case will illustrate:

M. B., a woman seventy years of age, came to my clinic complaining of "heart disease." She was of medium height, and of excellent appearance for her years. Her family and personal history were negative, except as to the condition of her heart. She had always been active and energetic in her household cares, and was able to accomplish much, except when her "heart began to beat fast," then she became confused, weak, dyspnœic, and finally so exhausted that she was compelled to remain in bed for a day before feeling sufficiently safe to resume her domestic duties. Not all attacks were of this aggravated character. At intervals of ten days or so, she had suffered from slight attacks, which resulted in her retirement for an hour; assuming the recumbent position appeared to shorten the attack. She fully realized when the attack was coming on, by a feeling of numbness in the cardiac region—the calm preceding the storm—and then, with almost cyclonic force, her heart rapidly cleared itself, as it were, from its moorings, and began to palpitate with inordinate vigor. The attacks of dyspnœa had no special connection with the tachycardia, as frequently she had to rest upon the street, but they were aggravated when the palpitation had lasted for a number of minutes. The attacks ceased almost as suddenly as they began, leaving her prostrated.

The pulse was about 80, feeble, intermittent, and irregular in character. There was marked sclerosis present. While listening to the heart's action, I suddenly heard it rebound, and then rapidly its pulsations increased. The patient asked to be seated. Her pulse was 150, so far as could be counted, a condition of delirium cordis preventing accuracy. Her eyes were staring, her face cyanosed, the peculiarly purplish condition of the lips demanding attention, while the perspiration was clearly seen on the forehead. She with difficulty asked for brandy, but before its administration I felt the pulse stop, and then, after a few seconds, resume its normal rate, the cyanotic hue at the same time disappearing. She was able to leave the building

*Read before the Manhattan Clinical Society.

within an hour, though the prostration subsequently to the attack appeared extreme. In this woman's heart a condition, presumably of fatty or fibroid degeneration, existed. The attack appeared to be of an anginoid character, though the closest question failed to show any sense of constriction or of pain. The signs, clinically, would demonstrate cardiac degeneration, but I am chary of expression, for I believe that the diagnosis of fatty degeneration of the heart as frequently exists in the brain of the physician as it does in the heart of the patient.

I did not again have an opportunity of seeing her, so can give you no further details of the case. She had been taking strychnia, which I was loth to continue, for when we have a condition of general endarteritis, as in this case, the administration of strychnia frequently precipitates a cerebral hemorrhage.

Another patient, whom I had frequent opportunities of seeing over a period of some weeks, furnished some interesting details of the probable cause of tachycardia. The patient was a woman, forty-four years of age, the mother of eleven children, and had never experienced any sickness except that incidental to child-bearing. She was capable of doing, as she declared it, a good day's work, and had only been interrupted in the pursuit of her duties by attacks of palpitation. These seizures had supervened upon an accident occurring when she was eighteen years of age. The nature of the accident, briefly, was of this character: In crossing a field she had fallen into an unused well, from which she was rescued, with difficulty, some minutes afterward, in an unconscious condition. Physically, she had not been injured, but the shock was of such magnitude as to produce an indelible impression upon her nervous system. The attacks of tachycardia were very infrequent at first, occurring about once in three months, and independently of menstruation, pregnancy, or child-birth. They were also limited as to time, lasting but a few minutes, and accompanied by a slight feeling of prostration which rapidly disappeared. Without any assignable cause, the attacks had lately increased, as to both severity and length. The patient attributed this to the changes consequent upon the climacteric, which may or may not have been the case.

I was fortunate in witnessing two of the attacks, and, while they were not so severe as in the first case mentioned, I believe the condition presented was entirely different in its nature.

The patient's normal pulse was 86, small, but of good arterial expression. There was neither intermittency nor irregularity. The apex beat was in the normal situation, and the systolic power of the left heart entirely efficient. In the first attack her pulse, from being normal, ascended immediately to 230, as nearly as we could estimate. Auscultation revealed a soft bruit at the apex, and immediately confined to that situation, due to the acute dilatation present. The heart beat was coincident with the radial pulse, and no intermittency was discoverable, though a very slight irregularity marked the interference with the ventricular systole, produced by the dilated condition present. The visible and palpable area of impulse was slightly increased in extent, and displaced to the left. There was no dyspnœa, and but a suspicion of cyanosis. She complained of palpitation and weakness, but otherwise was able to answer questions intelligently. The attacks lasted about five minutes, the patient rapidly recovering and the pulse rate resuming its normal character without any subjective symptoms.

Now these two cases represent to my mind two entirely different types of tachycardia, the first being produced, possibly, by myocardial degeneration, the second by profound shock to the nervous system.

As Patton well says, although paroxysmal tachycardia is not associated with any clinically-demonstrable disease of the heart, in the six cases which have come to postmortem there has been shown myocardial disease in three; and if we consider that in these analogous disturbances of cardiac rhythm—tremor cordis and delirium cordi—there is practically always some form of myocardial disease present, we may admit that West's opinion, that the lesion of tachycardia is in the myocardium, is not without some force; still the failure to demonstrate some fault in the nerve supply of the heart does not prove that such does not exist. The great frequency of myocardial disease, and the great infrequency of tachycardia show the latter not to be dependent upon the former alone. Nevertheless, myocardial changes may be a necessary, if not a principal, factor in the production of tachycardia, at least so far as modifying the inherent automatic and coördinate action of the myocardium is concerned.

In a heart muscle which has undergone changes ordinarily not productive of clinical or, possibly, even of pathological evidences of disease, a sudden variation of the usual conditions of circulation, or of innervation, or both, might be productive of such manifestations as tachycardia.

Accuracy in the use of scientific nomenclature is greatly to be desired, and it appears to the writer that when we find the symptom tachycardia—for I am sure it cannot be regarded as a disease entity—associated with definite pathological changes in the myocardium, we should term it essential tachycardia. Where, on the other hand, no clinical or pathological disease-changes are manifested in the structure of the heart, and where its rapid action is apparently due to causes outside the cardiac territory, whether those depend upon changes in the nervous system or passing temporary disturbances in the alimentary tract, the name reflex should be applied to the tachycardia. It cannot be denied that rapid action found with organic disease of the heart is an entirely different phenomenon than that associated with disturbance in some other organ. The effect, ultimately, if sufficiently long continued, will be the same; but in one it is the intracardiac ganglia which is affected by the pathological changes, in the other the nervous stimulation is reflexly conducted.

The restriction of the name tachycardia to those cases in which very violent heart action occurs without obvious reasons has been advocated by Wood, who claims that most of them belong to three classes: (1) those in which there is paralysis of the pneumogastric or inhibitory nerve; (2) those in which the cardiac disturbances are reflex; (3) those in which the affection may be considered as strictly a neurosis. Of the second variety, he observes that he has never seen a case, "though Rommelaere reports one in which he asserts that an extremely rapid action of the heart was due to irritation caused by biliary calculus."

The experience of other authors has furnished confirmatory evidence of the production of paroxysmal and reflex tachycardia from various causes. Thus it is frequently found associated with displacement of one or other of the abdominal organs in both sexes, or serious disturbances of the pelvic organs in the female, with floating kidney, one example of which has occurred to me in private practice; dilatation of the stomach, profuse menorrhagia at the menopause, denoting prolonged irritation of one or more

branches of the abdominal sympathetic as a possible cause. For just as irritation of the solar, renal, or other abdominal plexuses may produce pain or excite muscular action in the organs supplied by the stimulated nerves, so the stimulus may be referred from one periphery to the other, and thus intense impressions produced by disease or misplacement of the abdominal viscera on the sympathetic filaments or ganglia, with which they are endowed, may be transferred to the cardiac branches of the sympathetic or the accelerator center.

To those interested in the literature of the subject I would state that Dill, in the *Lancet*, February 4, 1893, recites a number of cases illustrative of the tachycardia produced by causes outside of the heart—for example, functional disturbances of the alimentary tract.

Certain writers have dwelt upon its origin from nervous causes, though in these cases it may be questioned as to whether we have a real paroxysmal tachycardia, possessing the characteristics which have been mentioned, or simply an exaggerated "heart hurry." In the *British Medical Journal* for February 6, 1897, is published a paper read by Dr. Williams, with two typical cases. He showed spygmographic tracings which brought out the rapid, almost sudden, variation in the pulse rate from 50 to 200 a minute. He claimed that abrupt change from slow to rapid pulse, and persistence of the latter for hours, or even days, characterized the affection. With regard to the gastric origin of this distressing neurosis, if we may so properly call it, Dr. Barnard of Paris gives particulars of an interesting case. The patient was one of our own country-women, aged forty-two years, temporarily sojourning in Paris. She was found flat on her back, not daring to make the slightest movement. The cardiac pulsations were so rapid that their enumeration was impossible. There were no abnormal cardiac sounds, and the other organs were recognized to be healthy. The patient had suffered previously in the same way, prior to her trip abroad, and claimed never to have derived any benefit from any of the remedies administered, including digitalis, the attacks seeming to subside spontaneously. Despite this a belladonna plaster was applied, then an ice-bag over the cardiac region, while bromide of potash was given internally. None of these remedies exercised the slightest control. Then Dr. Bernard, at 11 P.M., gave an emetic of grs. xx ipecacuanha and gr. i of tartar emetic. The vomiting that followed brought the pulse down at once to 112, much to the relief of the patient. On the following morning the pulse was 82, and the lady quickly recovered. Dr. Bernard was led to try an emetic in this case by a remark made by the patient to the effect that, in a previous attack, occurring in London, she dated her recovery from the moment when, "in consequence of the nasty messes prescribed by her doctor," the stomach rebelled and expelled its contents.

In that combination of classical symptoms to which the name of Graves has been attached, the only absolutely constant symptom is tachycardia; but, on the other hand, we have Charcot's authority for the statement that, in some cases of this affection, the tachycardia is paroxysmal and intermittent.

The pathology of tachycardia is still, unfortunately, very obscure. Among other theories it has been attributed to recurrent irritation of the cervical sympathetic, to paresis of the vagus, to a lesion of the myocardium, or of the cardiac nerves or ganglia, and to a central nervous lesion. The great difficulty in constructing a suitable hypothesis lies in the fact that tachycardia may emanate from any one of the sources mentioned, but the limited amount of material would seem to prove that, in the majority of cases, the underlying factor appears to be some structural change in the myocardium. It is probably not in one, but in several, diverse cases that tachycardia originates.

We are too prone to name, and, primarily, regard the greater number of diseases from an anatomical standpoint; the recognizable modification of structure, whether gross or minute, is made the basis upon which our knowledge is established, and even when the disease is studied clinically, it is with more or less expressed reference to the associated or causative structural perversion. So that even when we find myocardial degeneration, we must be careful not to reason too closely to the *post hoc ergo propter hoc*. A broad and comprehensive view of all the circumstances, both recent and remote, must be included in our appreciation of the facts presented in each individual case, otherwise an element of confusion will be introduced fatal to a scientific diagnosis.

The treatment of tachycardia has been unsatisfactory, as is to be expected where so many diverse conditions may give rise to the same symptoms.

Dr. Poulet of Plancher-les-Mines advocates the use of a little known drug found in Alsace, and indigenous to that country, called *coronilla varia*. Domestically, it is given for its cathartic and diuretic properties. He employed a tincture made from the entire plant (one in five). The dose is from ʒss to ʒi. Details are given of two severe cases in which the preparation gave immediate relief.

On general principles, I presume, more than with the hope of accomplishing any definite good, digitalis has been administered. Where there is much dilatation, and yet sufficient potential capability upon the part of the myocardium to respond to the stimulating effects of the drug, something effective might be done between attacks. But digitalis cannot restore disintegrated cellular tissue, and the structural degeneration of the myocardium has generally, in those cases in which tachycardia is found associated with myocarditis, advanced to such a prohibitory extent that we can expect little from the most important drug in cardiac therapeutics.

In the case in which I had an opportunity of administering continuous treatment, and in which digitalis appeared to be of no avail, I gave the fluid extract of convallaria majalis in five-drop doses four times a day, and the patient claimed it had the effect (1) of shortening the attack; (2) of lengthening the intermissions, and (3) of not producing the sense of cardiac constriction which followed the administration of digitalis.

Undoubtedly, for a time, she was much better, but as both of the effects mentioned had occurred previously, when the convallaria was not given, I am inclined to be skeptical of its presumedly beneficial action.

In a third case, which may be described as coming within the lower range of tachycardia, and in which there was marked arterial tension with decided neurasthenic leanings, I gave the bromide and iodide of potassium in combination, the first for its well-known sedative effect, and the iodide for its remarkable efficient action in dilating the peripheral arterioles, reducing the tension, and rendering the work of the heart less arduous.

In conclusion it may be stated that the treatment of tachycardia is the treatment of the condition from which it arises, or with which it is associated. The opposite condition to tachycardia, namely, bradycardia, is frequently met with in applicants for life

insurance, and to those of us who may be interested in that direction the question naturally arises how much significance should we attach to a symptom of that character. I have met with a pulse of 40 in a young man thirty years of age, and the perfect embodiment of health. There was no cause assignable for the slow pulse. It certainly was not a case of fatty heart; there was neither intermittency nor irregularity, and the applicant was not a smoker. He was not aware of the presence of the bradycardia, and his occupation, a jeweler, never brought any stress or strain to bear upon his cardiac functions. And right here I would state that my studies in heart affections, somewhat considerable in the past six years of dispensary and hospital experience, has made me very chary and conservative in expressing an opinion concerning the strength of the individual heart.

We must examine it under various conditions, especially after prolonged exercise, before advancing an opinion as to its power to withstand various emotional or physical demands. The physical examination does not always disclose inherent strength or weakness, and thus it is that frequently we are surprised how successfully a crippled heart—one with an ancient endocarditis, and an apical murmur—will pass through the cyclonic storm of a pneumonia, and respond judiciously to various cardiac remedies, while an apparently healthy heart appears to be irresponsive to all treatment. One of our colleagues died a few weeks ago from pneumonia. The pulse rapidly ascended to 150 on the second day of the disease. His heart was apparently normal in every respect.

I have seen bradycardia in a man of sixty-five years, the pulse descending to 20, but perfectly accounted for by reason of the cardiac degeneration present, associated with a scleroses of the coronary arteries.

Thus, every heart is a law unto itself, and the propounding of snap diagnoses in the realm of cardiac diseases is to be strongly condemned. I mention bradycardia simply for the purpose of provoking discussion.

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HEMORRHAGIC APPENDICITIS AS THE FIRST MANIFESTATION OF PURPURA HÆMORRHAGICA.*

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I DESIRE to call attention to a condition which seems to me quite unique. At least I have been unable to find a record of its counterpart.

I was asked to see E. T. on February 23, 1901, by Dr. Curtin of this city. She was thirty-seven years of age and unmarried. The patient resided in Buffalo, and had been visiting in Syracuse for three days. Before leaving home she had suffered from severe pains in the right side of the abdomen, associated with some general abdominal disturbance. Dr. Curtin had been called to see her on the 21st inst. On the following day—that is, the day before my visit to her—there was apparent improvement. When I saw her the right-sided abdominal pain was very acute. Tenderness was marked over the site of the appendix. She complained also of pain in the region of the gall-bladder, and located a third painful point to the right of the umbilicus. She was rather stout, and to this condition I ascribed the fact that the rigidity of the muscles was not as evident as one usually finds it in appendicitis. However, there was considerable resistance in the right half of the abdomen. There was a good deal of abdominal distension, which was much relieved by an evacuation of the bowels, following the administration of an enema. Temperature was 104.5°; pulse, 132. There was some hesitancy as to the diagnosis, because of the various points of tenderness, and yet it was most intense at the site of the appendix. Both Dr. Curtin and myself considered it to be an attack of appendicitis.

I operated upon her at St. Joseph's Hospital. The bleeding was very profuse. A large number of vessels required ligation. The subcutaneous fatty layer was about two and one-half inches thick. The omentum was also very fatty. The appendix was five inches long. It was apparently acutely inflamed. At least it presented a very red appearance. Later, upon section, it was found to present numerous areas of hemorrhage into its substance. There was no free bleeding into the cavity of the appendix. This was distended by a mucoid discharge. The hemorrhage was entirely interstitial. The wound was closed without drainage. The patient bore the operation well. She was extremely hypersensitive, and for a day or two required the occasional administration of codeine hypodermically to relieve her. Two days after operation she was seized with intense pain in the left side of the chest. With its appearance the temperature, which had fallen to nearly normal after the operation, ran to 102°. The following day the pain, though persistent, was not so severe. Four days after operation she developed a hacking cough, and, during the evening, raised a large quantity of bright red blood. During the same night she had a profuse nasal hemorrhage. On the following day a number of petechiæ appeared on the left leg above the site of the head of the fibula, while on the calves of both legs numerous ecchymoses were found. On the abdomen there were also petechial points, and at the sites where hypodermic injections had been given free bleeding had occurred subcutaneously. There were no further skin manifestations. The heart at no time presented any evidence of disease, nor were the joints ever implicated. There never was any hemorrhage from the bowels, nor from the kidneys. She never vomited, consequently there was no evidence of gastric hemorrhage. She had a number of attacks of epistaxis, and the bronchial hemorrhage was very persistent. There were but few days from the 3d to the 20th of March during which she did not expectorate more or less blood and blood-stained mucus, and on some of the days the bleeding was very profuse. During this time the temperature was rarely high. Up to the 10th of March it did not go above 100°, but on this date it rose to 102°. The elevation was to be accounted for by the appearance of a stitch abscess. This gave us no serious trouble, but required attention for some time. Aside from this, there were no surgical complications. There was, however, during the week of March 13 to March 20, an evening rise of temperature which never exceeded 102°, and a morning remission to 99° or 100°. During this period there was a persistent cough. On the 20th of March Dr. Curtin suggested the administration of suprarenal extract. Coincidently with its administration there was cessation of the hemorrhagic manifestations, and a subsidence of the fever. The patient gradually improved from this date on, but remained in the hospital until April 13, at which date she was discharged, cured. Since then she has remained in perfect health, and has never had any recurrence of hemorrhage. There was no history

*Read at a meeting of the Medical Society of Central New York.

of a hemorrhagic diathesis, nor is there any such family tendency.

The case seems to be clearly one of purpura hæmorrhagica, in which the first evidence was hemorrhage into the appendix. It is interesting to note that there appeared, in consequence of this bleeding, manifestations so closely resembling those ordinarily encountered in appendicitis, that it was impossible to make a differential diagnosis. Had no subsequent hemorrhage appeared, the case might have been put down as one of appendicitis, and would not have been regarded simply as one of the manifestations of an attack of purpura hæmorrhagica. The condition differed entirely from anything I had ever seen. The hemorrhagic areas were the result of minute hemorrhages into the substance of the appendix. There was no free bleeding into its lumen.

In the issue for December 21, 1874, of the *Berliner klinische Wochenschrift*, Professor Henoch published an address delivered a short time previously at a meeting of the Berlin Medical Society, in which he called attention to a form of purpura hæmorrhagica with marked gastrointestinal symptoms. His four patients were aged respectively four, eleven, twelve, and fifteen years. Two were boys and two were girls. In three of the cases the characteristic joint disturbances, with purpuric spots upon various parts of the body, appeared in advance of any gastric or intestinal symptoms. The fourth case was one of dysentery, associated with purpuric areas upon the elbows and thighs. Each of his four patients discharged blood with the stools, but none of them had the slightest hemorrhage from any other mucous surface. Another singular feature common to all was the disposition to recurrence of the symptoms, with periods of remission, so that one patient had five attacks in the course of seven weeks; another four in as many weeks; a third had five attacks, and in the fourth a similar history is mentioned.

While in each there was more or less abdominal tenderness, in not a single instance is it mentioned that this was located in the region of the appendix. The disturbance in all of them seemed to be general instead of local.

He refers to three other cases of which he had found record. The first was reported by Vallin, and was that of a soldier who, while sick with articular rheumatism and purpura, had bloody evacuations of the bowels. The second was a patient under the care of Wagner, who, in addition to his purpura, had albuminuria; he died of peritonitis. At the autopsy numerous superficial ulcerations of the intestinal mucous membrane, covered with croupous and diphtheritic exudate, were found. The third case was recorded by Ziemssen, in which intestinal symptoms present in a case of purpura were found post mortem to be due to ulcerations of the ileum at no less than 150 different points. Death was due to fibropurulent peritonitis.

Other and more recent writers report similar experiences. It is certainly evident that our patient's case cannot be classed with these. Her manifestations differed altogether from theirs. In her case there were no preceding joint or skin lesions; nor were the intestinal symptoms at all alike. Her very first symptoms indicated that the appendix was the primary site of trouble. No other part of the intestinal tract was at any time affected. Coincident with the appearance of the purpuric spots upon the legs was the occurrence of bronchial and nasal hemorrhage. The persistent hemorrhage was altogether from the respiratory tract. There was also no disposition to frequent recurrence of symptoms, as is seen to be so constant a manifestation in Henoch's purpura.

Despite a very extensive search in medical literature, I have been unable to find a case which is a duplicate of the one reported. Those referred to form the only group of cases I have found presenting intestinal lesions in purpura hæmorrhagica.

To me the point of greatest interest is the fact that hemorrhage into the appendix, occurring as the first manifestation of a purpura, should produce symptoms so strikingly like an inflammatory process as to warrant the designation of hemorrhagic appendicitis.

SUBCUTANEOUS ABSCESSES DUE TO THE GONOCOCCUS, IN A CHILD TWO YEARS OF AGE.

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The case which I wish to describe presents two features of very marked interest; first, the occurrence of subcutaneous abscesses complicating gonorrhœal infection, and second, the presence of such a complication in a young child.

The history, in brief, is as follows: The child, a male, two years of age, was admitted into the children's ward of the Mount Sinai Hospital, in the service of Dr. Koplik, November 15, 1901, suffering from an attack of typhoid fever. (The Widal reaction was positive in the dilution of 1 to 50.) A few days after admission the child developed an acute anterior urethritis, which was proven to be gonorrhœal in nature, by the same methods as were used in the study of the abscesses about to be described. The source of infection could not be established. A week later I found a subcutaneous indurated area, about two centimeters in diameter, situated to the left of the anus. The skin over the area was of a pale red color; firm pressure applied to this area did not diminish the size of the mass.

The mass was aspirated, and some brownish-yellow pus obtained. The swelling increased in size, and two days later was opened and about 2 c.c. of pus were evacuated. The cavity was irrigated and probed, but no communication with the rectum or prostate was found. There was no discharge from the rectum; the prostate was normal in size.

Three days later a smaller area of induration was found to the right of the anus; at first it was about the size of a pea, but it gradually increased in size, and when it was incised was found to contain 4 c.c. of pus similar in character to that obtained from the other abscess. Exploration of this cavity also failed to demonstrate any connection with any deeper structures.

The walls of both of the abscess cavities were covered by small, dark red, easily-bleeding granulations. The healing process was very slow, four weeks elapsing before the wounds were entirely healed. At no time was there any inflammation of the prostate gland or of Cowper's gland, nor were any remote complications of the urethritis found.

Bacteriological Examination.—The cover-slip preparations made from the pus of both abscesses showed the presence of numerous diplococci, mainly intracellular, decolorized by the Gram procedure, and resembling the gonococcus in morphology. No other bacteria were present in the spreads. Streak inoculations of the pus were made on plates of serum-glucose-agar (prepared after the method recommended by Dr. E. Libman).* At the end of twenty-four hours there was no growth, but at the

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end of forty-eight hours there was a very marked growth characteristic of the gonococcus. Secondary transplantations on bouillon and agar remained sterile. Inoculations on serum-agar gave a similar growth of gonococcus to that on the serum-glucose-agar, but the growth was less profuse.

It is evident that we have to deal here with a case of subcutaneous abscesses following gonorrhœal urethral infection. A remarkable feature of the case is that, notwithstanding the close proximity of the abscesses to the rectum, there was no secondary invasion by intestinal bacteria, such as one would reasonably expect.

Cases of abscesses due to the gonococcus are very infrequent in literature; I have been able to find altogether eleven cases, besides the one here reported. Nearly all the cases have been collected by Young in his paper on gonorrhœal infections in the Welch "Festschrift," and in what is to follow we shall quote largely from this paper:

Experiments made in 1891 and 1892 by Wertheim and Steinschneider, in the hope of causing subcutaneous abscesses in the human being by inoculation of pure cultures of the gonococcus, resulted in slight or no lesions at all, and it was therefore believed that the gonococcus could not cause subcutaneous abscesses. Later clinical experience, however, proved that the gonococcus could cause such infections.

The first case was described in 1893 by Lang and Paltauf. The abscess was situated on the dorsum of the hand, and probably arose in connection with a tenosynovitis. Horwitz later reported an exactly similar case.

In 1895 Bujivid described a case in which there developed in the course of a chronic posterior urethritis four intramuscular abscesses, situated in front of the left elbow, in the right popliteal fossa, on the inner side of the left leg and over the right external malleolus.

In 1897 Jundell reported a case of extensive subcutaneous abscess formation due to a gonorrhœal tendovaginitis of the tibialis posticus muscle.

In all the preceding cases the gonococcus was found in spreads and in cultures on serum media.

Young observed five cases. The first was one of periurethral abscess, located on the inferior surface of the penis, just behind the frænum. It could not be evacuated into the urethra by pressure. An external sinus or a communication with the urethra could not be found. The gonococcus was demonstrated in spreads and cultures.

The second case was one of large perineal abscess. The patient presented an elongated swelling in the perineum, measuring 8 by 4 cm. in area, and bounded by the attachments of the deep layer of superficial perineal fascia, viz., triangular ligament and ischiopubic rami. The abscess was situated external to the bulbocavernosus muscle and underneath Colles' fascia. In this case, too, the presence of the gonococcus was demonstrated in cultures. Young draws attention to the occurrence in the wall of the abscess in this case of dark red, readily bleeding granulations. He states that he has observed similar appearances in the synovial membranes of gonorrhœal joints, and considers them characteristic of gonococcus infection.

Young's third case was one of multiple gonorrhœal arthritis, in which the gonococcus was obtained in pure cultures from the knee-joints. The knee-joints were opened, irrigated, and then closed. Fourteen and seventeen days later superficial subcutaneous abscesses were found in the regions of the incisions without any demonstrable communication with the joint cavities. Intracellular diplococci decolorizing by Gram were found in the spreads; cultures taken on ordinary media remained sterile.

In the fourth case he observed subcutaneous abscess-formation of the dorsum of the hand, following closed incision for a gonorrhœal arthritis of the wrist. Gonococci were demonstrated culturally in the fluid obtained from the joint, but in the pus later found in the subcutaneous abscess, gonococci were demonstrated by smears only. (This case can nevertheless be considered as an undoubted instance of gonorrhœal abscess, because of the positive cultural findings in the fluid from the joint, and the lack of growth in ordinary media, after inoculation with the pus from the abscess).

The fifth case was one of abscesses and fistulæ of the perineum and scrotum, of three-years' duration, following gonorrhœal stricture. The gonococcus was demonstrated in smears, together with some bacilli similar to the colon bacillus. Cultures were not made on media suitable for the growth of the gonococcus. On agar the colon bacillus alone was found. This case we are not quite willing to accept as an undoubted instance of gonorrhœal infection.

Besides these cases collected by Young, we have been able to find two further cases. The first case, described by Scholtz, is that of a robust man, eighteen years of age, in whom there developed, during the course of an otherwise uncomplicated attack of acute gonorrhœa, a small, flat, tender nodule directly under the skin, near the root of the penis; from it to the glans, near the coronary sulcus, a thin cord was found (apparently an inflamed lymphatic). Within eight days the mass had become much larger and fluctuated. It opened spontaneously after the use of mercurial plaster, and a little less than 1 c.c. of bloody pus was obtained, from which the gonococcus was obtained in pure culture. The abscess lay directly under the skin in the subcutaneous tissue, and had no connection with the corpus cavernosum. This case gives us a very convincing demonstration of abscess formation due to the extention of the gonorrhœal infection through the lymphatics.

The second case is described by Dreyer. In his patient there developed a swelling on the dorsum of the penis, accompanied by chill, nausea, vomiting, headache, and slight temperature. About 2 cm. from the coronary sulcus, under the foreskin, a nodule the size of a hazelnut was found. The skin over it was red, and a lymphatic could be seen leading from it. Later it was opened and chocolate-colored pus evacuated. The urine was always negative, but the patient had suffered from a gonorrhœa one year previously. Dreyer says that he found typical intracellular diplococci in spreads, but made no cultures. (This case probably cannot be definitely claimed to be a gonococcus infection.) He refers to some work by Nobl, who made histological studies of the lymph cords in cases of gonorrhœa. In the study of nine cases he was able to demonstrate gonococci microscopically five times. He did not succeed in obtaining the organism culturally, but other bacteria, more particularly pyogenic bacteria, also were not found and could not be cultivated. Nobl attaches great significance to these findings, as regards the demonstration of the method of general infection by means of the lymphatics.

On looking over all the cases which we have mentioned in the course of this paper, it will be seen that in only two of them (if we exclude Dreyer's case) was there a condition analogous to the one found in our case. These are the case of periurethral abscess described by Young and the case of abscess of the dorsum of the penis described by

Scholtz. Only in these two cases and in our case was an abscess found directly under the skin, having no communication with the deeper parts, and not being dependent upon inflammatory changes in the joints, muscles, or tendon sheaths. Our case, like the case of Young and that of Scholtz, must be looked upon as an infection by way of the lymphatics.

I wish to thank Dr. Koplik for placing this case at my disposal, and Dr. Libman for his kind assistance.

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IMBALANCE AND INSUFFICIENCY OF THE EYE MUSCLES.*

By R. C. MATHENY, M.D.,
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The subject of imbalance and insufficiency of the eye muscles is interesting because of its comparative newness in the science of medicine, its systematic study extending back only a few years. It is especially gratifying because it does not open up perplexing questions which cannot be answered, but, on the contrary, offers most brilliant results to the painstaking student. As an etiological factor in the cause of disease it has already assumed great importance. And while, perhaps, hyper-enthusiasts have been over-zealous in their claims, it is surely true that physicians, as a rule, have sadly underrated it.

If the chief object of the physician be the alleviation of suffering and the cure of disease, any one true to such convictions will seek aid wherever he can find it. And as the subject of medicine grows more and more intricate with increasing knowledge, the physician, the surgeon, and the specialist will become more and more dependent on each other.

Prior to 1880 probably no one ever operated on the ocular muscles for any condition other than strabismus. Orthophoria and heterophoria had no place in medical nomenclature. The countless sufferers sought relief in vain, and physicians fought a concealed and unknown foe, and consequently failed.

The world owes much to Dr. Stevens of New York for his studies of the ocular muscles, and the scientific data he has given the profession. The brilliant results that have been achieved by him and others along this line have not only brought glory and fame to them, but what is vastly more important, have brought surcease of suffering, and with it the capacity to thousands to enjoy life.

The terminology for indicating the relationship, normal and abnormal, between the ocular muscles now generally used, was that offered by Stevens and adopted by the ophthalmological section of the American Medical Association in 1891.

Orthophoria is the term signifying perfect balance of the ocular muscles, when the head is held erect and facing directly forward, and the eyes looking straight ahead. The condition indicates that all of the external muscles of the eyes are perfectly developed with the proper origins and insertions. And also that the various innervations are normal. Thus all the various and complicated movements of the eyes are performed without strain or friction. The visual axes are thus easily kept in the same plane, the convergence of the eyes is always perfect, and the various vertical, horizontal and oblique movements are performed in perfect harmony.

Orthophoria, however, may exist; that is, there may be a perfect balancing of the muscles, and still the musculature not be normal. For instance, all of the muscles of the eyes may be relatively weak. The ducting or verting power is not as great as it should be. And very serious mistakes have been made in this regard. The eyes were considered normal because orthophoria was present and an inherent weakness in all of the muscles was overlooked, because the balance was perfect. And where there is a perfect balance, but a general weakness of the muscles, the condition is called asthenic orthophoria. Many a case has gone unrelieved, and the eyes dismissed as a causative factor in suffering because the balance of the muscles was perfect and no error of refraction existed; whereas all the time the eyes were the offending members because of the asthenic condition of the muscles. The eyes can never be pronounced innocent in any case until the ducting and verting power of each separate muscle has been determined.

Any condition which departs from orthophoria is termed heterophoria, and this may be one of very many conditions.

Esophoria is the term applied to that condition in which there is a tendency of the visual axes to converge. It may be due to an excessive development of one internal rectus or both of the interni. It may be due to an under-development or weakness of one externus or both externi; or the interni may be attached too far back, and yet the inherent strength of the muscles be normal. These are the chief causes of esophoria, but there are others which will not be mentioned.

Exophoria is the opposite from esophoria, and in this condition there is a tendency for the visual axes to diverge. And in exophoria the causes are the reverse of what they are in esophoria. Briefly, the externi are too strong, or the interni are too weak, or the attachments of the muscles may be to blame.

Hyperphoria is that condition in which the visual axis of one or both eyes is too high. Catophoria is that condition in which the visual axis of one or both eyes tends too low.

With the study of these four general divisions of muscle imbalance and the methods introduced for their relief, came some very gratifying results. Some bad work was done, as is always done when some novel and brilliant discovery in medicine or surgery is made known. Surgeons indiscriminately cut eye muscles without scientific data and due consideration of all possible errors, consequently much mischief was done.

It is strange that with the knowledge of the possibilities offered in correcting heterophoria of the recti muscles the obliques were completely overlooked, and yet their function was fully understood. It was not until 1895 that Stevens began the study of the obliques. A short time before this Von Graefe had made an indefinite reference to the subject, but gave no data to the profession, and the probabilities are that he had given the subject but little if any attention.

It is now known that an imbalance or insufficiency

*Read before the Military Tract Medical Association, Monmouth, Ill., October 16, 1902.

of the obliques may produce very serious symptoms, and its correction is followed by the same happy results that follow the correction of the other muscular errors.

Cyclophoria is the term applied to an imbalance of the oblique muscles, and the words plus or minus are added to designate an insufficiency of the superior and inferior obliques respectively.

The word insufficiency, which was formerly applied to muscular errors, was incorrect in some instances. The word would indicate a weakness or undeveloped condition of the muscle, which in many instances did not exist. For instance, an internus might be fully developed and quite normal, and yet the antagonizing externus, being excessively developed, or perhaps improperly attached, would cause undue strain on the internus. The fault in such a case is with the externus, and remedial treatment should be directed to it rather than to the inoffending internus.

Imbalance is the word offered by Dr. George M. Gould of Philadelphia, and it has been generally adopted. It is properly applied to all cases of heterophoria, whether there is a true insufficiency of one or more muscles, or an excessive strength or development of one or more muscles, and also when there are improper attachments of the muscles.

The symptoms of heterophoria are numerous and varied. Very often they are referred to the eyes themselves, but more frequently to other organs or parts of the body—the various kinds of headaches playing the chief rôle.

Persons with weak physical or nervous systems are the greatest sufferers from heterophoria, and the neurasthenic is an intense sufferer from this cause. Frequently persons who have been previously well, and free from all pain or indisposition on convalescing from some debilitating illness will begin to show serious symptoms that result from muscle errors. It often first manifests itself after a pregnancy and confinement. Frequently the indisposition in these cases is naturally attributed to the general effects of the puerperium, and such persons find relief only when the ocular error is corrected.

Headache, as mentioned before, is probably the most common of all symptoms of heterophoria. It may be referred to the brow, top of the head, or neck. It is frequently periodic in character, and usually comes on after excessive use of the eyes. The headache which one has on awakening in the morning is seldom if ever due to eye disturbance. Sleep generally relieves the headache from eye strain, whether of heterophoria or refractive errors.

It might be well here to recall the difference between heterophoria and errors of refraction. They are quite distinct, and one may be present without the other, or both may be present.

Vertigo and nausea are frequently caused by heterophoria, and in such cases there is generally insufficiency of the oblique muscles. You have probably all known of cases of paresis of the eye muscles involving the obliques in which the eye is torted. Nausea and vomiting are the earliest and most marked symptoms in such cases. And these symptoms are occasionally caused when there is insufficiency of the obliques.

Epilepsy, in all probability, is sometimes caused by heterophoria. I now have a case under observation in which, all other methods having failed in the hands of the physician who has the case in charge, the patient was referred to me, and there was found 9° of exophoria. Two-thirds of this amount was relieved by prisms, with the result that the epilepsy has almost entirely disappeared. Very many cases of undoubted epilepsy have been permanently cured by operations which brought about a perfect balance of the eye muscles. Every case of epilepsy should be rigidly tested for heterophoria, and if it exists it should be remedied. Of course this presupposes that the exact nature of the heterophoria is diagnosed and the proper operation performed for its relief.

Ranney, in his work on "Nervous Diseases," page 481, says: "One of the most remarkable cases that ever came under my observation was that of a combination of chorea, epilepsy, and idiocy, in a girl about eleven years of age, who completely recovered her health, strength, and mental faculties when a refractive error in her eyes was corrected by glasses, and a serious combination of muscular defects in the orbit was adjusted by tenotomy. This case was one that I saw three years ago in connection with the practice of Dr. Stevens. At the first examination the child could not walk without being supported on both sides, drooled constantly, talked unintelligibly, answered questions with apparently little conception of their import, could hardly sit unsupported in a chair on account of chorea, had epileptic seizures repeatedly during the day and night, and presented a pitiable and apparently hopeless aspect. I saw her about a year after the operations were performed, at the request of Dr. Stevens. I found her free from chorea and epilepsy, able to run and skip a rope unaided, rosy-cheeked, and in full possession of her mental faculties."

Doctors Dercum and Parker of the University of Pennsylvania have reported the results of their studies and experiments in relation to the eye muscles, showing that very severe functional neuroses may be caused by heterophoria and eye strain.

Neurasthenia is undoubtedly greatly affected by heterophoria and errors of refraction, and these important factors should never be overlooked. In numerous cases of neurasthenia such brilliant results have been obtained by simply correcting errors of refraction and relieving undue tension of imbalanced muscles that it can be advisedly said that every neurasthenic should have his refraction and eye muscles carefully examined.

Asthenopia is naturally an almost constant symptom of heterophoria. The distress and fatigue that accompanies these cases is often supposed to be due to some refractive error which does not exist, and such persons try glasses in vain. Only when treatment is directed to the muscles is relief found.

Likewise diseased conditions of the lids and conjunctiva are often seen as a result of heterophoria, and the customary remedial agents fail in these cases, but the symptoms rapidly disappear when the imbalance is corrected.

The treatment of heterophoria is based on mechanical principles, and demands a knowledge of the function of the eye muscles, the anatomy of the eye and its appendages, and an exact understanding of physics as applied to binocular vision, based on the law of corresponding retinal points. In order to perform its function in perfect harmony with the other, each eye is supplied with six extrinsic muscles. Any one of these muscles, or a combination of two or more of them, may be the cause of the imbalance. Therefore, it is necessary to study each muscle separately, and also in its relation to the other muscles; its relative as well as its inherent strength. The verting as well as the ducting power of each muscle should be known.

When the cause of the heterophoria is known the treatment should be directed to its relief, and a perfect readjustment of the muscles brought about. One or more muscles may be at fault.

In esophoria, for instance, the tendency to convergence may be due to an error in one muscle of one eye. It would be a gross mistake, therefore, to operate on one of the muscles of the other eye, as is frequently done, although that temporarily balances the visual axes.

Likewise, also, if the internal rectus is too highly developed, while the external rectus is of normal strength, it is unjustifiable to operate on the normal muscle—but always on the one which is abnormal.

The above suggestions are made simply to call attention to the importance of directing the line of treatment to the proper muscle or muscles, and not to do a tenotomy or advance the attachment of a muscle simply because such an operation would tend temporarily to balance the external muscles.

Non-surgical treatment can accomplish much in low degrees of heterophoria. Prisms which partly alleviate the tension by favoring the weaker muscle are often worn with comfort and afford relief. But, of course, the wearing of prisms does not cure the heterophoria. They simply permit the eyes to converge or diverge, and still maintain binocular single vision.

As was said before, there sometimes exists cases of asthenic orthophoria—that is, the muscles are properly balanced, but they are intrinsically weak. This condition often causes much suffering, and the question arises what can be done for such cases. Undoubtedly much can be done to develop these weak muscles, but the treatment is slow and requires great patience and perseverance. But when the blood supply is not wholly inadequate, and the faulty innervation is not irremediable, the eye muscles can be developed the same as any other muscle. Systematic exercise, properly carried out, has been proven to be of benefit. There are several methods of doing this, which I will briefly mention:

In cases of exophoria, when it is desired to strengthen the interni, a small object is placed at arm's length from the eyes, and fixed with both eyes. It is now gradually brought to within about eight inches of the eyes, and then removed to the farther point again. This exercise, carried out systematically and regularly for two or three minutes each day, and increasing the time to five or six minutes, will frequently be of benefit. The exercise should always stop short of fatigue.

As a general exercise for all of the recti muscles, it has been recommended that the patient stand with his back to the center of a wall of a room fifteen feet square, with his head in the primary position. A small object is placed at either end of the opposite wall on a level with the eyes, and one also at the lower and another at the upper margin of the wall. Then the patient regularly rotates the eyes from one lateral object to the other for a short time, and from the upper to the lower object. This exercise carried out systematically and regularly is often helpful.

Exercise with prisms is probably the best general method. The principle involved in exercise by the use of prisms is that of compelling the weaker muscles to do more work than is naturally required to fix a given object with both eyes.

There are two general methods of carrying out the principle. The one which has been chiefly advocated by Dr. George M. Gould of Philadelphia is to place before the eyes prisms with their bases toward the stronger muscles, and directing the patient to fix a small distinct object, preferably a small gas light or candle, at varying distances.

Placing the prisms thus compels the weaker muscles to overcome the effect of the prisms in order to maintain single binocular vision. The patient is required to wear the prisms for a few minutes at a time, and the exercise is to be repeated several times a day. Gradually the strength of the prisms is increased until the limit of the ducting power of the muscles is reached.

The other method of exercise by prisms is that advocated by Dr. G. C. Savage of Nashville, Tenn.: Weak prisms, 2° or 3° being set in a frame are placed before the eyes, and the patient fixes the object at, say, twenty feet. The prisms are held thus before the eyes while he counts one, two, three, at intervals of about a second. The prisms are then raised, the patient still fixing the object, and the same count repeated. The prisms are then again placed before the eyes for the same length of time, the exercise is continued for a minute or two the first day, and the time is gradually increased to five minutes. The exercise is performed only once or, at most, twice a day. Strong prisms are never used in this method.

As said before, either method to be of benefit must be carried out systematically, regularly, and persistently.

THE MATERNAL IMPRESSION SUPERSTITION.

By EDWIN TAYLOR SHELLY, M.D.,
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THE following excerpts from the pages of standard modern textbooks furnish, it is hoped, a sufficient excuse for discussing seriously at this late day, in a medical journal, the subject of maternal impressions.

The "American Textbook of Obstetrics" refers to the subject as follows: "Structural alterations in the growing fœtus may be effected, modified, or perverted by psychical influences. Certain fetal disorders may result from maternal impressions. Monstrosities do at times so occur. Physiologists admit, and observations prove, that the maternal emotions do affect the development of the exterior of the fœtus. Likewise may the mental development be altered in its complex and delicate organization. Idiocy may so result."

Hirst's "Textbook of Obstetrics" contains the following observations on the subject: "Maternal impressions may affect the embryo or fœtus. There occur well-authenticated cases of congenital defects or peculiarities, which bear too startling a resemblance to the cause of the impression to be dismissed as mere coincidences. One of my patients, less than six weeks pregnant, was, on one occasion, seized by the ear and dragged about the room by her enraged husband. The child born at term had a triangular piece lacking from the lobe of the corresponding ear. Profound impressions upon the mother certainly influence the physical development of her offspring. The idiocy of Barnaby Rudge, due to maternal shock and fright, is a fiction founded upon fact. The horror of King James at the sight of a naked sword may well have had its origin in the murder of Rizzio before the eyes of the pregnant Queen Mary."

Dorland's "Modern Obstetrics" winks at the subject in the following manner: "Unpleasant and painful scenes or impressions should be avoided, so that the possibility of some so-called maternal impressions may be prevented."

In addition to the above authoritative utterances

on the subject, it may not be out of place to cite the following declarations contained in a pamphlet called "Hygiene in Maternity," issued by a well-known eastern firm engaged in the manufacture of surgical dressings: "Thousands of children are, by unpleasant impressions on the mother's mind, rendered victims of untruthfulness, disobedience, together with malicious, threatening, and even murderous natures. The child is most liable to be affected physically during the earlier months; mentally during the latter months of pregnancy. At any time unpleasant mental impressions may produce 'marks.'" In answer to an inquiry, the publishers of the pamphlet wrote as follows concerning the above quotation: "This statement was made on quite eminent authority. It was originally made by a woman physician, and afterward passed through the hands of several eminent authorities, some of whom allowed it to pass unchanged, and others modified it in certain respects, until it appeared in the present form."

It really seems incredible that our modern textbooks of obstetrics should contain such antediluvian notions on the subject of maternal impressions as are embodied in the above quotations; and it ought not to be a very difficult task to show that such utterances would far more fittingly embellish the garrulity of a Sairey Gamp than adorn the teaching of twentieth-century obstetricians. The only thing that lends plausibility to the maternal impression theory is the fact that, very rarely, the occurrence of violent emotion or mental shock in a pregnant woman is followed by the appearance of so-called "marks" in her child at birth. The very few coincidences of this sort should, however, weigh no more heavily in favor of this theory than should the much more frequent instances count against it when such markings cannot be accounted for by any impressions which the mother can recall. In addition to these unexplained markings, there remain to be noted the innumerable occasions upon which expected "marks" fail to appear at birth, notwithstanding the occurrence of the most profound impressions or shocks during pregnancy.

Birth-marks are structural aberrations which, in the very nature of things, must originate in cellular accidents very early in fetal development —very much earlier, in fact, than the mental impressions to whose occurrence these deformities are attributed usually take place. It is a well-known fact that animals and plants frequently exhibit so-called "marks," analogous to those found in man, and yet it is doubtful if anyone—even a professor of obstetrics—would try to explain their occurrence by the maternal-impression theory.

There is no reason to believe that nature gives the female parent any greater power in determining the character and constitution of the product of conception than is granted the male parent. This rule holds true in the vegetable kingdom and in the animal kingdom, aside from man, and there is no good reason to believe that it does not hold equally true in his case. If the correctness of the maternal impression theory be, however, conceded, the logical conclusion must be that nature is biased, and that the influence of the father on the organization of his offspring is entirely subservient to the nervous irritability and mental impressionability of the mother during pregnancy. If this were true it would be unfair to both parents, as well as to their child. As nature is never unjust, the theory is presumably untrue.

The principal grounds upon which this theory can be proven untenable are, however, anatomical and physiological. Immediately upon the maturation of a human ovum and its expulsion from the Graafian follicle, the solution of continuity between the woman and her ovum is complete. Even though impregnation of the ovum occur, and its anchorage to the wall of the womb for future growth and development take place, his assertion still remains true, for at no time during intrauterine life is the connection between the fœtus and the womb other than one of contiguity—never one of continuity. Even in the placenta this fact appears very conspicuous in the arrangement whereby the blood of the mother and the blood of the child do not mingle directly, but only by osmosis.

The relation between the nervous system of the mother and the nervous system of the fœtus is not even one of contiguity, for the gap between them extends throughout the entire length of the umbilical cord and the thickness of the placenta, as no nerves have ever been discovered in either one of these organs. In fact, it would be impossible for the child to be more completely separated from the mother and still be nourished and retained within her body.

The setting hen patiently hatching her chicks is physiologically little, if any, more separated from her embryo chicks than is the mother from her embryo child. The mother supplies her embryo with nourishment, heat, and an abiding place. The hen does no less. In the latter instance, however, the abiding place, the nest—is made to order; in the former, the abiding place—the womb—is ready-made.

Why birth-marks occur and monsters develop no one knows. But, in any event, to explain their appearance by claiming that it is possible for a nervous or mental influence to leap across the chasm which separates the nervous system of the mother from the nervous system of the fœtus and then register an effect so mighty and so selective as to produce the various structural and physical abnormalities known to teratology, is utterly preposterous.

If a maternal impression can be so miraculously powerful as to produce a serious structural catastrophy in a fœtus, why is it not powerful enough to cause, at least occasionally, a similar lesion in the pregnant woman herself? The path from her brain to her own tissues is certainly a less tortuous route than the one from her brain to the tissues of the fœtus.

The appearance of a nævus on the face of a child is usually ascribed to the mother's having seen a burning building at some time during her pregnancy and having thoughtlessly placed her hand over her face to protect it from the heat and glare of the fire. If this etiological explanation be correct, why is it that such psychic dynamics is unequal to the feat of producing, never so rarely, a nævus on the face of the mother?

If viewing the death struggle of a toad may cause a maternal impression sufficiently powerful to change a properly developed fœtus into a horrible monster; and if the slaying of this toad may cause blood to appear in the milk of the slayer's cows—a retributive phenomenon quite common in the days of our grandmothers—why is it that witnessing such a spectacle is never potent enough suddenly to transform the impressionable prospective mother into a hideous exencephalus?

The general prevalence among medical men of the belief in the maternal impression delusion is, of course, a great stigma upon our profession; but this is not all. Because of the fact that physicians fail to combat, as they should, this medical anach-

ronism, the lay mind has remained saturated with it. Consequently nearly every expectant mother is continually in greater or less dread of "marking" her unborn child by something unpleasant she may inadvertently see or feel or hear; and in case an imperfect child be born, the mother is led to believe (excepting in a case like that reported above by Professor Hirst) that she is probably chiefly to blame for the appearance of the deformity. Surely the grief of the innocent mother of a congenitally deformed child is great enough without our adding to her distress by trying to throw upon her the responsibility for the unfortunate condition of her baby.

All obstetric authorities unite in urging the necessity for complete mental serenity in the pregnant woman; and yet nearly all of them do their utmost to disturb that serenity by keeping alive this medieval superstition of maternal impressions. What right-minded physician can fail to feel the keenest distress as he contemplates the numberless and slumberless hours of anxiety spent by hosts of thoughtful and sensitive mothers because of their belief in this unscientific, absurd, cruel notion.

Let us brush this dusty old cobweb from the increasingly radiant chamber of scientific medicine, and thereby relieve the sacred period of motherhood of a horrible spectre.

PARAFFIN INJECTION IN A CASE OF SO-CALLED SADDLE-NOSE.

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THE man whose case I report has been afflicted with the deformity called saddle-nose for the past fifteen years. He gives a history of luetic infection at the

age of twenty-two, he being now fifty-five years old. The course of the disease was turbulent with many relapses, due in the main to meager and inadequate treatment.

An inspection of the nose revealed complete intranasal destruction, including the entire loss of the cartilaginous septum, with the exception of a slight vertical remnant anteriorly, which sustained the tip of the nose in something like its former position. The dorsum of the nose was entirely

depressed, giving that expression and appearance always suggestive of acquired or congenital luetic infection complicated by extensive intranasal destruction, and which is not only recognized by medical men, but likewise (whether rightly or wrongly) is often correctly interpreted by the general public; and thus not only is it a hideous deformity, but, in addition, it is often a source of reproach, making the unhappy individual display at all times a veritable badge of syphilis.

The material used in the case herein reported was a mixture of solid and liquid paraffin, one part of the solid to three parts of the liquid (American white vaselin), as suggested by Gersuney, having a melting point of 40°C. It was made sterile and was warmed by being placed in a receptacle of hot water just previous to the time of operation.

An antitoxin syringe was used as suggested by Heath of St. Paul, a Pravaz instrument as advised by Gersuney being found inadequate; the use of a large syringe also obviates the necessity of making repeated injections. Stress should be laid on the need of using a strong syringe of this kind, and the additional precaution should be taken of using an instrument having shoulders or eyelets, and of putting a new washer on plunger, since it takes a surprising amount of force to send onward the paraffin, which should leave the syringe in a worm-like thread. The ordinary antitoxin needle is too short, an aspirating needle works to a better advantage. It is entered at a point corresponding to the apex of the glabella, and passed onward toward the point of the nose, being kept as close as possible to the skin; it is withdrawn at the same time that the paraffin is ejected.

The molding of the mass in this case was quickly done, its solidification being encouraged by passing a small, smooth block of ice over the region. The patient returned to his home with instructions to make cold applications, and beyond a slight swelling

and some redness about the nose, no reaction of any note occurred. He expressed himself as greatly pleased, and was profoundly grateful for the work performed.

The quantity of paraffin used in this case was a little over two drachms, or the contents of an ordinary antitoxin syringe.

It was noticed during the operation that some blanching and cyanosis of the dorsum of the nose ensued, which occasioned some concern lest sloughing from pressure might follow; this fear, however, was soon dispelled by the tissues resuming their normal color. It might be well to remember, however, that strangulation is among the possibilities if too great a quantity is injected.

Meyer and Stein conducted a series of experiments on rabbits, dogs, and mice, with a view of determining the possibility of intoxication following injections of paraffin, and concluded that the possibility of such a result need not be reckoned with.

Pfannenstiel published a case of pulmonary embolism in a woman, in whom he injected paraffin around a vesicovaginal fistula, and he asserts that this accident was due to the paraffin. Gersuney and Moskowicz maintain, however, that its occurrence was chargeable to a breach of technique, as he injected the vaselin while it was still quite hot, and this hot liquid produced a thrombus by coagulation in a subcutaneous vein, with subsequent detachment of a part of the clot giving rise to the embolus. It may be said in confirmation that an embolus has never been observed in experiments made upon animals in which care was taken that the paraffin did not leave the syringe while it was hot.

Basing their observations upon experiments made on rabbits, Juckoff, Moskowicz, and Stein maintain that paraffin injected in this manner undergoes encapsulation, and that fibrous threads are formed throughout the mass. If this is true, we have a means of permanently relieving a class of nasal deformities which profoundly affect the happiness of the individual so afflicted.

The Prevention of Hernia after Laparotomy.—O. Wolff is of the opinion that the differences of opinion extant regarding the various methods of suturing the abdominal wall, the suture material used, etc., are without foundation, and that the cause of abdominal hernia must be sought for in some other direction. After having tried all the plans of suture proposed, and many kinds of suture material, with the result that hernia followed the operation in about the same proportion for all cases, he began to investigate further. An examination of his records showed that in every instance in which hernia occurred, meteorism had been present in the days following the operation. His theory accordingly is that the distention of the intestines strains the fascial layer more than any of the others, and that separation of these edges takes place, even though the skin wound remain intact. This may be the result either of the slipping of one or more knots, or of the cutting through of the sutures. It has, therefore, become his custom in any case in which, for any reason, he has to fear the advent of distention, as owing to the presence of even slight inflammatory conditions, injury to the peritoneum, etc., to forestall the occurrence of the complication by the insertion of a small strip of iodoform gauze into the angle of the wound for drainage. Only experience can determine just when and when not to drain, but since he has been carrying out this principle, abdominal hernias have become much less frequent in his practice, so that the slightly lengthened period of convalescence is more than compensated for.—*Centralblatt für Chirurgie.*

THE ARMY CARTRIDGE-BELT.*

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LATE MAJOR AND SURGEON, 1ST U. S. VOLUNTEER.

THE *raison d'être* of this paper is to enter a protest, in the name of common sense and medical science, against the method of carrying the army cartridge-belt, as is practised to-day in our service in the tropics. To the ordinary observer this canvass belt, is most admirably adapted to the purposes for which it was designed. It is simple in construction, cheap, durable, comparatively light, and carries its load better than any other belt used by any other army in the world. Its clasp is easily adjusted; it stands wet and heat far better than leather, which in the tropics gets stiff, mouldy, and misshapen, and, from the standpoint of the Ordnance Department, it may be termed an ideal production. But the poor file who has to carry it, as well as his gun and various other accoutrements; how does it appeal to him? Unfortunately, where he is concerned, the exercise of brains in the Ordnance Department, as also in the Commissary Department, is in inverse ratio to the opportunities offered. There is a blunt old Anglo-Saxon saying, inelegant but nevertheless true, that "an army travels on its guts." Now, let us see how this applies to the cartridge-belt and its wearer in the tropics.

It may be conservatively asserted that fully 80 per cent. of all the troops serving in our insular possessions suffer at one time or another from some form of intestinal catarrh. I have seen as high as 75 per cent. of an entire command in this condition at one time. We will not discuss the causes that bring about this condition, whether, as I maintain, it results mainly from improper diet, or from the relaxation incidental to the extreme heat of the day, in contrast with the chill of the night; from impure water, or bacteria, or other causes; the fact still remains, that, as before stated, fully 80 per cent. of the men, at one time or another, suffer from this complaint. How is this condition met, and how would you treat patients in such a state? Would you apply to the most sensitive and unprotected portion of the entire anatomy, the abdominal region, to which nature has given no bony protection whatever, not even as much as a floating rib, but has depended solely on the single support of the spinal column, and the flabby abdominal walls, I say, would you apply to an irritated and inflamed intestine an unsupported belt weighing ten or twelve pounds? The effect of wearing such a belt, assuming the point of rest as the center of the spinal column, is to create a pressure over the abdominal cavity, changeable with each step the wearer takes. This intermittent action is a practical massage of the intestines, which creates peristalsis, and is one of the most efficient methods of exciting intestinal action. The first principle of treatment of any form of intestinal catarrh is rest; and pressure of any kind is detrimental. This heavy load over the abdominal cavity produces local hyperæmia, thereby creating a fruitful culture ground for bacteria. Two of the greatest dangers to be apprehended in the tropics are the presence of bacteria and a fruitful ground for their development. The strongest microbe falling on barren soil is comparatively harmless, the weakest falling on ground ripe for its growth instantly becomes a source of danger. The unsupported cartridge-belt assists largely in the creation of one of these dangerous factors.

In no other army in the world is this heavy weight

*Read before the meeting of the Association of Military Surgeons of the United States, 1902.

carried from the waist band. All support it by one device or another from the shoulders, and yet I have been on a "hyke," and heard an officer severely reprimand a soldier, who, almost doubled up with intestinal cramps, had dared without consent to sling his belt over his shoulder to obtain a little temporary relief from the pains it was creating. Yes, and I have also seen 82 per cent. of an entire Division temporarily invalided in a single day, and one of the greatest factors in bringing about this disaster, next to the intense and agonizing heat of the Philippines was, in my opinion, this same unsupported cartridge-belt.

Thus does the Government, which, by every law of humanity, is bound to protect its guardians by the best hygienic surroundings, compel them to submit to the causes which superinduce and aggravate the very diseases which are filling our army hospitals. A continuance of use of this belt in the tropics is a slap in the face of the goddess of Hygeia, and an insult to the intelligence of the age, and, in the name of this association, I ask that a protest be entered against its further use when relief may be obtained by its suspension from the shoulders by some of the methods advocated by the able officers who have given it their careful study.

247 Fifth Avenue.

The Intracellular Glycogen Reaction of the Leucocytes.—S. Kaminer considers that the intra- and extracellular glycogen reactions in the blood, first described by Ehrlich in 1883, are different in nature and require different interpretations when found. The two reactions appear sometimes singly and sometimes simultaneously, and a common source for both does not, therefore, seem possible for all cases. A large part of the so-called extracellular glycogen is probably nothing more than an artefact, and there is also a possibility that another portion is identical with the blood plaques. The extracellular reaction has been observed in normal blood by all authors, except Czerny, while the intracellular reaction has been found only in disease. The author's own experiments also show its absence in the blood of goats, dogs, rabbits, guinea-pigs, mice, chickens, and pigeons. In pus both reactions occur constantly. The observations on the occurrence of iodophilia already published have been greatly lacking in the absence of systematic autopsy records, and, therefore, in many cases the reaction has been imputed to conditions which were accompanied by it only through chance as the result of a complication. Livierato's investigations show that in man it is most pronounced in croupous pneumonia, the intensity of the reaction standing in direct relation to the height of the temperature, and the extent of the pneumonic process. Similar results were obtained in pulmonary tuberculosis and the acute exanthemata. It is absent in articular rheumatism, in chronic afebrile and non-inflammatory conditions, such as heart and liver lesions, and, what is of importance, in typhoid fever, when unaccompanied by pulmonary complications. In endeavoring to trace the cause of the reaction, the author considers (1) fever; (2) leucocytosis; (3) bacterial poisons. The first two he throws out, because both of these conditions frequently exist without the presence of the reaction, and then recounts the results of an extensive series of experiments on animals infected with various bacterial and other poisons. These show that the reaction may be brought about by the poisons of the streptococcus, staphylococcus, bacillus pyocyaneus, diphtheria bacillus, anthrax bacillus, bacillus Friedländer, pneumococcus, typhoid bacillus, bacterium coli, and such toxin-like bodies as ricin and abrin.—*Zeitschrift für klinische Medicin.*

Observations on the Proportions of the Leucocytes in the Blood During Pregnancy, Labor, and the Puerperium.—Carl Hahl has undertaken a series of investigations to determine the changes occurring in the number of leucocytes in pregnancy and during the puerperium, and has arrived at conclusions differing somewhat from those of other observers. These of themselves are sufficiently discrepant to indicate the need for a careful study of the subject, and the author's figures are reported in sufficient detail to make them an interesting contribution to the statistics of the question. The thirty-six patients examined ranged from nineteen to forty-three years in age and comprised 21 primiparæ and 15 multiparæ. Toward the termination of pregnancy a slight increase in number of leucocytes was constantly observed, though this never exceeded 10,000 to the cubic millimeter. No difference existed between primiparæ and multiparæ. With the onset of labor a marked hyperleucocytosis sets in, the numbers increasing up to 10,000—20,000 per c.m., and even in one case to 30,000. The average figure for primiparæ was 15,380; for multiparæ, 12,940. Age had no influence. During the puerperium this hyperleucocytosis gradually subsides, and within a few days, usually before the termination of the first week, the blood count is normal again. The leucocytosis is essentially polynuclear, the mononuclears being relatively increased, though their absolute number is unchanged, while the eosinophiles are absolutely and relatively diminished during the period of hyperleucocytosis, to undergo increase in both respects when the total count has returned to normal. The number of most cells is unaffected. In considering the causes of this change in the composition of the blood the author calls attention to the fact that it appears to be the setting in of the pains which determines the increase, and inasmuch as counts made in blood taken from the cervix showed a higher proportion of leucocytes than those made from the peripheral circulation, he believes that the uterine contractions may force quantities of the cells out into the circulation. At the same time the existence of some chemotactic agent in the blood is assumed to account for the stimulation of the leucocyte-producing organs.—*Archiv für Gynäkologie.*

The Treatment of Rheumatoid Arthritis, with Especial Reference to the Specific Action of Ferrous Iodide.—J. R. Clemens says that syrupus ferri iodidi, one drachm, thrice daily, given over a period of two or three months, will not only remove the pain from the joint, but will also cause the total disappearance of crepitus. During the administration iodism may necessitate diminishing or withholding the medicine for a time. The patient, usually a woman of middle age, comes complaining of neuralgic pains in a shoulder joint, and will tell you that she is gouty or that she thinks the trouble is rheumatic. The pain is essentially neuralgic, starting in the shoulder, and following down the course of the nerves that supply the hand and fingers, with tingling and numbness of the latter. On examination typical Heberden's nodes are seen. In the presence of these nodes a more favorable prognosis of the shoulder trouble may be given. The treatment, in addition to the iodide of iron, should include a generous dietary. Douches and local applications to the joint are contraindicated, as are medicated hot baths. If the pain is very severe, sodium salicylate may be exhibited as a symptomatic treatment.—*The Therapeutic Gazette.*

The Heredity of Synovial Ganglia.—Ch. Féré reports the case of a woman who was affected with ganglion of the wrist. Her descendants in three generations consisted of eight girls and nine boys. Six of the girls and one boy were affected in the same way as the first case. In a number of these patients the tumor made its appearance after brusque, if not violent, movements, which allows the inference that it was occasioned by rupture due to enfeebled resistance of the synovial membrane. This defect in the synovial membrane may be compared to the defective resistent power of the aponeuroses often observed in persons belonging to a neuropathic family.—*Revue de Chirurgie.*

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TYPHOID FEVER AMONG ARMIES IN THE FIELD.

TYPHOID fever, in every war that has been waged since the time when armies were first formed, has been one of the chief causes of sickness and death among the combatants. Indeed, in most wars, the disease has been responsible for the greater part of the death rate, and, in many campaigns, has killed more persons than other maladies and bullets combined. Typhoid fever may be truly termed the scourge of armies. With increased knowledge of sanitation, there has been little or no corresponding progress made in the means of prevention or control of typhoid fever among soldiers. The Spanish-American and South-African wars are the most recent and most conspicuous examples in point. In the first named, soldiers died like flies from the disease in many of the camps of this country—mainly owing to neglect of ordinary sanitary precautions by the authorities, while in the South-African campaign the mortality and invaliding from this cause were appalling, and cast serious reflections upon the organizing capabilities of the British War Office. The claim is made that if that Department had harkened to and heeded the advice freely tendered by experienced military medical authorities, and had employed experts whose duty it would have been to look after the physical well-being of the troops from a sanitary standpoint, the death rate must have been considerably lessened.

All, however, was subordinated to the exigencies of the military situation, and sanitary matters—which, if not so obviously important, are at least worthy of some consideration—were almost entirely neglected, with results that were both historic and disastrous. The old adage, "experience teaches," does not seem to apply in the case of war and typhoid fever.

Dr. H. E. Leigh Canney, writing to the *Lancet* of December 27, on the subject, enters fully into the question of typhoid fever in armies.

Referring to flies as conveyers of the infection, he says: "That flies can give rise to an epidemic of typhoid fever in a camp with proper earth treatment of the excreta, even if one or two cases of typhoid fever were present, is extremely improbable, unless it were done by infection of milk or large quantities of water. Without these agencies only a few sporadic cases would possibly result. I therefore prefer to consider flies as vehicles for the possible conveyance of typhoid bacilli to man, as a water avenue mainly." Again, he says: "Enteric fever will have to be met and overcome, in no matter what part of the world, on the water-borne theory mainly, though every other avenue must also be guarded." As to the validity of the reasoning or evidence in support of the air-borne theory of the spread of typhoid fever, Dr. Canney thinks it will not bear the test of close investigation.

The writer comes to these conclusions: (1) That unless all the water avenues to an army or camp have been protected, it cannot be assumed that the incidence of typhoid fever is due to air-borne agencies. (2) That it is not possible to affirm that the water avenues to an army are closed unless the sterilization and distribution of the water are carried out by specially-trained men. (3) That the evidence of air-borne typhoid fever is not clearly established in recorded Indian military experience. (4) That in South Africa and Egypt the evidence is opposed to this theory. (5) That the weight of evidence from India, Egypt, and South Africa is immensely in favor of the paramount importance of the water avenues, especially if in the onset of the epidemics, and that the spread of the disease by the subsidiary avenues—flies, dust, and contact—only becomes a factor of importance under conditions of the grossest neglect of sanitation. (6) The evidence from Egypt proves that if the water avenues are protected, all other avenues are powerless to originate and to spread epidemics of typhoid fever in large bodies of men.

Dr. Canney makes a strong plea for the appointment of army medical officers specially trained in sanitation.

In these times, when science has wrested from so many diseases the secret of their origin, and has, in some instances, provided preventive and curative treatment for them, it seems a grave blot on the page of advance that, through avoidable neglect, a disease like typhoid fever should be allowed to spread almost unchecked through masses of men. With regard to the cause of the disease, investigations undertaken up to the present demonstrate that water is by far the most important factor in originating and spreading typhoid fever. The conclusions reached, with respect to the part played by flies and dust in its dissemination are not, as yet, sufficiently definite to pass an authoritative opinion. But on one point there is a remarkable unanimity of views, that, by good sanitary measures, typhoid fever can be both prevented and controlled in armies. The suggestion, therefore, put forward by Dr. Canney, that medical officers specially trained in sanitation should be appointed to armies, might, it will be thought, find favor in all civilized countries.

THE CHASTE CARE OF FEMALE PATIENTS.

MR. WEMPLE has introduced in the Assembly a bill relating to "the treatment and care of female patients in hospitals and elsewhere for the protection of the honor and morality of such patients," which has some remarkable and ridiculous provisions from a strictly medical point of view. It is evidently founded on the presumption that the physician or surgeon in attendance upon a case is often

guilty of indecency and immorality and that it is time to check such reprehensible proclivities. The measure carries defeat on its face in view of the utter absurdity of the position taken. How the necessity for the passage of the bill can be made apparent is past belief. Its inception is an open insult to the profession and should be duly resented by every honest physician throughout the State.

In the interests of a free discussion of details we give herewith the Wemple bill in full:

"Section 1. That it shall be unlawful for any student, attendant, house physician and surgeon, or anyone else, to expose the body or person of any female patient, in any hospital, medical college or elsewhere, in the State of New York, for any purpose other than the performing of an operation necessary for the recovery, or relief from pain, of said female patient.

"§ 2. That when it shall be deemed necessary for such operation to be performed, the parents and sisters and brothers, or such of them as shall be living, or in case none shall be living, the guardian or next friend designated by such patient, shall be notified, at least twenty-four hours before the performing of such operation, and at least three of such persons so notified shall be allowed to be present in the operating room, during the entire performance of such operation, and until said patient shall be removed from said operating room and replaced in her bed until she recovers her sense; except, when in case of accident the notification herein required may be dispensed with, if an immediate operation shall be deemed necessary by the authorities in such hospital or medical college. In case such notification shall be dispensed with no person or persons other than immediate relatives or guardians or next friend of such female patient so to be operated upon, shall be permitted to witness such operation or any part thereof.

"§ 3. Any person or persons convicted of performing, or attempting to perform, or who aid by their presence or otherwise in the performing of an operation upon a female patient, except as permitted herein, shall be deemed guilty of a felony, and the punishment thereof shall be by a fine of not less than one hundred dollars, and not more than five hundred dollars, or by confinement in a county jail or state prison for a term not less than one year and not more than five years, or by both such fine and imprisonment.

"§ 4. This act shall take effect immediately."

In the name of all that is reasonable or just to physician or patient how are the provisions to be carried out consistently with the pretentious decency of the reformer. Of what possible use can be the attendance of a male or female non-professional person at an operation on a female other than the gratification of an idle curiosity which is the more reprehensible in proportion to its alleged necessity. Certainly the fewer the number that may be called upon to witness a warrantable exposure the better for all concerned. And shall it impliedly mean that any relative shall object to certain procedures which the operator may decide as best suited to his purposes? While science knows no sex or condition in its fight for life and the relief of suffering, what can be said for the good taste or decency of a brother, father, or, perhaps, male guardian being present at a forceps delivery, a hysterectomy, or an operation for hemorrhoids? Has the patient herself nothing to say on the subject?

In urgent cases, when notification of relatives is impossible, it is provided that none but the operator and his assistants shall be present, thus excluding from the operating-room all medical students and physicians who might be benefited by the clinical experience in the case.

If it were necessary to allude to more absurdities of the Wemple bill reference could be made to the provision that no exposure of a female patient can be made anywhere in hospital, college, or private office for purposes of diagnosis, unless, perhaps, the family of the patient groups itself around the examining chair. All this because the doctor must, according to the new law, be trusted no farther than a common moral leper and an ordinary and designing blackguard. May it not be possible that the physician has still enough honor in his own keeping to resent the ignominy of such a foul and dastardly imputation of his purely professional motives. There is not a medical man in the State who will not defy the Assembly Committee to report this bill and who will not challenge its right to recommend its passage.

THE MEDICAL PROFESSION AS A CAREER.

Dr. D. B. St. John Roosa gave, in the *New York Tribune*, January 18, an exposition of his views as to the best training for a youth, to fit him for the practice of medicine. A primary and essential qualification is, thinks the author, the possession of a sound mind in a sound body, while the highest standard of morals is also required of him who aspires to a place as a physician. No man is fit to take the sacred responsibility of the care of the body of another human being, a body which is the temple of the soul, or to be entrusted with the personal history of his patient, unless he has the qualities of reticence and a high sense of honor, added to a kindly tactful disposition.

Dr. Roosa then very properly insists upon the importance, nay, the necessity of a young man having given satisfactory evidence by means of an adequate test examination, that he has a sufficient knowledge of general subjects. He should have some knowledge of Latin and Greek, and know enough of the English language, geography, and history to enable him to enter the freshman class in such a college as Amherst, Union, Oberlin, or the like, and then to pass the full period of four years in such a college. As to taking up special subjects relating to medicine before entering upon the medical course proper, the writer is of the opinion that this procedure is unnecessary, but deems a thorough knowledge of French and German of the highest value.

However, the ante-professional curriculum mapped out above is the ideal one, and of course is not absolutely necessary to the making of an excellent medical practitioner. Greek and Latin, Dr. Roosa holds, are necessary to the comprehension of anatomical terms, and should be learnt by youths intending to enter the medical profession.

The early medical education of an American student should take place in his own country, and he should not go abroad for the purpose of medical study, except to add the "coping stone" to the foundation and structure laid and builded here. The author also thinks that didactic lectures will ere long be things of the past, and that the teaching of the future will be above all, practical. A well-

deserved tribute is paid to the uses of post-graduate schools.

Referring to the rewards which the medical profession offers to its votaries, the writer is naturally not unduly optimistic. The medical course is an expensive one, and the competition in the profession is nowadays exceedingly acute. The physician in this country has a good social position, but, as a rule, in the beginning he cannot expect to make more than his bread and butter. He may enter the army or navy, become an examiner to an insurance company, or make a bare livelihood by writing for the medical journals, but, as Dr. Roosa points out, ambitious young men, who are well prepared, often prefer to endure hardship for a season in waiting for practice than to accept these positions, which are, on the whole, less satisfactory to a man with aspirations than the avenues opened in hospital or dispensary, joined to poorly paid and scanty private practice.

With regard to ultimate financial success, the writer remarks that it is very difficult to make comprehensive statements. While a practitioner of medicine will be able, in almost any community to have the comforts of life, so far as his time will allow him to enjoy them, he will very rarely gain great wealth, however high his position may be. Medicine is no career for those whose object it is to amass money; honor may be had, and fame is within the reach of the scientific medical man, and the profession is perhaps, beyond all others, a useful, honorable, and dignified calling.

The great drawback to the practice of medicine in this country—and to this phase of the matter Dr. Roosa makes no allusion—is the sharp and increasing competition brought about by the lack of a uniform standard in all the States of the Union. More medical graduates are turned out each year than there are patients on whom to practice, with the chance of gaining a good livelihood. If a uniform high standard of medical education were adopted throughout the country, the output of medical men would be less, competition would be diminished, and on the whole the result could not be but advantageous to all concerned.

CONDITIONS AT BELLEVUE HOSPITAL.

The city hospitals of New York during the past four years have been at intervals severely criticised for their inefficient management. This has been especially the case with Bellevue, and although many of the accounts which have appeared from time to time in the lay journals regarding instances of gross maltreatment of patients within its walls may have been exaggerated, there can be little doubt that such tales were founded more or less upon solid facts. That the system in vogue in the city hospitals is faulty, the officials themselves have freely allowed. So much so, indeed, that an influential and representative Board of Trustees, under the chairmanship of Dr. John W. Brannan, instituted some few months ago a careful and searching inquiry into the whole matter, and recommended certain measures of reform which it was declared would place the city hospitals upon a proper footing. At the time when the Board of Trustees published its report and recommendations, the Medical Record took notice of them editorially, and stated that if the suggestions proffered by this body were carried out to the letter there would be little with which to find fault in the management of the city institutions for the sick and injured.

Of course, it could not be expected that all the reforms would be carried out at once, but it was anticipated that some of the most crying evils would have been remedied as promptly as possible. However, according to a recent occurrence at Bellevue, it appears that but meagre progress has been made in the reorganization scheme. It is true that the Board of Trustees has issued resolutions in which its members assert that after the most searching investigation no evidence can be discovered in support of the present charges of cruelty to patients, and state their strong belief in the innocence of the nurses, but the fact remains that, as heretofore, these nurses are paid paltry salaries, and are not fitted by training and experience to have the charge of sick persons.

As pointed out in the Medical Record on many occasions, Bellevue and its allied hospitals must be reformed root and branch and not merely tinkered with. Complete new modern buildings, thoroughly equipped, are required in the place of the present ramshackle, incongruous, and inconvenient collection of fabrics now known as Bellevue. Thorough reorganization of the entire system of management, and especially of the nursing staff, is a prime necessity in the reform of the city hospitals. Such institutions in a city of New York's size and wealth ought to be a source of pride to its inhabitants rather than, as now, a cause for shame. The Board of Trustees will have the moral support of the community at large if it will continue to urge upon the Mayor and his advisers the absolute need of its excellent recommendations of last summer being carried out in their entirety.

It is certain that the pressure of public opinion—induced by the constantly recurring reports of scandals in the city hospitals—will eventually compel the present apathetic municipal authorities to "sweep and garnish" these institutions.

A Handy Method of Sterilizing Instruments.

Dr. Karl Gerson describes in the *Deutsche medicinische Wochenschrift* an efficient and simple mode of sterilizing instruments. Professor Mikulicz brought into use some time ago the method of sterilizing the hands before performing an operation by means of friction with spirits of soap. As a sterilizing agent for the hands the spirits of soap acted well.

Dr. Gerson has recently tested the efficiency of the same method, and has proved to his own satisfaction that instruments rubbed with cotton wool moistened with a solution of spirits of soap are effectually sterilized against the most virulent germs, and that by wrapping them in cotton wool wetted with it they will retain their aseptic condition for a length of time. By applying the spirits of soap thus, the spirit evaporates, leaving a coat of soap on the instruments while the substance adheres to the wool throughout.

Dr. Gerson goes so far as to declare that such are the remarkable antiseptic properties of spirits of soap, that in the case of bougies, catheters, and other large instruments, which it might be difficult

to wrap in cotton wool, a rubbing with spirits of soap for three minutes before an operation fully answers the purpose.

The Hospital, December 6, commenting upon this statement, says that it alone is enough to throw doubt upon the whole of Dr. Gerson's conclusions. The writer in the *London Journal* goes on to say: "The septicity of a foul catheter lies within, and it must be quite impossible to sterilize such an instrument with certainty by means of any solution, however germicidal it may be. It is here that heat has the pull, penetrating as it does into the joints and corners of the most complicated apparatus. Still, for solid and smooth instruments there is every reason to believe that the application of spirits of soap will be useful. A somewhat lengthy experience has shown that it does very well for the hands, which are much more septic than any well-cleaned instrument, and there would seem to be no ground for doubting that it will do equally well for any solid instrument to the whole surface of which it can be directly applied. Spirits of soap, it may be added, is merely hard soap dissolved in dilute alcohol. It is essential to remember, however, that for the removal of the coating of soap left upon the instruments, sterilized water or spirits of wine and sterilized lint, or other form of 'wipe' must be employed, so that, after all, even by this method, one does not get rid entirely of sterilization by heat."

The foregoing remarks are very much to the point, and there can be no doubt that heat by either boiling or steaming is the best sterilizing agent known. Nevertheless, there are times when the facilities for these processes are lacking, and when a more simple method would be very convenient. It is upon such occasions that the method advocated by Dr. Gerson should be extremely useful.

One cannot refrain from moralizing to some extent when one considers how ideas as to the most efficient means of sterilization have become modified. Of course the principle laid down by Lister has remained the same, but the elaborate antiseptic methods which, after his immortal discovery became the vogue, and which, in many places, were carried to absurd lengths, have almost died out, and now the most scrupulous cleanliness, combined with boiling or steaming, is generally recognized as affording after all the soundest defence against infection. The late Lawson Tait who, despite certain eccentricities, was endowed with a very large share of shrewd common sense, was one of the first surgeons of world-wide reputation to laugh at the vagaries of the ultra antiseptic clique, and to assert that extreme cleanliness and boiling water was more effective than the preparations which some operators used to make before commencing their work.

Duplication of Fears in Twins Widely Separated.

Ch. Fere reports, in the *Comptes Rendus de la Société de Biologie*, a curious case of the approximately simultaneous development of similar fears in twins living remote from each other, the exciting cause being apparently a fright to one of them. The twins, females, were of a neuropathic family on the mother's side. They resembled each other singularly closely, even to an almost exactly duplicated birthmark; also physiologically and psychologically (voice, articulation, expression, walk, attitude, holding of pen or needle; certain repugnances and preferances, such as a marked state for salt, and repugnance, to the point of vomiting, for butter; sympathies and antipathies for persons and animals; and appreciations of colors and odors). The mother dying a few days after their birth, each of the twins was taken by an aunt, reared by a separate nurse, and brought up differently, along with its cousins, male and female. Up to six years of age they saw each other often. Then one aunt removed from the country, and thenceforth their communication was limited to a few words added to the letters of the aunts. Menstruation appeared in each at thirteen years and three months, three days apart. Four months later A. was frightened by a carriage passing rapidly near her. There, however, appeared to be no immediate results. Menstruation appeared at the normal time, the second day after, without apparent trouble. The day of its cessation, however, at supper, on wishing to drink, she put down her glass suddenly, with fright, saying there must be fragments from the rim of the glass, this rim could wound her, there must be fragments fallen to the bottom of the glass. It seemed impossible for her to use this glass, and a silver cup was given her instead. Little by little she came to examine the bottle, fearing that there were fragments of glass which had fallen to the bottom, and had not been emptied, and she would drink only when the glass bottle was nearly full. When this singularity was reported to the family where the other twin (L.) lived, attention was directed to a singularity which had existed several weeks in her; she did not empty her glass completely, but threw out what remained at the bottom before refilling it. Questioning was avoided, and things remained unchanged for a fortnight, but, following a rather grave angina, the fear acquired a considerable intensity, and extended from fear of swallowing glass to fear of touching it, and fear of glass objects and of objects resembling glass; and, some months later, to the inability to speak of glass objects without visible repugnance. Meanwhile, with A., the fear of swallowing glass has remained, and she wipes her hands after touching it. Interesting as the case is, it can, however, hardly be said to satisfy the demands of modern psychiatry, as it lacks a sufficiently detailed study, or, at any rate, report.

An Inebriate Act.

The question of checking the wide-spread consumption of alcohol which prevails to a greater or less extent throughout the world, is one which is profoundly impressing thoughtful men of all civilized nations. It has now been demonstrated with a sufficient degree of accuracy that alcohol does little if any good to a human being even when used as a medicine, while there are some who assert that it is under all conditions a poison and not a food. Be this as it may, the fact is undoubted that alcohol used to excess is one of the most harmful agents of evil known to man, and is responsible for a large proportion of the sickness and suffering everywhere existing. In this country the drink question does not obtrude itself so insistently as it does in most of the countries of the old world. In Great Britain particularly, the inroads made on health and prosperity by drink has alarmed the community to such an extent that law-givers and philanthropists are alike eager to find means to curb its progress. An inebriate act was passed about a year ago, by which it was enacted that hopeless drunkards might be consigned to an institution—under certain conditions—wherein they would be treated and, if possible, cured of their infirmity.

The report of Dr. Welsh Brantwaite, inspector

under this act, has recently been made public, and treats of many details with regard to the retreats established under this act. Among much interesting matter the report strongly upholds the prevalent opinion, that it is useless to detain a drunkard for short periods, that is if a cure is desired. Abstinence from alcohol for a term of at least twelve months is necessary if permanent good is to be effected. A drunkard, as a rule, exemplifies in his habits those attributed to the devil in the old saying, "When the devil was sick, the devil a saint would be; when the devil was well, the devil a saint was he." It is much the same with the drunkard. When he has been on a protracted debauch, and feels really sick, with nerves out of gear, fear brings remorse, and at the time he feels that he loathes drink, and would be glad to go anywhere where he might be quiet and "far from the madding crowd." However, when his stomach recovers its tone, and his nerves get strong again, and he is not afraid to once more look his fellow man in the face, he forthwith forgets his good resolutions, and frequently the last state of that man is worse than the first. For such a one a lengthy stay in an institution is essential.

Dr. Brantwaite makes some recommendations with regard to provision needed. He suggests that institutions should be provided which might serve as a refuge for a drunkard who was especially uncontrollable in his actions. Such individuals, although often more able to earn a good living than their sober brethren, are, when they lapse from virtue, generally a terror and disgrace to their families and relations, and a nuisance to their friends. Nevertheless, there is no place in which to put them, as neither a hospital nor a lunatic asylum is a fitting resort for them.

The *Hospital*, January 3, referring to the subject, says, "There can be little doubt that, as Dr. Brantwaite suggests, there is room for institutions in which patients might be received who, although able to sign for short periods, would utterly refuse to submit to prolonged detention. These short period retreats, although hardly aiming at cure, would be an immense convenience to friends and relatives, and in a certain but probably small percentage of cases they would give to the incipient drunkard—especially to such as have taken to drink under the stress of some temporary trouble—that which one would always be glad for even a criminal to receive, another chance."

It will be instructive to watch the working of the British Inebriate Act, the time of its existence has not yet been long enough to learn much from it, but America may one day need laws to check the spread of drunkenness, and may then be glad to turn to the old world for the knowledge of how best to frame and carry out restrictive legislature.

Drug Adulteration and Substitution.—The Board of Health intends to proceed against 315 druggists of the Boroughs of Manhattan and Brooklyn who, the inspectors have discovered, are in the habit of selling adulterated phenacetin. It was discovered a short time ago that a phenacetin powder bought in a drug-store was adulterated, and from this arose the suspicion that other druggists might be doing the same thing. Therefore, a force of inspectors was sent out to visit drug stores in the two boroughs. Of 373 samples obtained 315 of the powders were found to be impure. In some cases the powders contained no phenacetin at all.

News of the Week.

Another Tuberculosis Serum.—It is reported that Dr. Marmorek, a Viennese bacteriologist, working at the Pasteur Institute in Paris, the discoverer of an antistreptococcus serum, has succeeded in elaborating an anti-tuberculosis serum of proved efficacy. The discovery of the serum was made, it is said, nearly a year ago, but the announcement was delayed until a sufficient time had elapsed for a thorough and satisfactory trial of the remedy.

Burning of a Smallpox Hospital.—The city pesthouse of Biddeford, Me., was burned early in the morning of January 26. The patients were in no danger from the flames, but they suffered severely from exposure to the severe cold, none of them having suitable clothing for outdoor use, and the thermometer marking a zero temperature.

Dr. Luther H. Gulick has been appointed by the Board of Education director of physical training for the public schools of New York city. Dr. Gulick is a graduate of the New York University Medical College in 1889, and is one of the leading physical educators in the country.

Hospital for Manila.—It is reported that Bishop Brent of the Philippines, late of Boston, is at the head of a movement to establish a large non-sectarian hospital in Manila, which is to be modeled after the Boston City Hospital. The government has been petitioned to aid in this undertaking, which, under present conditions, could not be supported by private effort.—*Boston Medical and Surgical Journal.*

Western Ophthalmological and Oto-Laryngological Association.—The eighth annual meeting of this society will be held in Indianapolis on April 9, 10, and 11, under the presidency of Dr. William L. Ballenger of Chicago. The secretary of the association is Dr. Derrick T. Vail, 22 West Seventh street, Cincinnati.

The American Medico-Psychological Association.—This association has recently become affiliated with the Congress of American Physicians and Surgeons, and must, therefore, meet with the other societies forming the congress. The place of meeting for this year is consequently changed from Providence to Washington, the date being fixed for May 12, 13, 14, and 15. The secretary of the association is Dr. C. B. Burr of Flint, Mich.

Charges of Cruelty against Bellevue Nurses.—Eight of the male nurses and attendants at Bellevue are to be brought to trial for alleged cruel treatment of a patient in the alcoholic ward of the hospital. After a careful investigation, the Board of Trustees of Bellevue and the allied hospitals adopted a resolution that it had discovered no evidence in support of the charges, but, on the contrary, very strong evidence tending to disprove the charges in every detail. The board therefore decided to employ counsel to defend the accused nurses.

A German View of Hypnotism.—A commission, consisting of Prof. E. Mendel of Berlin, Drs. Munter, Aschenborn, and others, which was appointed about a year ago by the Prussian Minister of Education to investigate the therapeutic value of hypnotism, has just concluded its labors. The report, which was recently published, declares that hypnotism cannot produce organic changes, nor cure epilepsy or hysteria, but it can be used helpfully in some instances by removing symptoms through suggestion. The influence of suggestion upon patients cannot be left out of account in any rational system of treatment, but hypnotic suggestion, the commission asserts,

may intensify disease when laymen apply it who do not know when to use it and when not to do so. The influence of hypnotic suggestion diminishes, also, the report continues, in proportion to popular knowledge of it. It is most powerful when regarded by a subject as marvelous and supernatural.

Jewish Hospital Association Convention.—The annual meeting of the National Jewish Hospital Association took place in Denver on January 25 and following days. The sessions were held at the Jewish Hospital for Consumptives, an institution founded by the association, and, though non-sectarian, supported by contributions raised by the association. The feature of the opening session was the dedication of the Guggenheim Pavilion at the hospital, which was built by the Guggenheim Brothers of New York at a cost of $35,000, and presented to the association. Simon Guggenheim of New York made the speech of presentation.

Popular Lectures on the Physiology of the Nervous System.—Dr. John G. Curtis, professor of physiology in Columbia University, will deliver eight illustrated lectures in the great hall of Cooper Union on Mondays, February 9, 16, 23, and March 2, 9, 16, 23, and 30, at 8 P.M. The following are the titles of the lectures: (1) How We Know that the Brain Is the Seat of Feeling, Thought and Will; (2) How the Nerves Work; (3) How the Muscles Work; (4) How We See; (5) How We Hear; (6) Taste, Smell, and Touch; (7) The Involuntary Workings of the Nervous System; (8) How Our Bodies Keep Their Balance.

Trouble in the Red Cross Society.—A memorial, signed by twenty-two members of the executive committee of last year, has been presented to Congress, protesting against the control of the Red Cross by its president, Miss Clara Barton. The memorial says that formerly there was provision that the annual meeting should be held in Washington at a fixed time, while under the new arrangement power is conferred upon the executive committee to call this meeting if it chooses at remote places and inconvenient times. Another section provides that the president may be elected for life, and almost unlimited and uncontrollable powers are conferred upon that officer. Miss Barton has been elected under this provision. It is also pointed out that she has power of appointing the executive committee, of which she is a member, and to which is intrusted the general administration of affairs. The objection is also made that authority is given her to ignore the vice-president in case of her own sickness or absence, and appoint any one president *pro tem.* with full power. Attention is also called to the fact that in times of emergency and sudden disaster the contribution of funds under the new by-laws would not pass through the hands of the treasurer, and that no provision is made for auditing accounts.

The Army Medical Service.—Examinations of candidates for appointment in the Medical Corps of the army will be resumed by the Army Medical Board in Washington on April 20, next. Classes will be invited to appear on April 20, and each Monday thereafter so long as is necessary. Full information as to method of application, nature and scope of examination, etc., will be furnished by the Surgeon-General's office upon request of those interested. Applicants from civil life are restricted in age to twenty-nine years, and hospital training or professional experience in private practice is expected of all candidates. There are at present thirty-five vacancies to be filled.

New College of Pharmacy in Brooklyn.—The formal opening of the new building of the Brooklyn College of Pharmacy took place on January 29. The new college is built of Samson brick, with Indiana stone trimmings and a stone portico. There are three stories besides the basement, and the building proper is fifty feet wide by ninety feet long. In addition to a library, a recreation room and a coat room, the building contains a main lecture room, with seating capacity for 200; a chemical laboratory, with accommodations for 200 students at a time; a pharmaceutical laboratory, which will accommodate 170; a stock room, a pharmacognosy laboratory, and two large quiz rooms.

Burning of a Lunatic Asylum in London.—Early in the morning of January 27, fire broke out in the Colney Hatch Lunatic Asylum, London, and destroyed some large wooden buildings accommodating 350 patients. In spite of the labors of physicians and nurses, fifty-four of the women patients were burned to death.

Consumption Cures and the Tuberculosis Committee of the Charity Organization Society.—This committee has recently adopted the following resolution relative to consumption nostrums:

Whereas, It has come to the knowledge of the Committee on Tuberculosis of the Charity Organization Society that many so-called specific medicines and special methods of cure for tuberculosis have been and are being exploited and widely advertised, and

Whereas, The advertisements of some of these cures have made such reference to the Tuberculosis Committee of the Charity Organization Society, or to some of its members, as to create the inference that this Committee, or its members, recommend or advocate the use of many such so-called specifics or special methods of cure for pulmonary tuberculosis, or consumption, and

Whereas, There is no specific medicine for this disease known, and the so-called cures and specifics and special methods of treatment widely advertised in the daily papers are in the opinion of the Committee without special value, and do not at all justify the extravagant claims made for them, and serve chiefly to enrich the promoters at the expense of the poor and frequently ignorant or credulous consumptives, therefore,

Resolved, That a public announcement be made that it is the unanimous opinion of the members of this Committee that there exists no specific medicine for the treatment of pulmonary tuberculosis, and that no cure can be expected from any kind of medicine or method except the regularly accepted treatment which relies mainly upon pure air and nourishing food.

A Shellfish Scare in London.—The English oyster—a miserable creature at its best—is said to be everywhere so thoroughly seasoned with typhoid bacilli that its consumption by man has almost ceased. A despatch to *The Sun* states that Dr. Collingridge, the chief medical officer of London, has issued a report in which he announces that all of the Thames fisheries, including the estuary, are contaminated with the bacilli of typhoid fever. His condemnation includes the famous Whitstable oyster beds, where 20 per cent. of the oysters examined were found to be infected. A ban has also been pronounced against whitebait, shrimps, smelts, and cockles. Contamination by sewage was found fifty miles away from London, while an even worse state of affairs exists at other points on the English coast from which shellfish, etc., are supplied to the markets. The infection in those cases is due altogether to bad local sewage. There have been other fatal warnings since the terrible Winchester banquet, where the eating

of oysters, it was said, spread death in that neighborhood. These include three deaths from enteric fever in one London family, due to the eating of cockles. The shellfish trade has already been seriously crippled by the effect of these fatalities, and it will probably be practically destroyed by Dr. Collingridge's report. The question will, it is said, be made the subject of a Parliamentary inquiry.

More Anti-Osculation Legislation.—Another foolish attempt at sanitary legislation is reported from Minnesota, where a bill has been introduced in the Legislature declaring that it shall be unlawful for one person to kiss another unless it can be proved that he or she is free from contagious or infectious diseases. Violation of the law is declared to be a misdemeanor, punishable by a fine of from one to five dollars for each kiss.

Typhoid Fever is reported epidemic in Ithaca, N. Y., where there are at present over two hundred cases. The City Hospital is overcrowded and even the nurses' quarters have been converted into wards for the reception of patients with the disease. The authorities urge the boiling of all drinking water.

Health Day in Illinois.—There is hope for Chicago if a certain scheme which some sanitary solons in the Illinois Legislature have in mind is made effectual. It is proposed to establish an annual holiday when the houses, offices, factories, stores, theatres, and public buildings will be swept, dusted, scrubbed, and disinfected. This day will be called "Health Day," and for those who fail to observe it in a way satisfactory to the health authorities, there will be a penalty sufficiently severe to convince even the great unwashed of Chicago that soap and water are essential to health and hygiene.

A Hospital for the Chicago University.—It is reported that Mr. Rockefeller will build a therapeutic experiment institute on the grounds of the University of Chicago. It will include extensive laboratories and a large hospital. The main purpose of the institute will be the study of the cause and prevention of tuberculosis, cancer, and other diseases, together with a search after specific sera for the prevention and cure of infectious diseases.

New Medical Practice Law in Pennsylvania.—A bill has been introduced into the Pennslyvania Legislature providing that: "No person shall enter upon or continue in the practice of medicine or surgery in the State of Pennsylvania (or enter upon or continue in the profession or occupation of the treatment of patients or persons for disease or injury by the use of any medicine or by the use of any other means or agency whatsoever, either for a valuable consideration or without any charge or remuneration therefor), unless he or she shall have complied with the provisions of this act"—namely, that of May 18, 1893, relative to the examination and licensing of practitioners of medicine and surgery—"and shall have exhibited to the Prothonotary of the Court of Common Pleas of the county in which he or she desires to practise medicine or surgery (or to engage in the profession or occupation of the treatment of persons for disease or injury) a license duly granted to him or her as hereinbefore provided, whereupon he or she shall, upon the payment of one dollar, be duly registered in the office of the Prothonotary of the Court of Common Pleas in the said county; and any person violating any of the provisions of this act shall be guilty of a misdemeanor, and upon conviction thereof in the Court of Quarter Sessions of the county wherein the offense shall have been committed shall pay a fine not less than $200 nor more than $500 for each offense, and undergo an imprisonment of not less than thirty days nor more than six months in the county jail. Provided, however, that this act shall not apply to professional nurses in the prosecution of their profession."

Philadelphia County Medical Society.—At a stated meeting, held January 28, 1903, Dr. D. D. Smith read a paper entitled "Mouth-infection," in the course of which he pointed out the dangers, local and general, from failure to secure as nearly as practicable a condition of oral asepsis. For the accomplishment of this object periodic mechanical treatment of the mouth, and its contents, at intervals of about a month, was recommended, the surface of the teeth, and especially the interstices between the teeth, being rubbed with sticks of orangewood and fine pumice stone.

The State Care of Consumptives.—In a recently published interview, Dr. F. O. Donohue, chairman of the New York State Commission on Tuberculosis, expresses disapproval of the establishment of municipal and State hospitals for consumptives. He says that there are 50,000 sufferers from tuberculosis in New York State who would have to be provided for in case segregation were attempted. Further, he says that, in order to carry out any such plan, compulsory notification would be necessary, and the authorities would also have to be clothed with powers of compulsory removal and detention which, in the present state of public opinion and of our knowledge of the disease, would not be tolerated.

The Principles of Protection against Röntgen-light Dermatitis.—In the article with this title, by Dr. Carl Beck, published in the issue of January 31, the first two illustrations were inadvertently transposed, although the legends were correctly placed. The first photograph represents the cicatrization of the ulcer and should have been figure 2.

The Craig Colony Prize.—The prize of $200 annually given by Dr. Frederick Peterson for the best original essay on the etiology, pathology, and treatment of epilepsy, was awarded this year to Dr. Julius Donath of Budapest, Hungary, for his paper on "The Presence of Cholin in Epilepsy and Its Significance in the Production of the Convulsive Attack." Dr. Peterson again offers a prize of like amount for the same purpose and under the conditions: (1) That the paper must show original research work; (2) That the subject matter of the essay shall not have been before published; (3) That all manuscripts submitted shall be in English and shall be sent to Dr. Peterson at 4 West Fiftieth Street, New York City, before September 30, 1903, the successful manuscript becoming the exclusive property of the Craig Colony.

High Death Rate in Philadelphia.—For the week ended January 31 there were reported to the Philadelphia Board of Health 623 deaths, as compared with 615 for the preceding week and 530 for the corresponding week of last year. Pneumonia was responsible for 113 of the deaths, pulmonary tuberculosis for 65, diseases of the heart for 55, old age for 34, and typhoid fever for 30. Of the last-named disease 325 cases were reported, as compared with 294 for the preceding week. It was estimated that 4,000 cases were under treatment. For the entire month there were reported 1,303 cases of typhoid fever, with 161 deaths.

Crimes of Passion in France.—Out of nearly two hundred murders committed in France in 1900, over 75 per cent. had sexual passion as their exciting cause. In a still larger number of assaults and

attempted murders, this motive existed in a similar proportion. French juries almost always recommend to mercy these sexual criminals.

The Late Dr. F. E. Martindale.—At a recent meeting of the Richmond County (N. Y.) Medical Society, the following resolutions were passed:

Whereas, It has pleased the Lord to remove from our midst our fellow member, Dr. Frank E. Martindale;

Resolved, That we, his associates of the Richmond County Medical Society, of which he has been a prominent member for thirty-three years, vice-president for two years and president for four years, in meeting assembled, hereby record our profound sorrow at the loss of our fellow member;

Resolved, That the sympathy of this society be and hereby is extended to the family of the deceased in their sad bereavement;

Resolved, That the secretary be instructed to forward a copy of these resolutions suitably engrossed to the family of the deceased, and that he shall publish a copy of them in the local and medical papers.

Jefferson Scales, M.D.,
Horace W. Patterson, M.D., } Committee.

Obituary Notes.—Dr. Morrill Wyman of Cambridge, Mass., died on January 30, at the age of ninety years. He was graduated in Arts from Harvard University in 1833, and in medicine from the medical department of the same university in 1837. He practised his profession continuously for over sixty years. In 1853 he was appointed Adjunct Professor of the Theory and Practice of Medicine at Harvard, but retained the chair only three years. He had been an overseer of Harvard since 1875 and received the degree of Doctor of Laws from the university in 1885. He was an active member of the Massachusetts Medical Society for many years.

Dr. Harrison Augustus Lemen of Denver died on January 21 of chronic nephritis. He was born at Ridge Prairie, Ill., in 1840, and was graduated from the St. Louis Medical College in the class of 1864. He removed to Denver in 1874 and was placed in charge of the County Hospital, a position which he retained for five years. He was for many years a member of the Colorado State Board of Health. He was elected president of the Denver Medical Association, and served in the State Medical Society in the same capacity for the years 1882–1883. He was a charter member of the faculty of the medical department of the University of Denver, and at the time of his death was Emeritus Professor of the Principles and Practice of Medicine in that institution. He retired from active practice in 1893 on account of declining health. He had two brothers in the medical profession. Drs. L. E. Lemen of Denver, and E. C. Lemen of Upper Alton, Ill.

Dr. Henry Addison Mandeville of South Orange died. He was born in Newburgh, N. Y., on December 17, 1858. He entered New York University at the age of thirteen years, and was the youngest student ever matriculated at the university. After graduation he entered the college of Physicians and Surgeons, receiving his medical degree in 1881. He associated himself with Dr. Thomas H. Burchard and built up a large practice, but removed to South Orange, fifteen years ago. He remained as attending surgeon to the Colored Hospital in New York until recently. He was a director of the riding and driving club of the Oranges, a member of the Essex County Country Club, the Orange Club, the New York Pathological Society, the New York Academy of Medicine, Hospital Graduates' Club, Manhattan Surgical Society, Psi Upsilon Club, New York Athletic Club, and Downtown Insurance Club.

Dr. James M. Ridge died on January 30 at his home in Camden, N. J. He was seventy-six years of age, and was born in Bucks County, Pa. He was a graduate of the Medical Department of the University of Pennsylvania in the class of 1852, and was connected with the State Board of Health for several years.

Dr. Lucian H. Shepherd of Oswego, N. Y., died on January 25, of typhoid fever, at the age of thirty-seven years. He was a graduate of the Medical Department of the University of Syracuse in the class of 1895, and was a member of the Oswego County Medical Society.

Dr. John Morris, aged seventy-nine years, formerly postmaster of Baltimore, and for thirty years President of the School Board in that city, died there on January 29 from the infirmities of old age. In 1855 Dr. Morris was presented with a gold medal by the citizens of Norfolk, Va., for his volunteer services in combating the yellow fever.

Dr. John C. Hackett of Millington, Md., died on January 23, at the age of forty-six years. He was a graduate of Jefferson Medical College, Philadelphia, in the class of 1883.

New Instruments.

AN EMERGENCY MILK WARMER FOR INFANTS AND YOUNG CHILDREN.*

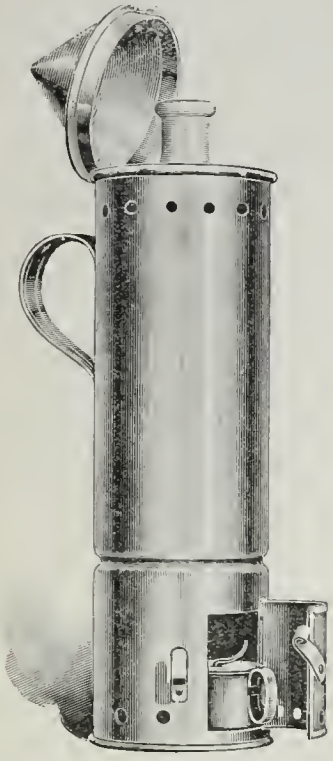
By JACOB SOBEL, M.D.,
NEW YORK.
ATTENDING PHYSICIAN TO THE DEPARTMENT OF CHILDREN'S DISEASES AT THE BETH ISRAEL HOSPITAL DISPENSARY.

It is conceded that a proper temperature of milk in the bottle feeding of infants and young children is one of the most important requisites for the prevention of digestive disturbances. Milk that is ingested habitually when cold, or much below the temperature designed by nature, is not only apt to chill the gastric mucosa, and thereby retard the process of digestion, but it may increase peristalsis, cause colic, and produce irregular stools, with all their attendant consequences. It is furthermore granted that the cooler the milk is kept (45°-50°F.) from milking time until its consumption, the less will be the liability of fermentative and other changes.

The method generally in vogue for warming milk, be it raw, pasteurized, or sterilized, has been to place the bottle in a receiver containing cold water, and then to raise the temperature of the latter to or about the boiling point, by means of gas or lamplight; or to heat the water first, and then to place the bottle of milk in it. Under ordinary circumstances, such simple measures prove eminently satisfactory. There are occasions, however, on which the mother is desirous of taking the child to the seashore for the day, on the floating hospital ships or recreation piers, to the city parks, or to similar places; she may, in fact, be directed by the attending physician to keep the child in the open air as much as possible. How can she procure warm milk under such conditions? To obviate this difficulty, that is to keep the heated milk warm, various devices have been recommended, and different warmers have been placed on sale. Wrapping the heated bottles in shawls, blankets, woolen covers, etc., has been resorted to by mothers; copper and other compartments, surrounded by felt or asbestos covers, have been advocated, all with the aim of keeping the milk at a desirable temperature.

*Presented at a meeting of the Harlem Medical Association, November 5, 1902.

It is true that these measures keep milk, which was originally raised to a high temperature (160°-212° F.) at about 98° to 100° F., for a comparatively short time outdoors, as I have been able to verify by numerous experiments; so that *at best* the mother can remain away merely from one feeding to the other. I have been informed of this fact by many mothers, some having gone so far as to say that they did not take their babies for a day's outing, on account of their inability to warm the milk properly, or to keep it at a desirable temperature. For these



reasons I have been led to improvise a milk warmer, which may be carried about and used advantageously both in and outdoors.

The apparatus is constructed mainly of tin, and is divided into two compartments. The upper one has a double jacket; the inner, with its copper base, serves as a receptacle for the bottle, while the outer is separated from the inner through its entire course, by an interval of three-sixteenths of an inch, which enables the heat to envelop the inner jacket more completely, and thus heat the water more rapidly. The outer jacket has eleven perforations at the top for the escape of impure air, and the maintenance of a current from below upward. The upper compartment is so constructed as to hold an eight-ounce cylindrical bottle, and is surmounted by a conical-shaped cover, provided with a hinge-joint and a snap-catch. A curved handle is riveted firmly to the outer jacket. The lower compartment acts as a receiver for the alcohol lamp; the latter is made of tin, contains absorbent cotton, has a handle which facilitates its removal from or its replacement into the groove at the sides of the base on which it rests, and a cover for extinguishing the flame. This cover has a curved handle, which may be used for withdrawing the lamp, in case it becomes hot. A small door with hinges, a catch and twelve surrounding perforations, through which the air to feed the flame passes, complete the apparatus. The warmer is 11½ inches in height, 3 inches at its widest part, and weighs one pound. The method of use is as follows: An eight-ounce bottle, containing the required quantity of milk, with a stopper of non-absorbent cotton or cork, is put into the upper compartment, water is added to the level of the inner jacket or of the milk, and the lid is fastened; the lamp, to which a small quantity of wood alcohol is added, or which has been saturated previously, is then ignited, and the lower door is shut gradually. In three to four minutes, the water is heated sufficiently to raise the temperature of the milk to the desirable degree, which I have found from experience to be 102° to 105° F., the lower door is then opened, the lamp removed, the flame smothered by the lamp's covering, the top cover reflected, the bottle taken out and well shaken. After the nipple has been attached, the warmth of the milk should be tested, by allowing a few drops to fall upon the front of the wrist.

It is common knowledge that an alcohol flame can be extinguished only by vigorous blowing; advantage was taken of this fact in its application for outdoor use. Under ordinary atmospheric conditions, even with moderate draughts, the lamp will burn; in exceptional instances, with high winds, it may be necessary to ignite the alcohol a second time. For home use the lower door need not be shut.

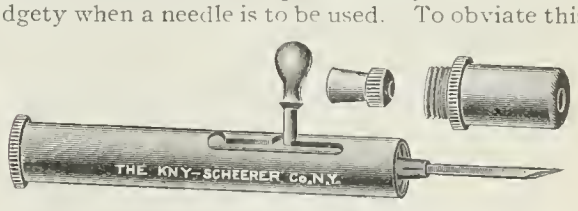
In the summer it is inadvisable to heat three or four bottles before leaving, in the hope that they will be warm enough at feeding time; on the contrary, during these months, the cooler the milk is kept, previous to heating, the less will be the danger of contamination. With this apparatus milk may be heated only as the occasion arises. It can hardly be suggested that the nutritive qualities of the milk are endangered by this method, since the heat is not prolonged for any length of time; nor can the objection be raised that "the baby will become restless by having to wait for its food after waking," when we consider that the whole affair takes but a few minutes. The apparatus is portable and light in weight, the bottle is held in place, the alcohol lamp is immovable, and the price is cheap. It is presented as an emergency milk warmer for infants and young children, though we are mindful of the fact that other applications may suggest themselves. The warmer is manufactured by the Hospital Supply Company.

1828 Madison Avenue.

A BLOOD LANCE.

By H. J. BOLDT, M.D.,
NEW YORK.

The desirability of making blood examinations of patients, whether they be in the care of general practitioners or of specialists, is recognized. While it is immaterial with what the skin is pricked, so long as the wanted blood is procured, and so long as the little contrivance is previously made aseptic, it does sometimes occur that a patient may be somewhat fidgety when a needle is to be used. To obviate this,



Dr. L. H. Warner has had a needle made which is enclosed in a metallic case and controlled by a spring, so that it cannot be seen by the patient. The needle, however, is stationary, so that it cannot be changed. To overcome this, I have had the Kny-Scheerer Company make one for me in which the Hagedorn needle, which is to be used in the holder, is interchangeable, so that a new needle may be inserted whenever one wishes to do so. The advantage of this needle is so obvious, in my opinion, that I have thought it desirable to call attention to it.

39 East Sixty-first Street.

Progress of Medical Science.

The Boston Medical and Surgical Journal, January 29, 1903.

A Report of Eleven Cases of Morbus Coxæ Senilis.—W. E. Blodgett says that of these eleven cases six are men. There is a family history of joint disease in five of the cases. In six there is a history of trauma, which was apparently a factor in determining the onset of the disease. In five no etiology was discovered. The general treatment has been forced feeding, mild catharsis, and the copious ingestion of water; elixir of the triple phosphates has been the medication commonly used, if any. Local treatment has been protection, immobilization, and, in picked cases of anchylosis, or very deficient mobility, excision. One case in which anchylosis greatly disabled the patient was excised several months ago; the symptoms, which had been extraordinarily acute, were immediately relieved, and the patient is now freely walking with crutches and convalescent hip splint. Of eight cases treated by partial immobilization and protection during the day, six have already improved, and one has nearly recovered, thus emphasizing the benefit of this form of treatment in this troublesome and sometimes neglected class of cases.

Chylous Ascites; Report of a Case Due to Total Occlusion of the Thoracic Duct.—Perley P. Comey and Wm. W. McKibben (pathologist) report a case and give the following résumé of their studies in relation to the subject. Knowing that acute and chronic inflammations of the lymphatic vessels are rarely a primary disease, but always result from inflammation of the surrounding tissues, or parts drained by the affected vessels, some cause outside of the thoracic duct must be found to explain the case at hand. This cause is attributed to an old tuberculous focus at the left apex, where a half dozen nodules were found which had undergone caseous and calcareous degeneration, and were surrounded by thick fibrous walls. This fibrous tissue had so developed in the surrounding pulmonary tissue that no sembance of alveoli were to be found. The process had not stopped here, but the two lobes, compressed so that together they were no larger than the two fists, were so tightly bound down to the upper and posterior pleural wall by firm fibrous adhesions that the lung could not be torn out, but had to be cut, this producing a loud grating noise. The thoracic dust winds directly around the left apex as it comes from behind the œsophagus at the seventh cervical vertebra, and comes outward to empty into the left subclavian vein. What an enormous process this fibroid degeneration was can be recognized by the sections taken at a dozen different levels, where it is seen that the densest fibroid deposit is in the lumen of the dust as well as in the walls themselves, where occasionally, when a few muscular fibers are left, the fibrous tissue is seen deposited between these fibers.

Journal of the American Medical Association, Jan. 24, 1903.

Typhoid Fever in an Infant Under One Year of Age.—The case is reported by E. F. Brush, who reviews the literature bearing on this particular age limitaton of typhoid fever. His own patient was a baby living under very unfavorable hygienic surroundings. The mother was taken down with the fever when the baby was six months old, and two months later the baby itself was attacked. When seen by the author, it had been sick about ten days. The case was seen during the author's vacation in the Maine woods and, as far as is known, recovered.

The Salicylates in Acute Rheumatism.—J. J. Walsh believes that in order to derive real benefit from the use of the salicylates in rheumatism we must employ a daily dosage of from 90 to 120 grains during the acute stage of the disease. Nervous and digestive disturbances are contraindications to their use, as is also impairment of renal integrity. There is such a thing as salicylic dyspnœa characterized by rapid though deep breathing. If persistent, some other remedy must be employed. The acid derived from the genuine oil of wintergreen is better borne than are the synthetic products. The daily dosage should be so arranged that none of the remedy need be taken after four in the afternoon until the next morning. With a view to the prevention of heart complications, alkalies should always be combined with the salicylates. If the latter do no good by the third day, they should be discontinued in favor of phenacetin or antipyrin. There is considerable doubt as to whether the salicylates really affect the rheumatic process itself, though they do markedly relieve the usual pain, fever, and restlessness.

Journal of the American Medical Association, Jan. 31, 1903.

The Teeth as a Cause of Pathological Conditions in the Throat, Nose, and Ear.—Illustrative cases are given by K. W. Baldwin. These include sinus disease, tonsillitis, peritonsillitis, and permanent aural damage following acute otitis media. The paper is, in the main, a plea for the association of dentistry with rhinology, otology, and laryngology in clinical work.

Some Unappreciated Causes of Anæmia in Childhood.—W. C. Hollopeter calls attention to the fact that in children the mouth is frequently unhygienic, giving rise to gastrointestinal troubles; remote infectious diseases are common, including all troubles due to pyogenic organisms, as osteomyelitis, ulcerative endocarditis, empyema, suppurative meningitis, suppurative nephritis, not to exclude the more obscure septic conditions characterized by irregular fever, purpura, bleeding gums, and various toxic conditions. Again, we must recognize the fact that there must be a limit to the power of the stomach to cope with a constant stream of pus pouring into it from the decaying teeth. The acid of the gastric juice may destroy the toxic influence for a time, but it is eventually overwhelmed, and ill health the result. Again, asepsis of the mouth of the child (adult also) is as much to the physician as is asepsis to the surgeon—a necessity to life and health.

Spontaneous Hemorrhages in New-born Children.—Thirteen cases are reported by I. A. Abt, who discusses the etiology of the affection. In his view a certain number of cases are due to sepsis, but the latter may arise from a wide variety of causes. In his own cases the sites of bleeding were as follows: Umbilicus three times under the skin, six; nose, four; mouth, seven; stomach, two; vagina, two; bowel, five; ear, one. General experience as to treatment leads him to lay down the following propositions: (1) Internal remedies, as ergot, tincture of chloride of iron and extract of suprarenal gland have absolutely no influence on the progress of the disease. (2) The local treatment of the disease by styptics of whatever kind, packing with gauze (as when the hemorrhage occurs from the vagina), and even the local application of suprarenal gland extract, are without permanent influence on the intensity or duration of the hemorrhage. He refers to the use of gelatin in this condition, stating that a pad of sterile gauze or a compress may be soaked in a ten-per-cent. gelatin in normal salt solution and applied to the bleeding area. A small amount of bichloride of mercury may be added to this solution. Its preparation must include careful sterilization. A two-per-cent. gelatin in normal salt solution may be given subcutaneously. This should be sterilized repeatedly—that is, for three successive days. The peptone which is ordinarily added to gelatin for culture material should be omitted, as it counteracts the coagulating effect of the gelatin. From 25 to 50 c.c. of this solution may be given subcutaneously to a new-born infant, and may be repeated once daily. Later experience, derived from experiments on rabbits and observation of children, has led the author to utter a caution regarding the subcutaneous use of gelatin, for it has been found that even sterilized gelatin contains toxic products, probably ptomains, but its local use and use by the mouth are warmly recommended. No contraindication exists against this method of employment.

Medical News, January 31, 1903.

Is Any Diseased Condition Necessarily Self-limited?—Edwin R. Maxson is thoroughly convinced that typhoid fever and all contagious diseases have not necessarily self-limitation. His treatment of typhoid fever is as follows: He begins with an antiseptic, generally sulphocarbolate of sodium, from two to four grains in solution for adults, with two or three drops of tincture of nux vomica. This is given every six hours, at 6 and 12 o'clock, alternating with two or three grains of cinchonidine, at 9 and 3. An improved cathartic pill is given daily, with a warm foot-bath at evening and sinapisms over the abdomen morning and night. For food, hot toast-water, half milk, as a drink, or hot bread and milk at meal time, is given, if tolerated. The patient is kept out of bed during the day, as far as is safe, in order to secure better rest at night. The results of this treatment have seemed to show an arrest of the disease, when the cases were seen early—indeed, an abortion of the disease seems to have taken place. In cases seen a little later, when the microbial or other cause had poisoned the system more generally, and especially when it had involved the intestinal glands so that there was congestion and incipient inflammation, warm sinapisms all over the abdomen were used twice a day, as well as the warm foot-baths, and the disease usually developed no complications. The patients were generally out of bed in the daytime, and were able to get about light business in about a week. In a later stage when incipient ulceration of the intestines threatened, and perhaps cerebromeningeal inflammation, there was additional treatment with wet cups to the back of the neck, and very rarely a blister to the epigastrium was used. On the average, these patients have been out in about two weeks. Thus,

with the use of antiseptics, the average duration of the disease is ten or eleven days, while before the use of antiseptics it was about twenty-one days. Besides this, one-third of the cases treated in the earliest stages were aborted. The writer's observations in the treatment of strictly contagious diseases correspond very nearly with those just described. Success will largely depend upon the *stage* of the disease in which treatment is begun. He believes that there is not necessarily self-limitation in any diseased condition. All habits deleterious to life and health should be avoided, and all efforts for aborting, cutting short, and rendering lighter all diseases should be made.

New York Medical Journal, January 24, 1903.

Rectal Fistula Curable without Operation.—A. Rose details the particulars of a case of anal fistula treated by the passage of carbonic-acid gas through the fistulous tract. His patient was a man of thirty years who had been complaining for six months. Daily passages of the gas were made, and in fifteen days the sinus had entirely closed.

The Treatment of Acute Septicæmia by the Intravenous Infusion of a Solution of Formic Aldehyde, with Report of a Case.—The patient of C. C. Barrows was a negress aged twenty-six years, and in labor at the time of admission to hospital. Next day she was delivered of a six months' macerated fœtus. Septic infection had already commenced before delivery and became more pronounced soon after. She received the usual antiseptic douches and was curetted, but with only temporary relief to the septic symptoms. Examination of the blood showed the plasmodia of malaria and a leucocytosis of 18,000; also pure cultures of streptococcus. She was at once given an intravenous infusion of 500 c.c. of a 1 to 5,000 aqueous solution of formalin. In three hours her temperature had fallen to 105°, and in six hours it had fallen to 101°, her pulse being 104 and her respiration 28. For three hours the temperature remained at 101°, when it gradually began to rise until it reached 103°, her pulse having risen to 120. It remained at 103° for three hours, when it plunged downward, until, in three hours, the thermometer registered, by the rectum, only 95°. The pulse had then fallen to 86 and the respiration to 22. In twelve hours the temperature had reached 102°, and the pulse 110. It then dropped to normal, but rapidly rose to 103°, although the pulse did not go higher than 112. Although a second blood culture had been taken, there had not been time for a report, so it was decided to give her a second infusion, 750 c.c. of the same solution being then given her. There was a slight chill without a further rise of temperature, which in the course of twelve hours fell to normal. At the time the case was reported the patient was up and about, and apparently well. Cultures made subsequent to the first formalin injection were all free from streptococci. Barrows believes that in such cases the formalin should be dissolved in a normal salt solution.

American Medicine, January 31, 1903.

The Control of Mouth-breathing at Night.—Stewart W. Tufts believes that the most simple method for preventing mouth-breathing that can be devised is to stick a piece of silk isinglass court-plaster, about ⅜ by 1¼ inches, across the closed lips. It can be very quickly removed and does not irritate the lips. The writer finds that at least 90 per cent. of his patients with acute and chronic diseases of the respiratory tract are mouth-breathers at night. This is the result of very careful observation. A nose to be normal must be used constantly. If it is not so used, the mucous membrane congests and gradually thickens from hypernutrition. Air inspired through the nose receives from 20° to 40° of heat, and becomes at least two-thirds saturated with moisture, and thus the nose becomes a most effective germ filter. The mouth has none of these functions, and when it is used for breathing the lungs must receive many germs and suffer injury from the unmodified air. When the immense mortality from lung diseasesis considered, the importance of this subject can better be realized. The writer finds his general results better in the treatment of respiratory diseases since the use of this method.

A Note on the Anatomy of the Perirenal Fatty Tissues.—W. W. Keen speaks of the anatomical disposition of the perirenal fat which he does not find described in the text-books, the recognition of which greatly facilitates the finding of the kidney. There are two distinct layers of fatty tissue surrounding the kidney itself: First, that which should be called the transversalis layer of fat, and, secondly, the proper perinephric fat or fatty envelope surrounding the kidney itself. As soon as the fat bulges through the incision, in operations on the kidney, if it is carefully cut or torn through, gradually deepening the incision or tear, a distinct interval between these two layers will be found, which is recognized by a layer of connective tissue, similar to that which is found, for example, between the internal oblique and transversalis muscles. Then comes the second layer of fat. If this be incised or torn through and drawn into the wound, the opening thus made in it becomes a sort of infundibulum or funnel-shaped opening, at the bottom of which the kidney is invariably found. Occasionally the first layer of fat does not extend so far posteriorly as the second layer, but commonly, so far as the operating surgeon is concerned, they lie superposed. After giving this description the writer then presents another by one of his assistants, who, at his request, has made two dissections of the parts.

Tea and Coffee Intoxication.—Emil King gives the physiologic action of caffein and thein as follows: (1) They cause wakefulness, greater capacity for mental labor, and increased activity of thought by stimulation of the brain cells. Increase of the reflexes through stimulation of the spinal cord. (2) The heart's action is strengthened, being first slowed, and then becoming more rapid and irregular. This effect is likened to that of digitalis, but is more evanescent and also more rapid. It is generally conceded that this effect is due to stimulation of the medulla and not to direct action on the heart. (3) Diuresis occurs by direct stimulation of the secretory epithelium of the kidney, the solid as well as the liquid constituents of the urine being increased. (4) Thein is said, by some authorities, to have the following action in addition to the above: It causes a fall in body temperature, while caffein causes a rise; its action is more marked on the sensory system, and caffein on the motor system; it is a powerful local anæsthetic and analgesic, while caffeine has no such effect. (5) The tannic acid exerts its well-known astringent properties on the alimentary canal, and undoubtedly has an injurious effect on gastric and intestinal digestion through the formation of insoluble compounds. Consequently, when used to excess, the following reactions may be expected: Exhaustion of the brain from constant overstimulation, insomnia, vertigo, headache, neuralgia, flashes of light, mental dulness with exhaustion of mind, disinclination to work, and melancholia; increased and irregular heart-action, ringing in the ears, muscular tremors; various forms of gastric and intestinal indigestion, with loss of appetite; diarrhœa when using coffee, and constipation with alternating attacks of diarrhœa when using tea; loss of bodily weight. In the treatment of these patients the essential point is to stop the habit.

Philadelphia Medical Journal, January 31, 1903.

The Relation of the Prefrontal Lobes to Mental Function.—Charles W. Burr reports a case in detail which he believes adds evidence in favor of the view that the prefrontal region is in closer relation with mental processes than some other parts of the brain. This is not saying that the prefrontal region is the center of mind. It is not yet decided whether the left or the right lobe is of predominant importance. Disease in either may cause mental symptoms. The area of the cerebral cortex that can be excluded with a fair degree of certainty from all or nearly all mental processes is not very large. It includes the motor centers on either side of the fissure of Rolando, the center of half vision in the cuneus, the so-called motor speech center in Broca's convolution, and the center of common sensation which is not yet accurately fixed. The writer believes that disease strictly confined to one of these areas never causes mental symptoms. The sensory speech centers have quite real relations to mental processes. There remain the great association areas of Flechsig, formerly called the silent regions, without motor or sensory functions, and with few or no projection fibers. The prefrontal region is one of them. Probably all of them combined form the organ of mind. Disease affecting any one of them may cause symptoms similar to those of prefrontal disease. In the cases of traumatic insanity, the lesions are always diffuse. If the prefrontal region were the center of mind, disease there alone should be common in insanity. But the fact is that when organic disease is present in insanity, it is always diffuse and involves the whole cortex—in fact, the entire hemisphere.

Tropical Dysentery.—Charles E. Kieffer defines dysentery as a symptom complex, depending upon an inflammation of the colon. The complex changes with the extent and location of the inflammatory process in the large bowel, and consists of numerous bowel movements containing blood, mucus, and intestinal structure, voided with intense pain and effort, tormina, and tenesmus, while there is severe abdominal tenderness and moderate febrile disturbance. When it is in full efflorescence, it is a disease of the tropics. Etiologically, it is divided into three main groups: Endemic or amœbic dysentery; epidemic, "specific," or bacillary dysen-

tery; and sporadic dysentery. Endemic dysentery is always present in the tropics. It is a colitis due to the amœba coli. Its onset is slow and insidious, its course severe, with a tendency to chronicity and relapses or recrudescences. It is also characterized by its liability to cause hepatitis. In this type serum reaction is absent. Death results from the sequelæ and complications. On the contrary, bacillary dysentery occurs in localized epidemics, smaller or larger, and it is not present as a constant *place* disease. Its course and onset are generally acute. Its chronicity is not so marked as that of the first type, and when chronic the symptoms are continuous. Amœbæ are absent. Serum reaction is present in dilution 1:40. The etiological factors of sporadic dysentery are distinct from those of the first two classes, and these cases embrace only about 5 per cent. of all cases of dysentery. These sporadic dysenteries may be due to chemical irritants, to mechanical irritants, or to various microorganisms, such as the bacillus pyocyaneus, the balantidium coli, and probably to the various micrococci of suppuration, especially the streptococcus pyogenes. The complications of acute dysentery are very similar to those of typhoid fever. The prognosis varies greatly with the conditions, the class of patients, and their resistance. As to treatment, the patient is first put to bed. The drugs of special value in this disease are ipecacuanha, and the salines. The preparations of bismuth are valuable adjutants. Other drugs are used, at times. For pain, the ice suppository, cold or heat to the abdomen, and opium are indicated. The diet should be absolute milk or liquid diet, and restricted in amount. A flannel abdominal band should be worn.

Berliner klinische Wochenschrift, January 12, 1903.

Lymphatic Structures of the Throat as Portals of Entry for Tuberculous Infection.—Sukehiko Ito has examined, microscopically, the various lymphatic structures in Waldeyer's so-called lymphatic throat ring, in order to ascertain the frequency of tuberculosis, especially primary tuberculosis, in the same. These structures were thus examined in 104 children. The diagnosis of tuberculosis was made upon the histological picture present, rather than upon the presence of tubercle bacilli. In none of the cases examined was a primary tuberculosis of these structures found. Secondary tuberculous lesions were found in five cases in the palatal tonsils, in two cases in the throat tonsils, in one case in the valleculæ epiglotticæ, and in one case in the mucous ganglia at the base of the tongue. In several of these cases the lesions were found simultaneously in two or more of these structures. Taking these into account, there were in all six cases in which secondary tuberculous lesions were present. It would, therefore, appear that primary tuberculosis of the lymphatic throat ring is of the greatest infrequency, and that even secondary tuberculosis is but rarely met with.

Berliner klinische Wochenschrift, January 15, 1903.

Immunity to Syphilis and Profeta's Law.—Von Düring thinks that there is no such thing as an hereditary immunity to syphilis, or a reduction in the power of the syphilitic virus when it is introduced into the offspring of syphilitics. Observations in Asia Minor, where syphilis is practically universal, have led the author to this view. There the children of syphilitics show secondary syphilitic lesions and symptoms of the same intensity as are observed elsewhere in the infected children of non-syphilitics. Profeta's law has been much misunderstood and misquoted. This observer never claimed that there was an hereditary immunity to syphilis, but only that the child of a syphilitic mother could be nursed by such a mother and not contract syphilis thereby. All those who have otherwise understood his law are in error concerning his actual meaning. It is certain that there is an *acquired* immunity to syphilis. Such an immunity is not, however, always absolute, as many cases of undoubted re-infection have definitely proved.

Operations Conducted without the Direct Use of the Finger.—König advises that all surgical operations be conducted without the direct use of the hands. This can be accomplished only by using instruments of a special design in which the handles are unusually long and of various appropriate shapes. The ability to conduct operations in this manner only comes with much experience, and expertness is only very gradually obtained. König's first attempts were made several years ago, and were at first confined entirely to operations upon the joints. Gradually the scope of the method has been enlarged until at the present time practically all varieties of operation are conducted by him in this manner. During the last year, out of 1,000 operations 600 were so conducted. Under this procedure the lesions heal much more rapidly, and suppuration never occurs. It has been amply demonstrated that a sterilization of the hands is impossible by any method now in use, and by the method here advocated the hand, as a source of infection, is completely excluded.

Antistreptococcus Serum in Scarlet Fever.—Paul Moser attacks Baginsky's recent article (*Berliner klinische Wochenschrift*, 1902, Nos. 48 and 49). With respect to the association of streptococci with scarlet fever, Baginsky has said neither more nor less than was previously known. This association was first demonstrated by Moser and Pirquet, and at the same time independently by Salge as the result of specific agglutination reactions. Furthermore, the agglutinating capabilities of streptococci were not first demonstrated by Aronson, as Baginsky claims, but by van de Velde and Paltauf. The first antistreptococcus serum which was produced came from Marmorek. Its therapeutic use, however, was unsatisfactory, and a second serum, produced along the same lines, was brought forward by Aronson. Baginsky's favorable opinion of Aronson's second serum was obtained after a trial of five weeks, a period entirely too short in which to judge the efficiency of any method of treatment. In the face of these facts, Baginsky's critical remarks with respect to my (Moser's) serum are entirely unwarranted; so much the more since Baginsky has had no experience whatsoever in its use. In any event it has been much more thoroughly tested than Aronson's later product, since it has been used in my clinic from November, 1900. During this time more than one hundred cases have been inoculated with the favorable results recently reported by me at Carlsbad. Any man who, from the results obtained with one serum, will endeavor to draw conclusions with respect to another, obtained by an entirely different method, is, to say the least, illogical.

Adolf Baginksy, in answer to the above, refers to an article which appeared in the *Berliner klinische Wochenschrift*, 1900, Nos. 27 and 28, and which was written conjointly by him and Sommerfeld. This was the first article which was written in which the close association of streptococci with scarlet fever was advanced upon scientific grounds. Baginsky admits that his recent use of Aronson's latter serum is insufficient for the deduction of positive conclusions. His criticism of the enthusiasm of Moser and others at Carlsbad was based upon general principles, as stated in the article referred to. Baginsky's experience has shown that very extensive use and great care are necessary before anything like positive conclusions can be drawn with respect to the efficiency of any serum in scarlet fever.

Hans Aronson, in referring to the above article of Moser's, says that he has specifically stated in all his (Aronson's) writings that his agglutination tests comprise the macroscopic instead of the microscopic reactions. All his claims to priority are based upon the results of such macroscopic tests. Aronson has frequently pointed out the many sources of error in any microscopic agglutination test in which streptococci are employed, and was the first to employ and recommend the macroscopic test as the most reliable. These distinctions have always been pointed out by Aronson in his writings, and it is hard to see how any one who has read the same could fall into Moser's erroneous understanding. Aronson's serum is not at all similar to Marmorek's, as may be easily demonstrated by testing their specific agglutinating power.

Deutsche medicinische Wochenschrift, January 8, 1903.

Sclerodermatitis in Childhood.—Wilhelm Ebstein reports a case. The history showed an attack of rheumatism which immediately preceded the cutaneous affection, but when the patient came under observation no signs of rheumatism were present. The cutaneous lesions were well generalized over the surface of the body, but no atrophy or shrinking of the skin was anywhere present. The treatment was antirheumatic and included massage and the internal administration of sodium salicylate. Prompt recovery took place. For this reason the author is inclined to think that etiological relations existed between the dermatitis and the rheumatism. However, this is by no means certain. This form of dermatitis is, as a rule, very resistant to treatment. This is especially the case after cutaneous atrophy or contraction has taken place. Hence the results of the treatment in this case are very suggestive that in some cases at least sclerodermatitis is rheumatic in origin.

Syphilitic Heart Affections.—J. W. Runeberg says that the most important of these is a sclerogummatous arteritis of the coronary arteries. The clinical picture closely corresponds to that of true angina pectoris. It is to be differentiated from pseudoangina pectoris by the presence of the irregular pulse and muffled heart sounds which are never present in the latter. More difficult is the differentiation of syphilitic from ordinary sclerosis of the coronary arteries. The syphilitic form, as a rule, develops before middle life and is limited to the coronary arteries, while the reverse holds true for the ordinary form. The author thinks that coronary arteritis which develops before middle life in eight or nine cases out of ten is of

syphilitic origin. Next in importance in syphilitic cardiac affections comes sclerogummatous arteritis. This is sooner or later complicated by insufficiency of the aortic valves and aortic aneurysm. Here also the age of the patient is of great aid in the diagnosis. Many cases under middle life are of syphilitic origin. Diffuse gummatous myocarditis of the heart is somewhat rare, but more frequent than circumscribed cardiac gummata, which are very frequent. Gummatous endocarditis and pericarditis are also very infrequent. It is doubtful whether a primary gummatous endocarditis has ever been oberved. The various forms of cardiac syphilis are only found in the acquired form of this disease and in an advanced stage of the same. Their accurate diagnosis is of the greatest practical importance, since by appropriate antisyphilitic treatment they may be greatly improved, and in some cases absolutely cured, if such treatment is begun before they are too far advanced.

Münchener medicinische Wochenschrift, January 13, 1903.

The Union of Hæmolytic Amboceptors with the Red Blood Cells.—It has been generally thought that the hæmolytic amboceptors are firmly united to the red blood cells. J. Morgenroth, by a series of experiments, shows that this union is not as firm as has been supposed, since such amboceptors can be separated in certain amount from erythrocytes, to which they are united by repeated washing in saline solution. If, however, the red blood cells contain both amboceptor and complement the amboceptor cannot be separated therefrom.

French and Italian Journals.

Fatty Inguinal Hernias.—Henri Caubet states that these fatty hernias of the inguinal region consist of a tumor which occupies the inguinal canal and which is seen as soon as the aponeurosis of the external oblique is incised. This fatty tumor encloses the hernial sac. The adipose mass is lobulated and slightly vascular. It is sometimes surrounded by a thin cellular fascia, which separates it from the other parts in the inguinal canal. It is a hernial lipoma. It is generally elongated in form; its volume varies, most often, however, being about the size of a walnut or almond It is always easy to isolate, and presents no adhesions to the parts of the spermatic cord. The radical cure does not differ from that of the common inguinal hernia.—*La Presse Médicale*, January 10, 1903.

Physiological and Clinical Study of Animal Heat: Measures of the Intensity of Organic Combustions by Thermometry.—J. Tétan proposes the following principles: The rapidity of ascension of the mercurial column is in direct proportion to the activity of the diathermanous power of the skin; that is, to the rapidity with which the body yields the heat which it produces. This rapidity is variable for the same person, according to the different parts of the body, and the different hours of the day and night, but within narrow limits. This rapidity is independent of the temperature of the body, or at least it is not in proportion to this temperature. The ascending rapidity is proportional to the surface of contact of the instrument on the skin.—*Gazette Hebdomadaire des Sciences Médicales de Bordeaux*, January 4, 1903.

Changes in the Spleen in Cirrhosis of the Liver.—F. Azzurrini concludes from his researches that in the splenomagaly following ordinary hepatic cirrhosis, the histological changes found in the spleen are identical with those found in the spleen from stasis, and consist: (1) In a dilatation of the veins and of the cavernous tissue of the splenic pulp due to an accumulation of red blood cells. (2) In a successive dilatation of the capillaries of the Malpighian follicles proceeding from the periphery to the central artery, with exudation of the blood cells, and disintegration of the cellular elements composing the follicles. (3) Inspissation of the capsule, trabeculæ, and adventitia of the veins. (4) In an abnormal destruction of red blood cells. (5) In a series of degenerative processes which attack the cells of the splenic pulp itself, and which end in their granular disintegration.—*Lo Sperimentale*, No. V-VI, 1902.

The Pathogenesis of Progressive Pernicious Anæmia.—Giuseppe Finzi concludes that a factor in the production of pernicious anæmia is any extensive alteration in the mesenteric glands, which assist in the process of chylification, and hence to the renewal of the elements of the blood. While it is comprehensible that intestinal atrophy may be considered secondary to anæmia, it is not easy to see why enlargement of the mesenteric glands should be supposed to be secondary to alterations in the blood. It should rather be held as the result of some infection originating in the intestinal mucosa, whether as a complication of chronic catarrh, parasites, tuberculosis, or cancer. And while, on the one hand, pernicious anæmia may follow a slow puerperal infective process with lesions of the hematopoietic organs, on the other hand, it is probable that in not a few cases its source of infection is to be found in the lymphatic-mesenteric apparatus, since the mesenteric follicles and glands are to be regarded as the principal seat of the formation and the transformation of the morphological elements of the lymph.—*La Riforma Medica*, December 27 and 29, 1902.

Diffuse Tuberculosis of the Pelvic Cellular Tissue with Chalky Nodules.—A. Croisier reports this case of a man, fifty years old, who first noticed at the level of the ischial tuberosity on the right side the appearance of a painless swelling that gradually increased in size. When it reached the size of a fist it was incised. A yellow liquid was evacuated, with a considerable quantity of whitish concretions. A large phlegmon with fever and abundant suppuration developed. The acute symptoms subsided, but the suppuration continued. The pus was very fluid, and resembled that of a cold abscess. There were various fistulas present. The writer first saw the patient at this stage. There was an advanced state of cachexia. The patient was operated upon, and the various fistulas were connected by one incision. There were abundant fungosities, and concretions as large as a small pea or a nut, very hard, whitish yellow, and mulberry in form. Anatomical examination of the fungosities showed clearly their tuberculous nature; while chemical examination of the concretions determined them to be made up of phosphate of lime, carbonate of lime, and phosphate of magnesia.—*La Médecine Moderne*, January 7, 1903.

Electricity in the Treatment of Metatarsalgia.—F. Piccinino says that it is a mistake to incriminate tight shoes alone as the cause of this painful affection, as it is frequently found in neurasthenic or gouty individuals, after much walking, bicycling, or riding. In some cases synovitis of the fourth metatarsal bone, tuberculous osteitis, and even a new bony growth have been found. Quite recently the author had occasion to treat a patient who for seven years had suffered from acute pain in the metatarsal region of the right foot; in the beginning it was intermittent and bearable, but it had of late become continuous and extremely painful. Having decided to try the effect of galvanism, the author applied it in the following way: a large square electrode covered with chamois skin was placed on the lower third of the right thigh, anteriorly, while the positive electrode was introduced into a wooden tub filled with tepid water, into which the patient's foot was introduced. A current of 15 ma. was turned on and allowed to flow for ten minutes. On the following day the strength was increased to 20 ma. and the time to fifteen minutes. There was improvement from the start, and after the fifth application the pain ceased altogether at night, and in the daytime was less severe and appeared only after walking. A half cubic centimeter of a 2-percent. solution of cocaine was injected for two days, the electrical treatment being continued. Two months have elapsed since the treatment, and as yet the patient has had no pain in the foot, which so tormented her for seven years.—*Annali di Elettricità Medica e Terapia Fisica*, December, 1902.

Two Cases of Neurosis of the Pylorus.—L. Pinatelle has assisted at two operations for neuropathic affections of the stomach. The first patient was a woman thirty-two years old. Both family and personal history were excellent. For two years she had had gastric trouble. At first this consisted merely of a vague malaise coming on a half hour after eating. This uncomfortable sensation was localized in the epigastric region, radiating sometimes to the dorsal region. Although it was not influenced by position, it was increased by rich food. There had never been hæmatemesis nor vomiting, but there were frequent acid regurgitations and persistent constipation. In the last year the pain increased, and the disturbance was always of the hyperchlorhydric type. On entrance to the hospital, a small, painless tumor was clearly felt in the region of the pylorus. It was round and hard, and relatively mobile, and gave the impression of being a neoplasm of the pylorus. The test breakfast was rapidly absorbed. On emptying the stomach in less than a half hour after the ingestion of this food, the liquid was found to contain no lactic acid, but a strong proportion of hydrochloric acid. Laparotomy was performed, and the phantom tumor entirely disappeared. The pylorus was reduced in volume and thickened. It was hard but freely movable. But after half a minute of examination, the pylorus gradually changed, becoming normal at that point, while a little further up, on the anterior surface of the pyloric vestibule, appeared a new knot of contraction. After a simple stretching of the pylorus, the abdomen was closed. Ten days later the patient left the hospital and declared that she had not suffered at all since the operation. The second case was one of severe nervous vomiting. This was caused by antiperistalsis of the stomach, which caused this organ to assume the form of the intestine of a dog. There was a certain regularity or rhythm about these muscular contractions. The affection was rebellious to all treatment. Gastroenterostomy

was proposed, but the patient objected, and died from inanition.—*Gazette des Hôpitaux Civils et Militaires*, January 8, 1903.

American Journal of the Medical Sciences, December, 1902.

Tuberculosis of the Parotid Gland; Excision of the Tumor; Recovery.—Charles L. Scudder relates the history of this case. The patient was a woman, aged fifty-seven years, mother of three children. Her health has always been good. Five years ago a small swelling appeared just below the lobule of her right ear. It grew slowly for three years. For over a year it grew painlessly but perceptibly. There were no subjective symptoms. Her hearing was good. There were no pressure disturbances. The swelling was slightly movable upon the parts beneath. It was not attached to the skin, and was not tender on palpation. The chest was negative. The tumor was removed by operation. She left the hospital one week after operation. A year and a half later there was no recurrence. Microscopical examination showed parotid gland structure with many small foci composed of epithelioid, small, round, and numesous giant cells, with cheesy degenerations: tuberculosis.

Autopsy in a Case of Adiposis Dolorosa.—F. X. Dercum and D. J. McCarthy report this case of a man, thirty-nine years old. It is the fifth instance of a patient with this disease coming to autopsy. In this case changes in the thyroid are very slight. The changes in the pituitary body are those of enlargement with new formation. An interstitial neuritis is present. The presence of hæmolymph glands probably indicates that there is a profound disturbance of nutrition, due, perhaps, to disease of the thyroid and pituitary glands. They probably indicate efforts at compensation and have a compensatory function. The writers believe that this is the first instance in which hæmolymph glands have ever been found in man as new-formed structures. They add, in regard to the changes in the pituitary body, that they are very significant. The pituitary body is thus brought into relation, though, perhaps, indirectly, with a fat-producing or fat-destroying function—a relation which has not been considered up to this time. In every one of the five cases which have come to autopsy, the thyroid gland has been diseased. Both the clinical findings and the results of the autopsies make it sure that adiposis dolorosa is a well-defined clinical entity.

The Surgical Treatment of Cirrhosis of the Liver.—Robert B. Greenough concludes: (1) The condition known as biliary cirrhosis, with enlarged liver, jaundice, and fever and without ascites, is accompanied in a certain proportion of cases by an infection of the bile-ducts. The drainage of the bile-ducts by cholecystostomy is a proper operation for the relief of this condition. When evidence of infection is present and symptomatic treatment has failed to effect relief. (2) Of 105 cases of liver cirrhosis which presented the symptoms of ascites, 42 per cent. were improved and 58 per cent. not improved by Talma's operation or one of its modifications. The mortality within thirty days was 29.5 per cent. Nine cases were improved in health two years after the operation. (3) The nine cases of continued relief presented no marked differences from the general character of all the cases. (4) The cases in which the liver was enlarged gave a lower mortality and a higher percentage of improvement than cases of atrophic liver. (5) Cases of suture of the omentum between the layers of the abdominal wall gave a lower mortality and a slightly higher percenage of improvement than cases in which only peritoneal surfaces were brought in contact. (6) Drainage increases the danger of septic infection and peritonitis and is to be avoided. If necessary, tapping may be done after the operation. (7) The presence of adhesions or perihepatitis is of good prognostic import as regards the success of the operation. (8) The number of tappings before operation and the presence of œdema of the feet and legs are of less prognostic importance than the general condition of the patient, the size of the liver, and the functional activity of the liver cells. (9) Talma's operation, or one of its modifications, is of proved benefit in a certain limited number of cases of liver cirrhosis, primarily for the relief of ascites, and, secondarily, for the relief of other symptoms of portal congestion. (10) The dangers attending the operation are mainly due to the weakened resistance of the patient rather than to the operation itself. The selection of cases suitable for operation demands more judgment than has been exercised hitherto. (11) The operation is not indicated in cases of ascites due to causes other than cirrhosis of the liver. (12) The operation is contraindicated in the presence of renal or cardiac disease, and when good evidence does not exist that sufficient functional liver tissue remains to maintain life. It is also contraindicated when complications exist sufficient in themselves to make the result of operation uncertain.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

ST. BARTHOLOMEW'S HOSPITAL: ITS NEEDS AND ITS FUTURE—A CABINET MINISTER ON VACCINATION AND REVACCINATION—LORENZ'S OPERATION—THE LATE ROBERT O'CALLAGHAN AND JAMES O'SHAUGHNESSY—SOME BEQUESTS.

LONDON, January 16, 1903.

ALL the week we have been discussing St. Bartholomew's Hospital. Not only the profession, but the public have joined in the discussion, and made the future of "Old Bart's" a burning question. You must know that this hospital is the most highly endowed in the kingdom—some say in the world. Its invested property is spoken of as nearer three than two millions of pounds. For some 150 years "Bart's" has dispensed its blessings to the sick and suffering out of its own funds. Recently the governors purchased for a quarter of a million pounds a part of the adjoining land of Christ's Hospital (known as the Blue Coat School), which has been removed into the country. It was proposed to erect additional buildings on this site. It seems that the Board had not carefully counted the cost of their proposed extension, so now they have applied to the Lord Mayor to make an appeal to the public for money to enable them to build. Protests were at once raised, and have been increasing day by day. Thus there are two vigorous parties, those for and those against the proposal.

The opponents start with the statement that hitherto a Mansion House Fund has been understood to be only for cases of great emergency and unexpected calamity, and that the enlargement of "Bart's" cannot be considered to belong to that category. They add that the hospital has an income of £70,000 a year, which is more than enough to pay its way, as shown by the fact that a considerable portion of the purchase money of the Christ's Hospital land was met out of the accumulated surplus. Others suggest that the hospital should follow the example of the Blue Coat School, sell its present site, the value of which is enormous, and would suffice to buy a site with land round it, erect a magnificent, up-to-date building, and carry on the great work more efficiently than ever. It certainly looks strange for a hospital owning millions to go hat in hand to the public, and that at a time when there were never so many demands on the purses of the benevolent. But, of course, there are things to be said on the other side, and the Lord Mayor has agreed to lend the Mansion for a meeting of the governors on Monday next, on which occasion he will preside, and it may be hoped both sides will be heard. Meantime, I may quote a few expressions of opinions from the many which have already flooded the newspapers.

Sir W. Trelvar, the treasurer, says that to hint at removing the hospital is ridiculous, and pronounces the appeal necessary because they have just bought the additional land for £250,000—which hardly seems a proper reason for spending more money, still less for asking the public to find it.

Sir Blundell Maple, M.P., has no doubt that the Lord Mayor ought not to appeal for rebuilding.

Baroness Burdett-Coutts thinks the powers of the Mansion House ought to be reserved for sudden emergencies or great national objects, but does not venture an opinion as to whether the case of St. Bartholomew's falls under either of these heads.

Lord Stamford asks if it is not possible, at so late an hour, to stop the appeal?

The newspapers are mostly against the scheme. One of the most moderate is the *Globe*, which says it would be a blunder to spend money—whether from one source or another—in building on a site so enormously expensive. The *Globe* recommends the example of Paris, which is establishing central receiving stations and removing its great hospitals to healthier and less costly sites.

The managers of other hospitals join in a chorus of protests, the London Hospital leading the way. Its secretary regrets that so rich a hospital should beg while others can hardly drag on from year to year. Its chairman, Mr. Sidney Holland, has just issued his quinquennial appeal, and has hints about the extravagance of others. But people who dwell in glass houses should not throw stones"—a proverb I commend to Mr. Holland, for in the course of his appeal, while he shows that the hospital is in need of some £60,000 a year from the public, he says that it has just spent £70,000 on a new out-patient department, though he must know that the profession has long pronounced against hospital abuse, and the most of this abuse is in that department. But it is the pushing of that department which enables Mr. Holland to boast that his hospital last year treated "sixty-six and one-half miles of human beings standing side by side." It is this continual talk of num-

bers of patients on which hospital managers rely to elicit subscriptions, and this is at the bottom of much hospital abuse.

Individual doctors are shy of writing to the papers, but one pushing editor has obtained expressions of opinion by sending reply-paid telegrams. Sir H. Thompson says he has long held that all the hospitals should be supported by the state. Sir John Williams says let St. Bartholomew's get what it can. It will make good use of it. Sir W. J. Collins (an old Bart's man and on the council of the King's Hospital Fund) says the proposed extension would be extravagant, wasteful, and unwise. Sir H. R. Beevor thinks there are other hospitals in greater need.

You would not expect any of the staff of either hospital or school to advocate its removal. Behind much of the discussion the question of the school cannot fail to occur to medical men, though the subject is not brought forward. To do that would, of course, provoke an outcry in some of the sensational papers against permitting its interests to obscure that of the patients. The school buildings are modern, rebuilt within some twenty or twenty-five years, and kept up to date; but some portions of the buildings are old. Still, it hardly seems that they ought to cost £300,000. The nurses' home is inadequate, but the governors might ask themselves if it is necessary to indulge an architect with permission to erect a magnificent new one. Again, many will say that, with a cramped space, it is an extravagant thing to build a new house within the grounds for a vicar. Most of all, objections will be made to a new, enlarged out-patients' building, bad as the present accommodation is. Many complaints have been made about the out-patients at the hospital in the past, and the abuse will not decrease with larger buildings. There are other things, I fancy, might very well be excited, and a less ambitious scheme might enable the old hospital to go on until its wards have to be rebuilt, saving from its income against that day.

On Wednesday the president of the Local Government Board, Mr. Long, received a most influential deputation from the Imperial Vaccination League, with which the Jenner Society was associated. It was introduced by the president of the College of Physicians, Sir Wm. Church, and a number of eminent men spoke. Mr. Long said no one in his office would dispute the assertions made by the speakers, and the only wonder was that in this age it should be necessary for such a representative deputation to urge what should receive the support of every intelligent person. In Germany smallpox had been practically stamped out. He hoped the League, having put their hands to the plow, would not turn back. As to the new act, he could state the intentions of the government, and so furnish material to opponents. But he warned them that the strongest government could not carry legislation in the teeth of popular opposition—a curious statement that by a member of the ministry which has forced against the strongest opposition a bargain with the Church which may even yet lead to the injury of both parties to the bargain.

Mr. Long expressed full concurrence with the various points brought forward. He has shown before tenacity of purpose, and it is encouraging, therefore, to find him convinced of the necessity of vaccination and revaccination.

Professor Lorenz is here. On Saturday he gave a demonstration at Liverpool. Some of the newspapers reported the proceedings and described the manipulation and the placing of the limb in plaster of Paris after the joint had been replaced in the socket. But we do not intend to encourage this reporting. I should imagine the Chicago surgeons must have been rather sick of the fuss made, and perhaps a similar feeling may have been produced in New York. Either city has surgeons quite capable of doing all that Lorenz did, though they might hesitate to proclaim a success just after a procedure which may, after all, fail; for time has something to do with the matter. He gave a demonstration at one of the London orthopædic hospitals on Wednesday.

Mr. Rob. T. A. O'Callaghan died on Monday after a brief illness, aged forty-five years. You will remember he went to South Africa as senior surgeon to the Langman Hospital. For his services he received the medal with clasps. He devoted himself chiefly to abdominal surgery, was for some time assistant to the late Lawson Tait. He came to reside in London about eight or nine years ago. He was a Fellow of the Irish College of Surgeons, and held the appointment of surgeon and gynecologist to the French Hospital here.

Dr. James O'Shaughnessy died on Wednesday at Limerick in his ninety-third year. He was a justice of the peace for the county and a deputy lieutenant for the city. He was, I should think, the oldest magistrate in Ireland. He became a member of the Royal College of Surgeons of England in 1837. He was a schoolfellow of the late Sir Richard Quain.

Mr. E. W. Berry, who died on December 5, aged ninety-one years, has left £500 each to the London and St. Thomas's hospitals, £300 to the Royal Medical and Chirurgical Society, besides other bequests to charities. He took his first diploma in 1833. His estate is valued at £21,641.

Dr. Martin of Beckenham, who died on November 24, aged seventy-three years, bequeathed £1,500 to the Royal Medical Benevolent College, and an equal sum to Guy's Hospital. His estate is proved at £56,314.

REASONS FOR BELIEVING THAT THE ONLY WAY IN NATURE FOR YELLOW FEVER TO BE CONTRACTED BY MAN IS FROM THE MOSQUITO.

To the Editor of the Medical Record:

Sir: In my paper with the above title, as published in the Medical Record of January 24, 1903, there is a paragraph which is inaccurate, and which was not read as a part of said paper at the recent meeting of the American Public Health Association at New Orleans. The paragraph referred to begins with the fifty-eighth line of the right-hand column of page 127, and ends with the fourth line of the left-hand column of page 128. After the article had been sent to the Medical Record I discovered my mistake, and wrote and telegraphed you requesting that the paragraph in question be stricken out, but in reply was informed that the paper had already been published.

John W. Ross, M.D.,
Surgeon, U. S. Navy.

Washington, D. C., February 2, 1903.

Book Reviews.

A Handbook of Materia Medica, Pharmacy, and Therapeutics, Including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Practical Pharmacy, and Minute Directions for Prescription Writing. By Samuel O. Potter, A.M., M.D., M.R.C.P., Lond., formerly Professor of the Principles and Practice of Medicine in the Cooper Medical College of San Francisco; Author of the "Quiz-Compends of Anatomy and Materia Medica," an "Index of Comparative Therapeutics," Several Articles in Foster's "Practical Therapeutics," and "Speech and Its Defects"; Major and Surgeon of Volunteers, U. S. Army. Ninth Edition, Revised and Enlarged. Philadelphia: P. Blakiston's Son & Co., 1902.

It is sixteen years since Dr. Potter's book first saw the light, and it has improved with each revision, until now it must be acknowledged to be the equal, and in some particulars the superior, of all works of the kind extant. In all books on practical medicine of the present day, the influence of a tropical climate upon pathology and therapeutics must be taken into account, and in this respect the work before us is especially valuable. For more than three years the author has been stationed in the Philippines, and the present edition contains material gathered from his experience in active practice there among soldiers and civilians, men, women, and children. The book is provided with a thumb index, greatly facilitating its use as a work of reference.

Psychic Research and Gospel Miracles. A Study of the Facts of the Gospel's Superphysical Features in the Light of the Established Results of Modern Psychical Research. By the Rev. Edward Macomb Hull, M.A., and Thomas Gilchrist Allen, M.D. New York: Thomas Whittaker, 1902.

The object of this work is to throw what is believed by the authors to be a new light upon the Gospel of Christ. This new light comes from the "superphysical phenomena" brought out by modern psychical research. As we understand the line of argument, the authors wish to show that such phenomena as telepathy, clairvoyance, certain subliminal activities, materialized psychic forms, and spirit photography are proved scientific facts, and show the existence of a spiritual realm which can control and modify the acts of man, and that it was through the interposition of this spiritual force that Christ performed His miracles and did His other wonderful works.

We can commend the very evident sincerity of the authors in their desire to put all these superphysical facts on the sound basis of exact demonstration. They think they have done it. Reading over the evidence ourselves, however, as presented here, we come to an entirely opposite conclusion. It does not seem worth while to argue over the matter in a review. The book is of interest on account of its attempt to apply the methods of science to the interpretation of an *olla podrida* of variously attested and weird phenomena. Also because the authors have collected a great many curious stories and alleged facts regarding manifestations of spiritualism. The marvel is that those who can write in some lines so well show such curious defects of judgment in the end.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Section on Surgery.

Stated Meeting, Held January 12, 1903.

John B. Walker, M.D., Chairman.

Gastroenterostomy; Gaping of Abdominal Wound.—Dr. H. D. Collins presented an elderly woman upon whom he had performed gastroenterostomy. The subjective signs were vomiting and pain. Examination of the contents of the stomach showed an absence of hydrochloric acid. The incision was made in the median line, and an anastomosis was made, with the help of a Murphy button, between a loop of jejunum and the posterior aspect of the stomach. It was a simple, straight anastomosis, the intention being to make another anastomosis at a subsequent stage of the operation, and in this way avoid a vicious circle. However, the patient's condition was so poor that it was not thought best to do any further operating at the time. She was fed by rectal enemata, absolutely nothing being given by the mouth for the first three days. She then complained so bitterly of thirst, that she was given sterile water by the mouth. On the fourth day she was allowed to have peptonized milk, the rectum being somewhat intolerant. On the sixth day examination of the wound showed its condition to be apparently absolutely perfect. The skin sutures were, accordingly, removed. That evening it was found that the entire abdominal wound had opened up, and showed no evidence of repair. She was anæsthetized by the house surgeon, and the hand introduced into the abdomen showed the button in place, but no evidence of adhesions. The abdominal wall was again sutured by layers, and after that healing was satisfactory. The second day after this second operation, vomiting began, and lasted for a considerable time, but in other respects she did well. The operation was done on September 5, and, although a careful watch had been kept, nothing had been seen, as yet, of the button. The patient's general condition had improved greatly since the operation.

Dr. H. Lilienthal said, regarding the separation of the wound so long after the operation, that he did not believe this was of infrequent occurrence; he had had the misfortune to encounter it in three cases, all of them gastroenterostomies. All of the patients were cachectic, and in bad physical condition, and this probably explained the slowness of repair. In one of his cases the wound broke open ten days after operation, and another case, eight days afterward, breaking through the sutures. He thought the stout sutures of forty-day chronic gut should be put through all the tissues except the skin. It would be well, also, to roughen the peritoneum before introducing the sutures.

Dr. Robert T. Morris said that this separation of the wound was very interesting. The only case of the kind that had occurred in his practice was in a patient upon whom he had operated ten days ago. The patient was emaciated, and had had obstruction for two or three years following a perforating ulcer of the stomach. Everything appeared to be doing well until about two weeks after operation, when the use of the stomach tube was begun. The first attempt of this kind resulted in tearing the wound entirely open.

Dr. George E. Brewer said that two or three years ago he had had a patient at the City Hospital with œsophageal carcinoma. Gastrostomy was done through a small wound, and three or four sutures of silkworm gut were inserted. After ten or twelve days, the wound appeared to be healed, and the sutures were removed, but it was found that there was only adhesion of the skin.

Dr. A. V. Moschcowitz reported three cases, all gastroenterostomies. One was still in the service of Dr. A. G. Gerster, and in that one the entire wound burst open on the eighth or ninth day, as a result of the patient's making a sudden movement in bed. The speaker said he now made it a rule to remove the stitches in such cases as late as possible.

Dr. J. A. Blake referred to a case that he had seen in the hospital service of Dr. Bull. The wound opened on the sixth day. This patient was very cachectic, and the operation was for a carcinoma of the stomach.

Dr. John F. Erdmann said that in a case upon which he had operated for volvulus and tuberculous peritonitis, the wound opened on the ninth day, and this, too, despite the fact that he had taken special pains in coaptating the parts at the time of operation.

Dr. John B. Walker reported the case of an emaciated woman with an echinococcus cyst. Ten days after the operation, the wound appeared to have healed completely, and the sutures were removed. A few days later, the wound suddenly opened during a spell of coughing. It was brought together again with adhesive plaster, and then healed without further trouble.

Dr. Edward M. Foote reported a case to show that this accident might occur in other parts of the body. He recalled a case of partially pedunculated carcinoma of the vulva, in which the inguinal glands on both sides were infected, and were dissected out. The stitches about the vulva were left *in situ* for twelve or fourteen days, but on removing them there was found to have been absolutely no effort at repair, the wound appearing like a fresh one.

Stenosis of Stenson's Duct.—Dr. Collins also presented a man who had come to him last May with a swelling over the region of the right parotid gland. There were present all of the usual evidences of abscess, and the house surgeon made an incision anteriorly, and evacuated pus. This operation was followed by the discharge of saliva from a sinus. When seen by the speaker, the introduction of a probe showed that the sinus extended upward and forward for a considerable distance. A probe passed in from within the mouth went up near to the upper end of the sinus, but terminated on a different level. An incision was made in such a way as to allow each probe to protrude through the incision. Each probe was threaded, and a continuous silk seton was introduced through the mouth, and the duct, and outside of the cheek. Once or twice a day this silk was drawn backward and forward a few times. After a few weeks the seton was removed, and then Stenson's duct was probed daily. The depth diminished little by little, and the interval of the probings was gradually increased. The outer opening closed quite promptly. The original cause of the abscess was unknown, but quite probably there had been a blocking up of Stenson's duct, with subsequent infection.

Dr. Frederic Griffith reported a case in which a ragged tooth caused ulceration through the cheek and a salivary fistula. Following the method of Hayes Agnew, he had made use of a silk thread ligature, extending about the duct from within the mouth almost to the skin surface. This cut its way through in the course of three or four days, making a new outlet.

Localized Enlargement of the Left Lobe of the Liver Due to Cirrhosis.—Dr. Charles H. Peck presented a man, forty-two years of age, who four years ago began to suffer from a peculiar sensation of discomfort in the stomach. This had continued ever since, and the man had lost about fifteen pounds during these four years. About two years ago a swelling was noticed in the epigastrium, and it had not changed materially in size. On admission to hospital on December 22 examination showed a rounded swelling in the epigastrium. This could be felt just above the edge of the left lobe of the liver. It was thought to be a cyst or some other benign growth. An exploratory operation was done two weeks ago. The under surface of the left lobe showed no tumor whatever, and the edge was sharp, and presented distinctly the appearance of a cirrhotic liver. The right lobe of the liver presented the same characteristic appearance without much enlargement. The liver was

punctured in several directions, and was thoroughly explored, but nothing was discovered except the cirrhotic liver tissue. He, therefore, looked upon the tumor as a localized enlargement of the left lobe of a cirrhotic liver.

A Peculiar Case Simulating Cholelithiasis.—Dr. H. Lilienthal presented a man of twenty-eight years who had been admitted to the Mount Sinai Hospital on December 26, 1902. His previous history was absolutely negative. The present illness began very suddenly with cramps in the abdomen and severe vomiting of a blackish material. He had been drinking to excess at the time. He complained specially of a constant pain in the right hypochondriac region. This pain did not radiate, and was not associated with chills, or with a temperature above 100° F. There was no jaundice, and the stools were normal. On admission he was fairly nourished, and there was a marked icteric hue to the face and conjunctiva. On examination a distinct cup-shaped process could be felt in the right hypochondrium, extending as far down as the umbilicus, and extending between the left rectus and the mammary line. The case seemed to be absolutely typical of cholelithiasis with a stone impacted in the cystic duct. The mass found on examination was globular and was extremely tender. On December 27 a small longitudinal incision was made through the upper part of the right rectus, and this revealed a mass of dense adhesions. The tissues were matted together by recent lymph in such a way as to suggest the presence of abscess. The edge of the liver was peeled off, then the stomach and the duodenum, and, finally, a perfectly normal gall-bladder was exposed. The mass was then seen to be in the hepatic flexure of the colon. The colon was freed by blunt dissection, and was found to be decidedly thickened. On account of the acuteness of the process and the patient's condition, further operation was deemed inadvisable. The man made a perfect recovery, but the cause of the mass of adhesions was still a mystery. It was not in the pylorus or in the liver, and the gall-bladder was perfectly normal. Undoubtedly the trouble, whatever it was, was situated in the colon.

Dr. Blake thought the case might be one of foreign body in the colon, for he had removed a fish-bone from the ascending colon after it had given rise to much the same disturbance.

Dr. Walker recalled the case of a man who had swallowed a portion of a bent hair-pin that he had been using for the application of cocaine to the nose. An incision was made over the mass in the ascending colon, and it was found to be surrounded by adhesions, as in the case just reported. The hair-pin was found and removed.

Results of X-Ray Treatment.—Dr. P. R. Turnure read this paper, which was based on observations extending over a period of two years at the New York and Roosevelt hospitals. The total number of cases treated at the Roosevelt Hospital during the last twelve months was ninety-four, but he had been able to follow and keep satisfactory records of eighty-two. He had made use of three different coils, each one more powerful than the preceding. At present he was using a twenty-inch coil, and preferred this one, because the results seemed to be more quickly obtained with it. He had been unable to formulate any general rule about *x*-ray tubes further than that the resistance should be low, and the tube should be able to carry a large quantity of current without changing its vacuum. An exposure of five or ten minutes was given, and the method preferred was to give the exposures every day for the first week, then every other day for the second week, and then after an interval of two weeks resume the treatment as before. He had had five cases of epithelioma of the nose, all of which had done well. One now under treatment, after eight exposures, showed marked improvement. There were three cases of epithelioma of the lip. One of these had done badly after a vigorous *x*-ray treatment for fourteen days. The treatment caused deep sloughing. He had had two cases of epithelioma of the penis, one of which only had done well. The general results in all of the epitheliomas were good, and he thought the *x*-ray treatment was indicated in these before operation. The results were quite different in carcinoma. He had had five cases of carcinoma of the neck, and ten cases of carcinoma of the breast, three of the latter being primary. Two of these were absolutely inoperable. Of the seven recurrent carcinomata of the breast only one was successful to any extent. All of them, after a short period of improvement, seemed to follow the natural course of the disease. This temporary improvement could be noticed in all cases, and he attributed it solely to the psychic effect of the new treatment. Sometimes this lasted as long as six weeks, and then the disease progressed as before. In one case, to which great attention had been given, the disease spread quite rapidly, the progress of the disease actually seeming to be stimulated by the *x*-ray. In two cases of sarcoma, one of the limb and the other of the neck, the pain was relieved for a few weeks. He had only treated three cases of tuberculous glands of the neck, and all of these were in children. All of them improved greatly after four weeks of treatment, but all of this improvement he attributed to the good care the children received while in the hospital. Two cases of tuberculosis of the larynx were treated, one for four and the other for six weeks, without any improvement. Two cases of lupus were treated, one for eight and the other for twelve weeks. They appeared to have been cured. Three cases of erythematous lupus were treated. Two did extremely well, though both of them required over four months' treatment. The third, after seven months of treatment, was only slightly improved. Five cases of chronic eczema of the leg were treated by the *x*-ray, and all were cured apparently as a result of the irritation produced; nevertheless, the treatment was much slower than other well-known methods. It was worthy of note, however, in this connection, that the itching ceased very promptly after the *x*-ray treatment. Dr. Turnure said he had treated one woman with the *x*-ray for the purpose of removing hair from her face. The treatment had been carried out very cautiously, and after four months the hair had been entirely removed from the area treated without any burning. If this result proved to be permanent, he would treat the rest of her face, because the woman had tried the electrolytic method and had found it very painful.

Conclusions.—The results that he had observed in *x*-ray treatment were certainly confusing, but the first thought that occurred to him on studying these records was that *x*-ray treatment, to be successful, must be used upon superficial disease processes. If the *x*-ray exerted its influence very deeply, it was almost certain that some of these effects would be observed in *x*-ray workers, which, so far as he knew, was not the case. Glands, which were often secondary to epithelioma, were not really epitheliomatous deposits, but were the results of secondary infection. The speaker said he was extremely sorry to have to report such poor results, for, a year or more ago, he had been very enthusiastic over *x*-ray treatment. Undoubtedly, many cures were effected in superficial growths. Most of these cures appeared to be permanent, but he had had one recurrence take place eight months after what appeared to be a perfect cure.

Dr. H. Lilienthal said that he had watched some of the cases treated by the *x*-ray at the hospital. He had, apparently, seen epitheliomata cured, but he had never seen a deep growth cured by the *x*-ray alone. At present, he had under his care a small round-cell sarcoma of the scapula, which had been proved to be of the malignant type. Through a generous incision, a piece had been removed for examination. Ordinarily one would not expect this incision to heal, but under the use of Coley's fluid and of the *x*-ray there had been a gradual flattening of the tumor, the wound had healed promptly, and the

skin had become markedly pigmented. Of course, Coley's fluid was used here, and while there was only one reaction from this, and that might have been an accidental infection, she was now taking enormous doses of this fluid without any reaction. This patient had been exposed to the *x*-ray for fifteen minutes on alternate days. The case had been doing so well that he had not felt called upon to operate. Dr. Coley was of the opinion that his fluid only benefited when it caused a reaction; if this were true, then it might be very properly argued that in this case the good result was due to the *x*-ray and not to Coley's fluid. While the results reported in the paper were disappointing, it was quite possible that we had been altogether too optimistic regarding this agent; for, as a matter of fact, we knew very little about it. The *x*-ray treatment at the present time should be reserved for inoperable cases.

Dr. Robert T. Morris agreed with the last speaker that, in this experimental stage, only inoperable cases should be subjected to the *x*-ray. He had had one case of lupus of the forehead, which was practically well, and a case of epithelioma of the lip in which the cervical glands had been so much involved that he thought operation was not indicated. The latter case was now apparently well. In a case diagnosticated as inoperable sarcoma of the parotid, the *x*-ray treatment had, apparently, produced a complete cure. In another case of very extensive recurrence in the glands of the neck, after amputation of the breast, some improvement had been effected, but the patient had not followed the treatment very closely. He was disposed to feel, as did the reader of the paper, that the *x*-ray was not of great value where the malignant disease was deeply situated. He had one case of epithelioma of the trigone of the bladder that was being treated by the *x*-ray by way of the rectum and a suprapubic incision. At last accounts the case was decidedly better. A very interesting point was, that neoplastic deposits in the glands seemed to disappear under the influence of the *x*-ray.

Dr. Carl Beck said he was convinced that if sufficient treatment were given to any epithelioma it could be cured, but he also believed this was not so good a method as thorough extirpation of the epithelioma by the knife. The *x*-ray should be reserved more especially for special cases, as, for example, epithelioma of the eyelid, where a particularly good cosmetic result was desired. He had seen a number of cases in which the disease had recurred just as rapidly after *x*-ray treatment as after operation. Last spring he had presented to a medical society an old man in whom an epithelioma of the upper eyelid had been completely cured by twenty exposures to the *x*-ray, yet very shortly afterward the disease appeared in the upper lip, showing how widely disseminated were the cancer cells. The use of protective shields was a mistake, because our object should be not only to have the *x*-ray tube as near as possible, but to secure a wide effect. He had noticed that those who used the *x*-ray very carefully, in the hope of avoiding burns, were the ones who obtained only indifferent results. It was often well to run considerable risk of burning the patient. He had met with cases in which improvement had only been effected after the use of very strong doses of the *x*-ray. He would not advise the treatment of carcinoma of the stomach and of the bladder by the *x*-ray, on the principle that it was unwise to leave for the *x*-ray what could be done by the scalpel. He believed that there was not a case of lupus that would not yield to the *x*-ray.

Dr. Thomas H. Manley complimented the author of the paper on his practical and candid treatment of this subject. He thought the paper and the discussion showed clearly that the sphere of *x*-ray treatment should be limited to the treatment of lupoid growths. What had been said about the disappearance of glands bore out his own experience, that when the local source of irritation or infection was destroyed the glands would take care of themselves.

Dr. Turnure closed the discussion. He said he wished to make clear the fact that one of the cases, indeed the one that had apparently given the best result, had already recurred. He was not in a position to say at present how many recurrences there would be. The scar on the face from *x*-ray treatment had been found much less disagreeable than the scar usually left after a cutting operation. His experience had been that the recurrence from operation was greater than from the *x*-ray. This was his present opinion, although it was quite possible that he might have reason to change that opinion in the near future. The result in the removal of hair from the face was certainly far better than from electrolysis.

Improved Gigli Saw.—Dr. A. V. Moschcowitz presented this instrument, along with a frame and handle that he had devised, so that the saw could be readily used in every direction. He said that the ordinary Gigli saw was a wire upon which had been turned a thread; in reality, therefore, one was always sawing with this instrument in a part of a circle, and for this reason the action of the saw was very slow. This difficulty he had overcome by having a second turn made upon an ordinary Gigli saw. This turn was much shallower than the ordinary thread, and divided the latter into a number of fine threads. He had found that this improved saw would saw about six times more rapidly than the ordinary Gigli saw.

A Complete Portable Operating Case.—Dr. A. A. Berg presented, on behalf of Dr. A. G. Gerster, a portable operating case, which was believed to contain every instrument necessary for the performance of major surgical operations.

Officers Elected.—Dr. Robert T. Morris was elected chairman, and Dr. Charles H. Peck, secretary, of the section.

NEW YORK PATHOLOGICAL SOCIETY.

Regular Meeting, Held December 10, 1902.

Cholesterin Giant Cells.—Dr. F. S. Mandlebaum showed specimens of giant cells caused by cholesterin in granulation tissue. Dr. Mandlebaum said that he had met this condition in but two cases and deemed the matter of sufficient importance to bring before the Society. The first case was that of a woman of thirty who had a small, probably congenital, prethyroid cyst. The cyst wall had a granular, honey-combed appearence and was covered with an exudate. The second case was that of a cyst of the breast in a woman of fifty who had had the condition for ten years. Recently the cyst had begun to enlarge and a sinus was formed which discharged a thick yellow-colored fluid. The cyst wall was covered with a shaggy, dark reddish exudate, somewhat granular and friable in character, and easily separated from the cyst wall. This exudate measured about one-half to one cm. in thickness. Sections of this cyst and of the first case showed the following conditions: The first thing noticable was a large number of slit-like openings, elliptical in shape, pointed at both ends, and very sharply defined, which looked as though they had been punched out of the tissue with a sharp instrument. The next thing noticeable was the large number of giant cells scattered throughout the whole section. They were of the kind generally seen in inflammatory processes, very large in size, and containing thirty or forty nuclei scattered throughout the cell body. These were rich in chromatin and stained very deeply. Within the body of many giant cells these small elliptical slits were also noticed. In some there were two such clefts. The rest of the tissue was made up of inflammatory tissue, vascular and connective tissue. Many of the giant cells contained coarsely granular pigment. A study of the sections proved that these slit-like openings were produced by cholesterin, which in tissue does not take the form usually seen in fluid exudates, but appears in these elliptical

shapes. Dr. Mandlebaum's impression was that the cholesterin was present in combination with fatty acids. The specimen naturally went through alcohol and ether which extracted the cholesterin. This explained why one did not discover the cholesterin crystals themselves which are in the tissue, but simply the clefts out of which they are extracted. The alcohol is usually thrown away so that chemical tests cannot be made of it. Nevertheless Dr. Mandlebaum made such tests but did not get any reaction for cholesterin. He then took a bit of tissue from the second case and macerated it with chloroform, and from this solution obtained crystals which resembled those of fatty acids. These crystals and also bits of the tissue itself, gave reactions for cholesterin. There was the usual play of colors when treated with sulphuric acid and ferric chloride and the violet color remained. One would imagine that these cholesterin crystals ought to present the familiar appearance described; they do not, however, as many complex changes undoubtedly occur due to various chemical unions. Sections of both cases were shown and also slides showing the fatty acids obtained by evaporating the chloroform in which parts of the specimen had been macerated..

Dr. Wood asked whether Dr. Mandlebaum had made tests on other sections so as to eliminate the possibility of these color reactions having been produced by the action of the strong acid on the proteid of the section itself.

Dr. Mandlebaum said that these tests had not been made. He did not know whether the ordinary proteid would give that reaction in strong sulphuric acid, and whether that obtained might be due to it. He had made other tests with sulphuric acid and with the addition of small quantities of iodine and got both reactions. He was inclined to think these were conclusive. He had also evaporated the extracted chloroform and so got a reaction. It was not quite so marked with the nitric acid and ammonia test.

Glioma of the Brain.—Dr. T. C. Janeway presented this specimen of glioma of the cerebellum, not, he said, because of its remarkable rarity, but because the case had a very characteristic history and ran an unusually rapid course. The specimen was obtained from a man of forty who entered St. Vincent's Hospital on the 25th of October. He gave the following history: He had been a moderate drinker and had chancroids; beyond this there was nothing of any particular importance in his past history. On Labor Day his first symptoms of brain trouble appeared in the form of an attack of dizziness while in a parade. He was compelled to rest and return home. The same day he traveled to Newburg, and while there he fainted and had a repetition of the vertigo. From that time the attacks of vertigo succeeded each other, coming several times a day, and he began to stagger and to run into objects. He had severe headaches, which were very much intensified by any movement. The pain at first was all over the head, but in the latter part of his illness was confined to the right side. He had attacks of vomiting which he referred to taking milk. He was sent to the hospital with a diagnosis of brain fever. On admission he had staggering and exaggerated reflexes, both of the patella and of the arm. The temperature was normal. The right pupil was dilated. Dr. Callan reported optic neuritis which was more pronounced in the right eye. He had perfect control over his bladder and rectum. From that time until December 6, when he died, he was put upon mixed treatment. He was seen by the different attending physicians, and by Dr. Starr, and the clinical diagnosis was made of gumma of the cerebellum. He improved for a time, but the improvement soon ceased and he became delirious, vomited freely, had intense headache, and died rather suddenly. At autopsy the following condition was found: He had a fairly-marked flattening of the convolutions all over both hemispheres. There was a marked flow of fluid on opening the lateral ventricles. Section of the cortex showed nothing particularly abnormal. On opening the cerebellum in the median line one came upon a small irregular cyst filled with yellowish contents, surrounding which was a narrow area of tissue which was hardly demarcated from the normal white matter of the cerebellum in which it lay, except that it seemed to be a little firmer than the rest of the tissue. The lower part involved the right superior peduncle. This portion was in color very much like the normal tissue; there was no distinct line of demarcation. The ragged cyst in the center was filled with yellow contents which showed broken-down granular detritus. Sections from the edge showed perfectly typical glioma with very numerous thin-walled blood vessels. Sections from the peduncle showed very cellular glioma with occasional ganglion cells scattered throughout, which were apparently inclusions in the tissue. A point of interest was whether the initial symptom was due to hemorrhage into the solid portion of the tumor and whether the glioma had been of more than two-months' duration.

Dr. Harlow Brooks said that it seemed to him rather remarkable, from the location of the tumor, that it could have existed long before the onset of the first symptoms. He thought that glioma of the brain often grew very rapidly. In his experience glioma of the cerebellum was much rarer than gloma of the cerebrum.

Dr. Fraenkel said that in his experience glioma of the cerebellum was much rarer than in other portions of the excephalon.

Demonstrations of Cultures of the Meningococcus and Micrococcus Catarrhalis.—Dr. H. C. Cellar gave the results of investigations made during the last five years at the laboratory of Mt. Sinai Hospital on about twenty cultures of the diplococcus intracellularis of Weichselbaum.

Morphologically the meningococcus appeared as a diplococcus, the contiguous sides of the individual members being flattened and separated by a fine line of division appearing as an unstained area under the microscope. There was a marked tendency to form tetrads, but the chain formation described by Heubner, Jaeger, and others, was not seen. It was common to find great variations in the size of the individual cocci, large forms appearing next to small ones, especially in older cultures. All of the cultures were invariable decolorized by Gram's solution; none of the non-decolorizing form of Heubner being met with. The organism showed no capsule. Growth on agar was not constant. Some of the cultures grew upon this medium at first but later lost this power, while others showed a gradually increasing profuse growth and could be readily kept alive by transplanting to fresh tubes at intervals of a few days. The addition of human serum—ascitic, pleural, or hydrocele—to the agar always gave better results, but the most luxuriant growth was obtained upon the medium devised by Dr. Libman, serum agar plus glucose ($\frac{1}{2}$ to 2 per cent.). Maximum growth was obtained with the higher percentage of glucose. With the addition of still higher percentages of glucose (3, 4, 5 per cent.) as well as with the use of lactose or saccharose (2 per cent.) the development of the organism was neither furthered nor hindered, On Loeffler's serum there was an abundant growth, but there was no advantage over the serum glucose media. On glycerin agar the growth varied, usually only a few fine colonies being obtained; but on the addition of serum the growth was profuse. In fluid media the organism grew characteristically. The growth began as a diffuse cloudiness near the surface that after two or three days formed a white scum on the surface. The remainder of the medium was at first clear, later slightly clouded, while at the bottom of the tube there was a floccular sediment. There was considerable difficulty in obtaining growth in this form, as the shaking of the tube would

prevent the formation of the scum or cause it to break up and fall to the bottom after it had formed. The majority of the cultures grew slightly in ordinary bouillin with and without the addition of sugar in the form of glucose, lactose, or saccharose. Some, however, grew only upon the addition of serum; the sugar in these cases having apparently little advantageous effect. There was no gas formation in these media in the Smith fermentation tubes, in which growth was confined to the bulb. In litmus milk growth was demonstrated. The milk was not coagulated, and there was no acidity production. On gelatin there was no growth at room temperature. On potato the results varied. Sometimes there was no growth, while at others there was a delicate film on the surface that was seen with difficulty or could only be demonstrated by scraping the surface of the medium. Anaerobically there was no growth. Almost identical morphologically with the meningococcus, but differing from it culturally, was another organism found in normal and some pathological conditions on the mucous membranes of the respiratory tract, in the eye, the ear, and, occasionally, the urethra. This was the micrococcus catarrhalis of Ghon. The culture studied was obtained through Dr. Buerger of the German Hospital and was isolated from a throat culture. In spreads this organism appeared as a diplococcus with some flattening of the adjacent sides of the cocci. It decolorized with Gram. There was no capsule. In all its characteristics it bore so close a resemblance to the gonococcus that it could be differentiated therefrom under the microscope only with great difficulty. The tetrads formed by the meningococcus, as well as the large forms already described, would sometimes serve to differentiate this from the other two organisms. Further, the individuals of the micrococcus catarrhalis were more nearly oval than those of either the gonococcus or the meningococcus. On agar the micrococcus catarrhalis grew profusely, even in the first generation, herein differing from both the meningococcus and the gonococcus, that showed either no growth or very slight growth on this medium. The use of glycerin or serum agar, Loeffler's serum, or Libman's serum media afforded no particular advantage. In fluid media the scum formation already described was readily obtained if the cultures were not disturbed. The membrane lacked the homogeneity of that formed by the meningococcus, being composed of dry granular clumps floating on the surface. In the variation in the cloudiness of the medium as well as in the floccular sediment the two organisms were identical. There was no gas formation in glucose, lactose, or saccharose bouillon in fermentation tubes; growth was confined to the bulb. Acid production in glucose and saccharose bouillon was demonstrable. In litmus milk there was growth without coagulation or acidity production. On gelatin there was no growth at room temperature. Ghon reported slight growth after five or six days under proper thermal conditions. On potato growth was fairly luxuriant, older cultures appearing yellowish brown, the water remained clear. Anaerobically there was no growth. On plates the meningococcus and micrococcus catarrhalis were readily differentiated. The superficial colonies of the former were light brown; there was no nucleus, but at the center were large clumps that gradually diminished in size toward the periphery. The outer zone was finely granular and paler in color. The edge was sharply defined, circular, and regular. There was a very close similarity between these colonies and those of the gonococcus. The colonies of the micrococcus catarrhalis were dark brown in color, lighter at the periphery. The older colonies showed a distinct dark nucleus, the remainder of the colony being finely granular. The edge was sharply defined and circular, but differed from that of the meningococcus in being irregular, as though gnawed. Macroscopically, the nucleus of the colonies of micrococcus catarrhalis and the white lacquered surface, as compared with the absence of nucleus and the grayish-white surface of meningococcus colonies, served to distinguish between these two organisms. A most important means of differentiation was furnished by the nature of the growth both on slants of solid media and on plates. On the former the meningococcus presented a shining grayish moist growth that was viscid, stringy, and readily scraped from the surface. The growth of the micrococcus catarrhalis, on the other hand, was white, dry, crumbly like mortar, and adhered to the surface of the medium. Sometimes the entire growth could be removed as a membrane. On plates the same differences were seen. The viscidity of the meningococcus colonies stood in marked contrast to the dryness of the colonies of micrococcus catarrhalis, that slid along the surface of the medium without breaking up. The experiments were limited to inoculations into white mice, guinea-pigs, and rabbits. Subcutaneously both organisms were without effect. In a small proportion of cases intraperitoneal and intrapleural inoculations of either meningococcus or micrococcus catarrhalis in mice and guinea-pigs proved fatal. Autopsy showed a serofibrinous peritoneal and a hemorrhagic pleural exudate. A splenic tumor might or might not be present. All the viscera showed hyperæmia and degeneration. The organism could be recovered from the exudates and sometimes from the blood and spleen. The virulence of the micrococcus catarrhalis was far less marked than that of the meningococcus. Larger animals were less susceptible. In rabbits intravenous (Ghon, Weichselbaum) and intracranial (Weichselbaum) inoculations of the meningococcus proved fatal. Injections into the meninges of goats with the production of meningitis had been successfully carried out by Heubner and by Councilman, Mallory, and Wright.

Remarks on the Meningococcus, and on Its Relationship to the Gonococcus and Micrococcus Catarrhalis.—Dr. E. LIBMAN made some remarks on these organisms in connection with the demonstrations by Dr. Celler, particularly with the idea of attempting to throw some light on the questions in dispute. During the past five years he had had the opportunity of studying bacteriologically over one hundred cases of menengitis. In most of these the fluid obtained by lumbar puncture intravitam was examined; in a few examinations were made at autopsy only. In these cases he had had the following results.:

Tuberculous cases	44
Streptococcus cases	17
Pneumococcus cases	6
Staphylococcus aureus cases	3
Pseudo-influenza bacillus cases	1
Proteus vulgaris cases	1
Bacillus pyocyaneus cases	1
Diplococcus meningitis cases	20

In a few cases streptococci and a variety of bacilli were found; the last could not be grown aerobically. It was suspected that these were anaerobes, particularly as all these cases were secondary to mastoid disease. The cases occurred in all the services of the hospital; a few were cases from the private practice of Dr. Libman and other physicians. (The larger number of cases due to the meningococcus occurred in Dr. Koplik's service.) Dr. Libman then briefly stated their opinions on several mooted points, based on a study of these cases.

1. As to the relationship of the pneumococcus and the meningococcus from an epidemiological standpoint: All the pneumococcus cases were secondary. Observations recorded in the literature would seem to indicate that the pneumococcus could cause epidemic meningitis. It was to be noted that any pathogenic organism might produce a meningitis as the only evidence of a systematic sepsis; and an organism might cause a meningitis by first causing an otitis media or a small area of pneumonia. If the primary disease led in a short time to a menin-

geal inflammation, the case clinically corresponded to a primary meningitis. One of the pneumococcus cases studied was characterized by an acute meningitis following within less than twenty-four hours an apparently mild otitis media without pus production.

2. There were on record descriptions of a number of varieties of the meningococcus (Heubner, Jaeger, and others). Some corresponded to what Weichselbaum described. Others differed in holding the Gram stain, in the profuseness of their growths on ordinary agar and bouillon, or in their growth on gelatin media, etc. All of Dr. Libman's cultures corresponded with those described by Weichselbaum. None of them ever showed Gram-positive diplococci. There was a variation of the growth on media not containing serum; but it was never profuse. He only once obtained a growth (very slight) on gelatin at room temperature, and hardly any or none on potato in the incubator. According to his experience then there was but one type of the diplococcus meningitidis in the New York cases of cerebrospinal meningitis. Councilman and Wright found the same in Boston, Olser and Hirsch in Baltimore, and Herrick and others in Chicago. They were inclined to believe that there was but one type of organism at play in the European cases. The description of other varieties was believed to be due to one of three causes: (a) Variations in the use of the Gram stain. (b) Use of other methods for differential staining. (For instance, Heubner uses a Gram-Weigert stain.) (c) The occurrence of skin contaminations (staphylococci).

3. If it were not for a statement in Leube's book on diagnosis (last edition) it would hardly be necessary to point out that the pneumococcus should not be confused with the meningococcus. Leube said that animal experiments are necessary for the identification of these organisms. If it be granted that the meningococcus did not hold the Gram stain there was a fundamental difference. The pneumococcus was lancet-shaped, has a capsule, diffusely clouded bouillon, grew much less profusely than the meningococcus in serum media, etc.

4. As to the occurrence of the meningococcus in the nose and throat it was found several years ago that other diplococci occur in the nose and throat which resembled the meningococcus morphologically and in staining reactions. In one case reported by Dr. Koplik, Dr. Schwarz found the meningococcus (proven culturally) in a conjunctival inflammation which was followed by a fatal attack of meningitis. The meningococcus was repeatedly found in the cerebrospinal fluid.

5. Dr. Libman considered the demonstrations made by Dr. Celler of prime importance not only with regard to the undoubted confusion the micrococcus catarrhalis had caused with regard to the meningococcus, but also because it could be easily mistaken for the gonococcus if cultures were not made. It had been repeatedly seen in cultures from the throat and in sputum, and once in otitis media. It had been found in the urethra and probably in the conjunctival sac. The culture of the micrococcus catarrhalis demonstrated corresponded to those described by Ghon and Albrecht (*Zeitschrift für klinische Medicin*, Vol. 44). Dr. Libman was convinced that this is but one of a group of closely allied organisms.

6. Since Dr. Celler has shown how the meningococcus could at times closely resemble the gonococcus culturally, it was important to differentiate the organisms carefully; this was true not only from a mere technical standpoint but also because the question may arise clinically. Fraenkel had described meningococcus-like organisms in conjunctivitis. Furbringer reported a case in which cerebrospinal meningitis occurred in a patient with gonorrhœa. The meningococcus was found in the puncture fluid and apparently (cultures not made) the gonococcus in the urethral discharge. There were also reported two cases in which the meningococcus was found in the blood; in one long before symptoms of meningitis were manifested. In such cases as this last careful methods should be used before the identity of the organism is established. Special stress was laid on these points:

(*a*) The occurrence of tetrads and the irregularity in size and staining reactions.

(*b*) The profuse growth of the meningococcus in Loeffler's serum and the absence of any growth of the gonococcus on this medium. Some claimed to have seen a very slight growth of the gonococcus.

(*c*) Dr. Libman never obained growth on the gonococcus in agar. At times the meningococcus grows on agar. Some writers had noted slight growths of the gonococcus on agar. In any event a good growth on agar spoke against the gonococcus.

In serum bouillon media and serum glucose bouillon media, the two organisms grew practically in the same way. It was repeatedly noted that the growth of the gonococcus in fluid media, if the observations were carefully made, was on the top of the fluid in the form of a white scum. This feature of the gonococcus had, as far as he knew, never before been described.

7. None of the three organisms under discussion caused precipitation in any of Dr. Libman's serum sugar media. According to his experience, staphylococci always precipitated in 2 per cent. glucose serum agar. By the use of this medium the occurrence of the confusion of staphylococci with meningococci, which Ghon and Albrecht suspected in some of the reported observations, could be avoided.

8. As to the frequency of finding the meningococcus in cases of cerebrospinal meningitis, Dr. Libman had studied thirty cultures in twenty cases (in some, repeated examinations were made). In all cases the diplococcus was found in spreads or in cultures. In the first seven cases they failed to obtain the organisms culturally in one. In the last seventeen cases positive cultural results were always obtained. At times the organisms were found in spreads at first, but not later. Cultures might be positive first and negative later. They believed the diagnosis could always be established if the examination were made early. In cases of long standing, cultures and spreads might be found negative.

9. Results were obtained with small amounts of fluid when the 2 per cent. serum glucose agar was used. Usually ½ to 1 c. cm. of fluid was poured into a tube of the medium. Twice a day the condensation fluid and added fluid were allowed to flow over the surface of the medium (Heubner's method). It often required forty-eight hours for a result. Once it required seventy-two hours. The occurrence of a growth of a Gram-negative diplococcus, which showed no or but slight growth on agar, no growth on gelatin nor on potato nor on bouillon in twenty-four hours, which caused no change in litmus milk in the same time, and which grew profusely on Loeffler's medium was sufficient to make the presence of the meningococcus a certainty. These final remarks held true provided media of certain titers are used. From his experiences Dr. Libman thought that the media not containing serum should be neutral or slightly alkaline to phenolphthalein. The serum media should be made from agar, which is ½ or 1 per cent. acid. The subject of the titer was of extreme importance with regard to the meningococcus and gonococcus.

Dr. Harlow Brooks said that some years ago he had studied a series of cases of purulent meningitis. This was before Dr. Libman's culture media had been devised. He became so mixed up with the various forms of meningococci that he had never dared to publish the results. He had found it very difficult to differentiate at times between the meningococci and the micrococcus catarrhalis. He also found that animal experiments were very uncertain. He found that large quantities of culture were usually required in order to obtain growths of the

meningococcus. He thought that Dr. Libman and Dr. Celler's work was most important and would be particularly appreciated by those who had done any work with these organisms.

The Influence of Nephrectomy on Absorption.—Dr. William Salant of the Rockefeller Institute for Medical Research read a paper by Dr. S. J. Meltzer and himself on the influence of nephrectomy upon absorption, in which they gave the results of their studies upon absorption from the peritoneal cavity of nephrectomized and normal rabbits. They began by injecting an .8 per cent. salt solution, which was allowed to remain in the peritoneal cavity for from one-half to nineteen hours. Injection was made immediately after nephrectomy. It was found, contrary to expectation, that absorption was much better in nephrectomized than in normal rabbits. In normal rabbits the average per cent. of absorption per kilo. was 43 per cent., while in nephrectomized rabbits it was 65 per cent. Since these results might be due to the rise of osmotic pressure in the blood of nephrectomized rabbits, several series of experiments were undertaken with salt solutions of higher concentrations. The next series of experiments was performed with 1 per cent. salt solution, which was allowed to remain in the peritoneal cavity for one and one-half hours. Absorption in normal rabbits was 18 per cent. in one experiment; in another, 60 per cent. more was recovered than was injected, while in nephrectomized rabbits absorption was 47 and 43 per cent. The next series was experimented upon with 1.2 per cent. salt solution, which was injected either immediately after double nephrectomy or about seventeen to forty hours later, and was allowed to remain in the peritoneal cavity for from one-half to six hours. In a number of experiments of this series the average of absorption per kilo. of normal rabbits was one-half per cent., while in nephrectomized rabbits it amounted to 25 per cent. The assumption that there was a rise of osmotic pressure in nephrectomized animals was made more probable by the results of the series with 1.5 per cent. salt solution. In three out of four experiments 10 to 20 per cent. more fluid was recovered than was injected in normal rabbits, while in nephrectomized animals 30 per cent. per kilo. was absorbed. In the next and last series with 2.0 per cent. salt solution, there was a negative absorption, *i. e.* more fluid was recovered than was injected, manifested itself for the first time in nephrectomized rabbits, which was, in all probability, an indication that 2 per cent. salt solution was hyperto ic for nephrectomized rabbits. Experiments with a stay of six hours in the peritoneal cavity did not show any difference between the normal and nephrectomized rabbits in any of the different series that were considered. Thus they obtained similar results with 2.0 per cent., 0.8 per cent., and 1.2 per cent. salt solutions, which is apparently due to the fact, proved by many investigations, that liquids whether hypertonic or hypotonic became isotonic with the blood after a longer stay in the peritoneal cavity. The results showed that the power of absorption was considerably increased in nephrectomized rabbits. This held good for at least twenty-four hours after nephrectomy. In one instance it was found that even after forty-one hours' absorption was better in nephrectomized than in normal animals. In another instance there was no difference. These results would explain the fact that no œdema is seen after nephrectomy in animals. They also explain the clinical observation of anuria persisting for many days without leading to œdema. The cause of all this was that the first effect of nephrectomy was not an increase of transudation of lymph into the tissue spaces, but an increase of absorption from them.

Dr Levene asked whether the investigators had considered that there was only the one possibility that the increase of osmotic pressure in the blood was the cause of the impairment of absorption after nephrectomy, and this was the case, and since the theory was so new, whether there had not been some chance to prove that the osmotic pressure of the blood was really so much higher than in normal animals. It seemed to him that in advancing such a new theory it would be desirable to corroborate it. The technical methods of determining the osmotic pressure in the blood were so simple and easy to carry out that he thought the determination should have been made before such important conclusions were drawn as the result of the experiments.

Dr. Meltzer said that in the first place the experiments were carried out with the idea of demonstrating whether absorption was increased or diminished in nephrectomized animals, and the question of the determination of the osmotic pressure of the blood was an entirely secondary matter. Indeed, these determinations had already been made by Koranyi, and were published in one of his articles, although as the reference was in a foot-note it might easily be overlooked. In fact, Dr. Meltzer and his associate had not known of it until after they had made some of their experiments. Koranyi states that he found a distinct difference in the freezing point of the blood of normal and nephrectomized animals. In normal animal the freezing point was 0.56; in nephrectomized animals, 0.70.

Dr. Levene then asked if the alterations in the circulation, or vasomotor disturbances due to the operative technique, might not have caused the increased absorption.

Dr. Meltzer said there was no hyperæmia of the peritoneum after operation. The incisions were made as small as possible, and the autopsies had shown that there was no peritonitis. Besides, peritonitis did not favor but rather retarded absorption. That there was no especial change in the circulation after nephrectomy was shown long ago by v. Limbeck.

Remarks on Vasomotor Nerves, with Demonstrations.—Dr. S. J. Meltzer read a paper written by Dr. Clara Meltzer and himself on this subject. He said that since 1852 the sympathetic had been considered the sole or main vasomotor nerve of the ear. This was the impression one got from examining textbooks on physiology. They investigated the subject in a series of twenty-one rabbits. Without entering upon a description of the operation, Dr. Meltzer gave the following results: In about one-half of the animals the dilatation of the vessels of the entire ear, after section of the third cervical, was well marked and as good, if not better, than that following section of the sympathetic. In only two section of the cervical had almost no effect. In the balance the dilatation was chiefly in the vessels of the upper part and sides of the ear. Section of the left cervical gave more distinct effects than that of the right. It seemed that this applied also to the sympathetic. In a number of animals they especially noted that while the effect of the section of the sympathetic is considerably diminished in three or four days, that of the cervical continues in most animals undiminished for a much longer period. Dr. Meltzer gained the impression that the color of the animal had some influence. Stimulation of the peripheral cut end of the cervical had also given in many cases a greater constriction than the stimulation of the sympathetic. In some animals the constriction affected the vessels of the entire ear; in others it affected only the vessels of the top and sides; and in a few there was no effect. In all cases both sides were different, the left side usually giving greater effects. A few cases were observed in which stimulation of the cervical had very little or no effect; nevertheless section of this nerve caused considerable congestion of the ear, which showed that the cervical maintained a vasoconstricting tonus. This meant that normal stimuli were more adequate than the artificial ones which we usually employed in experiments. These experiments demonstrated that the blood vessels of the rabbit's ear were under the control of two separate sets of nerves, the cervical and the sympathetic, which could substitute one another—a

striking example of collateral innervation. The authors showed two rabbits which demonstrated some of the phenomena referred to in the paper.

Dr. I. Levin said that he had been interested in Dr. Meltzer's statement that the color of the animals had seemed to have some influence on the results of the experiments. In the work which he had himself done requiring intravenous injections, he had always preferred white rabbits. He asked Dr. Meltzer whether he had also found that the vessels of the white rabbit were more developed and whether that explained why the widening after the cutting of the nerve was greater. He also asked whether there was not a difference between the results of the operation in the right side and on the left side. In nature these arteries, he said, were larger on the right side than on the left. Would not the difference in the normal caliber of the arteries on the two sides interfere with the measurements after cutting of the cervical nerves?

Dr. Meltzer said that in regard to the question of the different results according to the color of the rabbit they did not wish to go on record. Hundreds of rabbits would have to be studied before a conclusion in this regard could be positively demonstrated. With regard to Dr. Levin's second question, Dr. Meltzer said that the difference between the right and left sides in the widening of the vessels after section of the nerves were not a matter of theory but of observation. They had seen the blood vessels before the section of the nerves, and knew that there was no such performed anatomical differences between the two ears. Nor would this have anything to do with the question of stimulation. By stimulating the nerves on the left side a greater effect was produced than by stimulating those on the right side. This fact had nothing to do with the original size of the vessels.

Experiments Relating to the Fixation of Strychnine by Animal Tissues.—Dr. Gustav Langmann read a paper by Dr. S. J. Meltzer and himself on this subject. While it was formerly supposed that strychnine, whether taken by the mouth or injected hypodermically, combined with the tissues, Dragendorff and other observers proved that it left the system unaltered and was principally excreted by the kidneys within less than forty-eight hours. Von Czyhlarz and Donath revived this question in 1900 by claiming that strychnine when injected into a ligated extremity of a guinea-pig was neutralized by contact with the living tissues. Meltzer and Langmann, repeating the same experiments, were unable to confirm these statements; they thought it probable that absorption was impaired by the constriction and that sufficient elimination took place, so that at no time an efficient minimum was reached. Carrara, however, sustained the theory of v. Czyhlarz and Donath by apparently conclusive experiments. After checking all elimination through double nephrectomy he found that strychnine injected into a ligated extremity caused no symptoms. Although this premise sounded very plausible, it had never been tested by experiment, and Meltzer and Salant found that rabbits, at least after double nephrectomy, would tolerate the gradual injection of the triple lethal dose without exhibiting the least effect of strychnine. The same experiments were repeated by Meltzer and Langmann on guinea-pigs, and it was found again that after double nephrectomy doses far above the lethal could be injected without obtaining a single symptom of strychnine poisoning, provided that not too large doses were used, and that they did not follow each other too closely. The gradual injection of as much as 20 mgr. per kilo did not even cause a hyperæsthesia, although the lethal dose for normal animals is 4 mgr. per kilo. These experiments, therefore, could not be adduced to sustain von Czyhlarz and Donath's theory. It was furthermore established that strychnine was ineffective only provided it was not injected within the first three hours after nephrectomy. Previous to that period even subminimal doses proved fatal. Some of the nephrectomized animals exhibited a subtetanic reaction, a peculiar continuous vibration, ending in death within an hour. It seemed likely that during the hours following nephrectomy the system elaborated a compensatory mechanism of elimination for the injection of strychnine into a ligated extremity proved to be fatal if nephrectomy was performed and the ligature loosened three hours after the injection.

Dr. P. A. Levene said that he had made the same observations that Dr. Langmann had made in support of his theory as to the reaction of the organisms on strychnine. He said that a paper had appeared during the year on the antitoxic effect of nerve tissue on tetanus toxin. It was claimed by the author that nerve tissue had not the power to absolutely neutralize tetanus toxin, but to a certain extent diminished its effect. Tetanus toxin was given to an animal mixed with the pulp of brain tissue. It was found that smaller amounts of antitoxin were needed to save the life of the animal than when the toxin was injected directly without the brain emulsion. The author, therefore, claimed a specific antitoxic effect for the brain emulsion. It seemed to Dr. Levene that a simpler explanation would be that the tetanus toxin acted more slowly in the colloidal solution than when injected directly, and that, therefore, less antitoxin was necessary to save the life of the animal.

Dr. Meltzer said that he arose again not to defend his own experiments but those of another. Wassermann's experiments were not performed by mixing brain tissue and tetanus toxin, but the toxin was injected into one side of the animal and the brain tissue into the other side.

Dr. Levene then said that he had not had reference to Wassermann's experiments.

Books Received.

Diseases of the Eye. By G. E. De Schweinitz, M.D. Fourth edition. 8vo, 773 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa. Price, cloth, $5.00 net; sheep or half morocco, $6.00 net.

Twentieth Century Practice of Medicine. Edited by Thomas L. Stedman, M.D. Vol. XXI. Royal octavo, 845 pages. Illustrated. William Wood & Co., New York. Price, $5.00.

A Manual of Materia Medica and Pharmacology. By David M. R. Culbreth, M.D. Third edition, octavo, 916 pages. Illustrated. Lea Brothers & Co., New York.

Anatomy. By Wm. H. Rockwell, M.D. 8vo, 520 pages. Illustrated. Lea Brothers & Co., New York.

Progressive Medicine. Vol. IV. By Hobart Amory Hare, M.D. 8vo, 422 pages. Illustrated. Lea Brothers & Co., New York City.

The Practical Medicine Series of Year Books. Vol. II. General Surgery. By John B. Murphy, M.D. 12mo., 553 pages. Illustrated. The Year Book Publishers, Chicago, Ill. Price, $2.00.

Therapeutics of Dry Hot Air. By Clarence Edward Skinner, M.D. 8vo., 200 pages. Illustrated. A. L. Chatterton & Co., New York. Price, cloth, $2.00.

Biographic Clinics, the Origin of the Ill-health of DeQuincy, Carlyle, Darwin, Huxley, and Browning. By George M. Gould, M.D. 8vo, 223 pages. P. Blakiston's Son & Co., Philadelphia, Pa. Price, $1.00 net.

Historia De La Medicina En Guatemala. By Francisco Asturias. 8vo, 557 pages. Illustrated.

Transactions of the Twenty-fourth Annual Meeting of the American Laryngological Association. 8vo, 259 pages. Illustrated. Rooney & Otten, New York.

Book on the Physician Himself, His Reputation and Success. By D. W. Cathell, M.D. 8vo, 411 pages. The Twentieth Century Edition. F. A. Davis Co., Philadelphia. Price, cloth, $2.00 net.

Tratado Teórico-Práctico de las Enfermedades de los Niños. By Doctor Francisco Criado y Aguilar. Imprenta del Asilo de Huérfanos del S. C. de Jesús, Madrid. 25 pesetas.

Estudio de un Sistema de Alcantarillado para Málaga. By Don Ramón Martín Gil. Vinda de J. Hiral, Malaga.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending January 31, 1903:

	Cases.	Deaths.
Measles	164	8
Diphtheria and croup	361	60
Scarlet fever	264	15
Smallpox	3	1
Varicella	129	..
Tuberculosis	248	163
Typhoid fever	34	9
Cerebrospinal meningitis	..	..

The Prophylactic Treatment of Typhoid Fever by Inoculation.—W. C. Stevenson reviews our knowledge on typhoid prevention in the manner described, and says that out of seventy cases only one patient was compelled to go to bed. This patient had a mild fever for twenty-four hours. Another patient vomited three hours after inoculation. The symptoms were mostly local. Two hours after injection the muscles in the region of the wound were stiff and painful on movement. This sensation was at its height the following morning, and subsided slightly during the day, having disappeared entirely by the morning of the fourth day. On the second inoculation local symptoms were but little marked, but there was slight malaise for a day or two. The immunity brought about seems to be similar, but more certain than that produced by long residence in a locality in which typhoid fever is endemic. Inoculation does not absolutely prevent the disease, but statistics incontestably show that the percentage of cases among the inoculated is considerably less than among those not thus treated, the exposure in both classes being the same. The caution is given that discretion must be exercised in practising inoculation in the presence of an epidemic, when an overdose of the typhoid vaccine would for a short period lower the resisting power of the disease. —*Dublin Journal of Medical Science.*

An Old Plan of Treatment for Acute Coryza.—Sternberg describes a method of treating this annoying condition, which is based on the long forgotten plan of an eminent teacher of a former generation, M. J. B. Williams. This consists in abstinence from fluids during the early stage of the disease, whereby the natural secretions of the body use up the reserve fluid present, and the excessive secretion of the affected mucous membranes is checked. The local irritation is thereby also lessened, and the return to the normal state greatly hastened. The treatment must be begun with the first symptoms of the malady, and continued for forty-eight hours in ordinary cases and longer for obstinate ones. The diet should be light and easily digestible, and all soups, beverages, etc., omitted. A teaspoonful of tea or coffee at breakfast and a wineglassful of water at bedtime do not impair the efficacy of the cure. The great advantage of the method is the fact that it can be carried out by anyone and does not in any way interfere with ordinary duties of life, so that even those who ordinarily consider a "cold" as a necessary evil too trifling to justify any confinement to the house or other restrictions can easily carry out this plan.—*Zeitschrift für Diätetische und Physikalische Therapie.*

The Technique of Gastric Lavage.—C. Neck says that the usual procedure of siphonage suffices to empty the stomach to a satisfactory degree in most instances. In cases of motor insufficiency, however, a certain amount of fluid always remains behind, while in surgical operations on the stomach it is especially important that the organ be completely empty before it is incised. In such cases after the lavage has been kept up in the ordinary way until the washings return clear the patient is placed in the Trendelenburg position. A further quantity will immediately be discharged, and as the tube is slowly withdrawn, the flow will continue until the instrument has left the cardiac orifice, when the organ will have been entirely emptied. Experiments on the cadaver showed that when the operation was performed in the ordinary way, a little pool was always left behind, but on the change of position, this gravitated to the cardiac, and could then be aspirated if the tip of the tube were kept in the fluid by slowly pulling it out at the mouth.—*Centralblatt für Chirurgie.*

Causes of Death.—The fifteen principal causes of death, with the rate per 100,000, as made public by the census bureau, is as follows: Pneumonia, 191.9; consumption, 191.5; heart disease, 134; diarrhœal diseases, 85.1; kidney diseases, 88.7; apoplexy, 66.6; cancer, 60; old age, 54; bronchitis, 48.3; cholera infantum, 47.8; debility, 45.5; inflammation of brain and meninge, 41.8; diphtheria, 34.4; typhoid, 33.8; and premature birth, 33.7. Death from all principal causes shows a decrease since 1890, the most notable being consumption, which shows a decrease of 54.9 per 100,000.—*Dietetic and Hygienic Gazette.*

Portal Congestion.—Hemorrhage from secondary ulceration of the stomach, in cases of heart or liver disease, calls for a special line of treatment. Samuel and Sultan Fenwick recommend that the portal congestion be relieved by half a dozen leeches, applied over the liver, while the bowels are freely moved by a mercurial followed by a saline.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending January 31, 1903:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
California, Los Angeles	Jan. 4–17		6	..
San Francisco	Jan. 11–18		8	.
Colorado, Denver	Jan. 10–17		0	..
Illinois, Chicago	Jan. 17–24		11	1
Galesburg	Jan. 17–24		1	..
Indiana, Evansville	Jan. 18–24		1	1
Indianapolis	Jan. 10–17		37	0
South Bend	Jan. 17–24		5	..
Kentucky Lexington	Jan. 17–24		4	..
Louisiana, New Orleans	Jan. 17–24		2	..
Maine, Aroostook Co., Presque Isle included	Jan. 20, 150 to 400 cases.			
Biddeford	Jan. 17–24		10	..
Massachusetts, Boston	Jan. 17–24		5	3
Cambridge	Jan. 17–24		1	..
Chelsea	Jan. 17–24		1	..
Michigan, Grand Rapids	Jan. 17–24		21	..
Missouri, St. Louis	Jan. 18–25		17	..
Nebraska, Omaha	Jan. 17–24		6	..
New Hampshire, Manchester	Jan. 10–24		7	..
Nashua	Jan. 17–24		1	..
New Jersey, Camden	Jan. 17–24		1	..
Newark	Jan. 17–24		8	..
New York, New York	Jan. 17–24		1	..
Ohio, Chillicothe	Jan. 17–24		1	..
Cincinnati	Jan. 16–23		8	
Cleveland	Jan. 17–24		14	3
Dayton	Jan. 17–24		5	..
Hamilton	Jan. 17–24		2	..
Pennsylvania, Erie	Jan. 17–24		9	..
Johnstown	Jan. 18–25		2	..
McKeesport	Jan. 17–24		5	..
Philadelphia	Jan. 17–24		13	2
Pittsburg	Jan. 17–24		23	4
Reading	Jan. 19–26		1	.
South Carolina, Charleston	Jan. 17–24		3	..
Tennessee, Memphis	Jan 17–24		8	..
Wisconsin, Milwaukee	Jan. 17–24		3	..

SMALLPOX—FOREIGN.

Austria, Prague	Dec. 27–Jan. 3		9	..
Belgium, Antwerp	Dec. 27–Jan. 3		0	3
Ghent	Dec. 21–Jan. 3		.	3
Canada, Amherstburg	Jan. 17–24		2	..
Great Britain, Birmingham	Jan. 3–10		1	..
Dublin	Jan. 3–10		1	..
Glasgow	Jan. 9–16		1	..
Leeds	Jan. 3–10		3	..
Liverpool	Jan. 3–10		59	6
London	Dec. 27–Jan 10		5	..
Manchester	Jan. 3–10		6	..
Sheffield	Dec. 27–Jan. 10		4	..
Russia, Odessa	Dec. 27–Jan. 3		4	..
St. Petersburg	Dec. 27–Jan. 3		18	5
Straits Settlements, Singapore	Dec. 6–13		..	2

YELLOW FEVER.

Columbia, Panama	Jan. 12–19		6	2
Mexico, Tampico	Jan. 10–17		..	2

CHOLERA.

Egypt, Alexandria	Dec. 28–Jan. 4		9	6
Java, Batavia	Dec. 6–13		1	1

PLAGUE.

India, Karachi	Dec. 13–20		25	13

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Original Articles.

A RÉSUMÉ OF SOME RECENT RESEARCHES RELATING TO CYTOLYSIS AND IMMUNITY.*

BY T. MITCHELL PRUDDEN, M.D.,
NEW YORK.

IN the early years of the new bacteriological era it was chiefly upon the invasive agents in infectious diseases that attention was centered. The characters, sources, variations, portals of entry to the body, and fate of the bacteria—these were the dominant aspects of infection, full of fresh and dramatic interest. To-day the tide is setting toward the nature and variations of the responses of the cells of the host under such new and often baleful conditions as infection involves. It is only now that light from both sides is falling upon the questions which relate to infection and immunity that these are taking their places among related problems of general biology.

I shall not burden you with classification, but it is convenient, for the sake of getting associated facts together to consider immunity to the infectious diseases as either natural or acquired.

The absolute or relative insusceptibility of turtles and fishes for tetanus, of rats for anthrax, and of the lower animals for syphilis and for scarlatina, are examples of natural immunity which we need not further consider here.

Acquired immunity may be the result of a successfully weathered infectious disease, as in the case of smallpox. Or it may be experimentally secured through the gradual adaptation of the body to infectious or to toxic substances without the natural manifestations of infection or intoxication.

There are many ways in which immunity by gradual adaptation may be obtained. For example, by the introduction into the body in increasing quantities or potency of living microorganisms whose virulence has been at first diminished. This reduction in virulence may be secured in various ways; for example, through the action of heat or chemicals; by drying in the air, as in the preventive inoculations in hydrophobia; by the passage through a naturally insusceptible animal, as in vaccinia. Or, on the other hand, immunity by gradual adaptation can be secured by the introduction of the dead bodies of infective microorganisms, or of various toxic substances in increasing doses. But all these methods belong to current knowledge and need not be further dwelt upon.

We can all readily recall the time, little more than a decade ago, when the conceptions of the nature of immunity from infectious disease, whether it were natural or acquired, were most vague and unsatisfactory. Clinical lore relating to the subject was positive; the nature of the infectious diseases in the light of the new knowledge of microorganisms was rapidly assuming definite proportions, and the varied lines of research upon animals were converging more and more upon the conditions under which acquired immunity occurs. But still the heart of the matter eluded our grasp.

Bacteria and other microorganisms are in some way destroyed within the body; this was evident; the body cells do, in some fashion, acquire a capacity to resist the deleterious agencies which are evoked in infection. But the nature of these conservative processes was not clear.

Various hypotheses were framed. Nutrient material in the body becomes exhausted, said one, so that the microorganisms presently die. Self-engendered poisons, said another, lead to their destruction. The results of the brilliant studies of Metschnikoff were formulated in the doctrine of phagocytosis. A long series of observations on the germicidal power of the body fluids led many to adopt the humoral conception of the protective agencies.

But now a new and, in spite of the varied lore which had gathered about immunity, a quite unexpected phase of the subject suddenly developed.

It is not easy to realize with entire clearness to-day the feeling of incredulity with which we faced the announcement—now somewhat more than a decade ago—of the antitoxic capacity of the blood serum of animals which had been artificially immunized against diphtheria toxin. This capacity seemed all the more striking because the serum of the immune animals containing this new stuff, on being transferred bodily to fresh individuals, even though of different species or race, still carried the power to avert the specific toxic effects through which it had been itself evoked. The protection thus secured was not against typhoid fever, or tetanus, or smallpox, but only against diphtheria.

It seemed fairly incredible that the body cells should be able to respond to so peculiar and specific a poison as that of the diphtheria bacillus by the elaboration of a new substance so definitely specific and so definitely conservative. How were we to conceive of what seemed to be new physiological capacities called into being within a few weeks under the influence of agencies brought to bear upon the animal body now, apparently, for the first time in its individual or even in its whole racial history. This seemed teleology in its most striking form, and the cells of the body colony seemed to be fairly raised to the plane of sentient beings, suddenly purposeful and potent for the welfare of the organism.

It all seemed romance rather than science. But diphtheria antitoxin is a real thing. We make it, through the good offices of the horse, in adequate quantities; we test its strength; we bottle and label and inject it. While the chemist cannot isolate it nor write its formula, he tells us that it most resembles the globulins, and its practical value is established beyond the need of proof or rehearsal.

The effect of antitoxin in the blood is not to kill or destroy bacteria, but to render harmless the corresponding toxin. But how is this effect produced? Does the antitoxin destroy the toxin? Apparently not, for after the so-called neutralization of the toxin the latter can in some instances be recovered. It was assumed that the effect is secured by some

*Read before the Practitioners' Society, January 2, 1903.

rapid action of the antitoxin upon the body cells, by which these become speedily invulnerable or are stimulated to produce new substances. But analogous effects can be secured in test-tubes, and here the action of living cells is excluded. Altogether, the facts point toward a chemical union of toxin with antitoxin, whereby the former is deprived of its capacity to injure cells.

This form of antitoxic immunity, secured by the conveyance of the blood serum of an animal gradually adapted to a toxic or infective agent, and containing the protective substance ready formed, is called *passive immunity*, in distinction to the insusceptibility secured by an individual for himself through a direct adaptation to the deleterious substances, which is called *active immunity*.

In active immunity the protective stuff is elaborated by the directly immunized individual; in passive immunity it is furnished ready made. The induction of active immunity takes time; passive immunity is secured at once. Active immunity is usually of considerable duration; passive immunity is evanescent.

Results similar to those obtained in the study of diphtheria antitoxin were soon realized in the investigations of tetanus. But the practical value of the tetanus antitoxin as a therapeutic agent was less obvious. Presently it was shown that antitoxic sera may be developed in the body during immunization to snake venom, vegetable poisons, such as ricin, and to other albuminous animal and vegetable materials. Thus, also, through experimental adaptation, the living body cells may elaborate and set free into the serum substances which suspend the action of ferments like rennet, pancreatin, fibrin ferment, etc.

Now, for a time, the possibilities of serum therapy seemed boundless, and the preparation of sera against all sorts of pathogenic bacteria went on at a breathless rate. Pneumonia and typhoid, streptococcus septicæmia and plague, tuberculosis, and cholera—these and many other sera have been faithfully and persistently studied. But one after another they have been found to be, for the most part, of doubtful value and have been set aside. The analogy of other infections with diphtheria and tetanus seemed to be somehow faulty, and the key to the difficulty was wanting.

The nature of the immunizing process was still so obscure and the failures, except with diphtheria and tetanus, were so conspicuous, that Virchow, a little jealous always of the bacteria which had for the moment crowded his beloved cells aside, was not without justification in his assertion that with all the talk of serum therapy we had obtained, indeed, in single instances, empirical practical results, comparable with Jenner's vaccination, but offering no more than did his discovery any theoretical insight into the nature of the processes through which the effects were secured.

Just at this period, then, the condition of affairs, as regards artificial immunization in man, was about as follows: There were two practical methods in vogue, vaccination for smallpox, and preventive inoculation in hydrophobia; both elaborated in entire ignorance of the inciting microorganism, and both highly successful. There was then the method by antitoxic serum of the greatest practical value in diphtheria, of much less certain usefulness in tetanus. This serum method of so-called passive immunization was developed as the result of the most painstaking researches on the bacilli known to be the incitants of these diseases, and leading, step by step, to one of the most noteworthy triumphs of modern science.

But so far as man was concerned the protective sera for a long list of other infectious diseases, which had been widely tested, had been so uniformly unsuccessful as to lead to the conjecture that, while there is a form of immunity which can be appropriately designated as antitoxic, in the greater proportion of immunizations other protective agencies must be at work which were still but incompletely accounted for in the doctrine of phagocytosis or in the current conceptions of humoral germicides.

A good deal of lore had been gathered about the germicidal action of blood serum and certain of the phagocytic body cells under various conditions. But the nature and details of the process by which bacteria are destroyed in the body remained obscure.

Several years ago, however, Pfeiffer showed that the peritoneal fluid of a guinea-pig, artificially immunized against the cholera vibrio, was capable, under certain conditions of not only immobilizing and killing in a short time cholera germs placed in the peritoneal cavity of the living animal, but also of causing their disintegration and destruction. This significant capacity of immune serum was, after a long series of experiments, finally found to be due to two distinct substances. One of these appeared to be formed in the body, as the result of the gradual adaptation of the animal to the cholera microbe, and was called the *immune substance*. The other seemed to be normally present in the serum of the warm-blooded animals, and to be identical with the substance which had long been regarded as in itself germicidal, and which had been called by Buechner *alexin*. It was presently found that lysis of the cholera microbe occurred only when these two substances act together, neither of them when separate having lytic power. If the two substances, the immune substance and the alexin, lytic when together, were heated to 70° C., the lytic capacity was lost. But if a small amount of fresh blood serum containing alexin were now added, the lytic power was at once restored. These curious facts, set forth in part by Pfeiffer and further developed by Bordet and Metschnikoff, obviously have an important bearing upon our conception of the processes by which some phases of immunity are secured.

But the study of the effects of lytic sera upon bacteria is one of great technical difficulty, owing to the minute size of the organisms and the conditions under which they can be observed. So the advance of knowledge in this direction halted for a time, and the observations of Pfeiffer did not at once assume their full significance.

It was evident, however, that two phases of immunity should be recognized, *antitoxic immunity* and *bacteriolytic immunity;* though it was not then, nor is it yet, clear whether these may not frequently or always be associated in the protective processes.

The "Side-Chain" Hypothesis of Ehrlich.—Just here, before passing to some recent researches bearing upon bacteriolytic immunity, I should like to recall to your memory the so-called "side chain" hypothesis of Ehrlich, by which he strove to account for the phenomena of antitoxic immunity as exemplified with especial clearness in diphtheria and tetanus. Without this hypothesis we are to-day still practically at sea and adrift in our views of the nature of antitoxic immunity. While this remarkable capacity of the body to manufacture off-hand the greatest variety of potent specific antidotes to the most subtle and virulent poisons becomes, for the first time, comprehensible in the light of this ingenious conception. It is now several years since Ehrlich's hypothesis was enunciated, and whatever may be its merit as a direct contribution to science,

there can be no doubt that it has been, in a remarkable degree, an inspiration to the most fruitful research. It is practically impossible to follow the recent work on immunity without a knowledge of this hypothesis and familiarity with the nomenclature to which it has given rise, and I, therefore, ask your attention to a brief review of its more important features.

In order fully to comprehend the hypothesis of Ehrlich regarding the origin and nature of antitoxin, it is necessary for us to form with him a clear conception of cell assimilation.

We conceive of the cell as a mechanism for the storage of energy derived from without and for its release under definite conditions. This storage of energy is possible through the assimilation and building up by the cell of complex molecular combinations. These, owing to their instability, are readily resolved into less complex and more stable combinations with the release of the stored-up energy. Thus is the life of the cell manifested.

This broad conception of the cell is a purely intellectual one, however, for the details of cell metabolism still elude the keenest scrutiny of the chemist. He cannot formulate protoplasm nor express its chemical changes proportionate symbols.

Now, accepting this condition of affairs as for the moment inevitable, Ehrlich seeks to express his view of the character of the cell's performances in general terms, disregarding its morphological peculiarities, somewhat as follows: We may conceive of the cell as consisting of a central group of very complex molecular combinations which maintains the characteristics and special capacities of the cell as an organism under all the vicissitudes of its existence. Associated with this central organic group are many and varied subsidiary atom-complexes which by means of their unsatisfied affinities bring the central group into relationship with food material through those chemical combinations which in living protoplasm characterize assimilation.

These unsatisfied affinities by which assimilable material is fixed or united to the cell have been called "side chains," a term adopted from the chemist. Not to press too closely, however, the analogy between the chemical processes in lifeless substances and assimilation in living matter, these affinities or "side chains" of protoplasm are now commonly called *receptors*.

If we seek to illustrate Ehrlich's conception we shall be obliged to use graphic figures of extreme

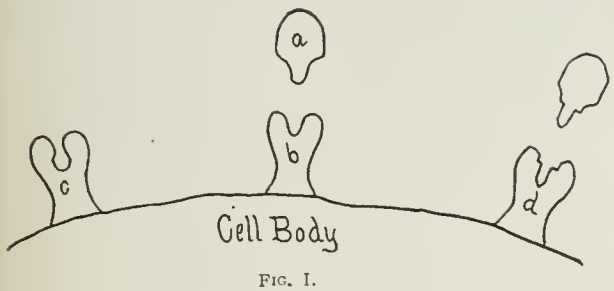

Fig. I.

crudity. If the arc of a circle in Figure I represent a portion of the periphery of a cell, we may indicate the side chains or affinities or receptors by projections whose special shape shall indicate their special capacity to combine with any substance coming in contact with them under favorable conditions. Suppose in this figure we let *a* represent a nutrient molecule which is capable of combining with the receptor *b*. Through its union with *b*, and only through this, is it capable of entering into the metabolism of the cell. This molecule *a* cannot unite with the receptor *c* or *d*, but only with such receptors—to use the crude expression which our illustration requires—as it fits. Through the receptors *c* and *d* other forms of food molecules may enter into the metabolism of the cell.

Thus it is in Ehrlich's conception, which after all is only a graphic way of illustrating the preliminary phases of assimilation by living protoplasm, that the cell is capable of selecting or "fixing" out of the host of various substances with which it comes in contact, just those and only those to which its receptors bear a definite chemical relationship.

The same thing is true of toxic as of nutrient substances. In order to be toxic to the cell they must enter into chemical combination with a suitable receptor of the cell. Then only can they lead to the forms of damage which we are here considering.*

As the result of many studies on the nature and effects of toxins, Ehrlich is led to believe that the toxin molecule consists of two forms of affinities; one through which the chemical union with the cell is effected—called the haptophorus group; and the other—called the toxophorous group—by which the damage to the cell is brought about when once the toxin molecule is anchored to it.

This conception may be illustrated as in Figure II, in which the toxophorous group *a* of the toxin

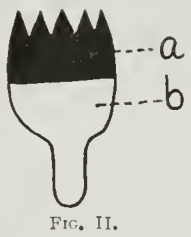

Fig. II.

molecule can be effective in damaging the cell only when united to the latter by the haptophorous group *b*. Ehrlich was led to this belief in the complex nature of the toxin molecule through the very curious fact that diphtheria toxin may under a variety of conditions lose its toxicity but still retain its capacity of neutralizing antitoxin and also of uniting with cells, and thus inducing the formation of antitoxin in the animal body. Such toxin molecules deprived of the toxophorous group are called *toxoids*.

Having now with Ehrlich conceived of the living cell as consisting of a central essential complex molecular group, brought into relationship with its food materials by means of a great number of the most varied receptors, through which, under normal conditions, assimilation is secured, let us see what may happen if toxins come in contact with living cells which are furnished with receptors capable of uniting with them.

The union of the toxin molecule with the living cell being effected, the cell is more or less damaged. If the damage be sufficient, the cell dies, and that is the end of it so far as our present inquiry is concerned. But suppose the damage to be but slight, as may be the case in artificial immunization or in early stages of an infection. The cell is at least deprived of the useful offices of the receptor to

*It is evident from what has been said about the conditions under which substances can be toxic that the immunity of one animal to a given agent which is toxic in another may be simply due to the fact that the cells of the former have no receptors with which this agent can unite, or if this union does take place that the cell is not thereby damaged. This consideration has an important bearing upon our conception of natural immunity.

which the toxin molecule is now united. This is in itself a loss to the cell, and through the regenerative impulses common to all living cells it proceeds to regenerate the lost parts, which in this case are the receptors. But as more receptors are thrown out of function by the continued action of the toxin, the necessity for compensation continues.

Now it is a fact long known to pathologists, and especially emphasized by Weigert, that the regenerative impulse is apt to be in excess of the obvious requirements and leads to overproduction of new cells, tissues, chemical substances, etc. Just this is what now happens to the cells, some of whose receptors have been rendered useless by combination with the toxin. New receptors are formed, more than the cell requires; so numerous may these become that many are at last cast off into the blood. Now here is the point at last. *These receptors or substances, normal and useful to the body, but now formed in excess through over-compensation, and set free from the cells into the body fluids, are the antitoxin.*

For, cast off into the body fluids, these superfluous receptors still retain their combining power for the free toxin molecules, which, also, are floating in the body fluids, and unite with them. This union having been effected, the toxin molecules are no longer a menace to the cell, because the affinities are now satisfied through which they joined the receptors while these were still a part of the cell, and in this way became harmful. This now inert combination of toxin molecules and detached receptors is physiologically indifferent stuff, and may be got out of the body through the usual processes of excretion.

But the antitoxin which has not united with toxin in the body of the animal which produced it is still available on the transferrence of the serum to another individual whose blood contains diphtheria toxin, and who may thus secure passive immunity.

If we have recourse again to our graphic efforts, the hyperproduction of receptors by the damaged cell, their separation, and their action as antitoxin, may be indicated, as in Figure III. The toxic mole-

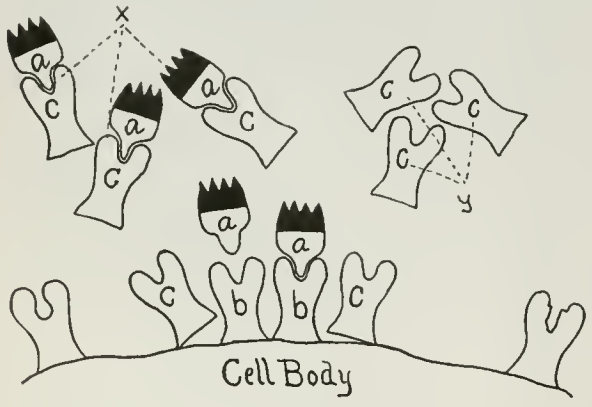

Fig. III.

cules *a*, uniting with the receptors *b*, lead through the injury to the cell, as well as by its deprivation of the normal use of *b*, to the production, and at length to the overproduction of new receptors of the same kind. These superfluous receptors *c* are now cast off into the body fluids,* where, as at *x*, they may freely unite with the floating toxin molecules, forming harmless compounds and preventing further access to the cell, where alone the damage can be done. Or when free, as at *y*, the receptors may be transferred in the serum, becoming effective as antitoxin in another individual.

It is well to note that so long as the receptor maintains its connection with the cell it is not antitoxin, but an element of vulnerability to the cell. It is only when the receptor has been set free from the cell that it is antitoxin.

The antitoxic substance which neutralizes the action of the toxin molecule of diphtheria is not effective for the poison of tetanus, for example, simply because it does not combine with the molecule of tetanus toxin. It *is* specific for diphtheria, because it was the diphtheria toxin which excited its overproduction through a chemical union identical in character, whether this union takes place while the receptor is a part of the cell, in which case the toxin becomes harmful, or when the receptor is detached from the cell, in which case the combination is harmless.

In the light of this hypothesis the incredible becomes the inevitable. The specific character of the antitoxic substances, so mysterious as to seem at first fairly to transcend physiology, is, in fact, but the result of adaptation to unusual conditions of cell capacities evolved and fostered for the every-day maintenance of life. The specific relationship between the toxin and the antitoxin is not developed during immunization, but existed beforehand as a necessary condition of toxic action.

We can account by this hypothesis not only for the formation, protective action, and specificity of antitoxin, but we see, also, a special significance in the incubation period, during which the conservative forces are mustering. We can realize, furthermore, in the light of this hypothesis, how it is that the protection secured in active immunization is less immediate and also why it is more prolonged than in the passive, since in the latter the available antitoxin is limited to the dosage and is not replenished as in active immunity by the continued cell activities of the affected individual himself.

The conception of Ehrlich as to the nature of antitoxin is that of the chemist, and carries over to the performances of protoplasm the presumptions upon which chemical reactions in general are conceived and formulated. But this is not an easy matter, since our knowledge of the ultimate phases of protoplasmic metabolism is very incomplete. The physiological chemist presents to us as his final achievement in analysis an extremely elaborate complex which he calls the proteid molecule. This he does not yet venture to formulate. Its obvious importance and versatility he can indicate, but cannot yet follow with precision. Thus it is that when we attempt to illustrate in graphic fashion our conception of the performances of proteid molecules, either in normal metabolism or in poisoning, we are forced to use the crudest of symbols and to indicate the affinities or combining predilections of our molecular groups by forms which are more suggestive of the carpenter or of the locksmith than of the subtle forces which dominate this under-world of life. The use of such pictures is not without hazard, for these toxins and these receptors are in truth not histological structures, but molecular groups; they are not alone upon the surfaces but through all the mass of the protoplasm. And if one cannot at last translate these uncouth symbols into the nice conceptions of the chemist they will prove but stumbling blocks and may lead to his speedy undoing.

There has been much discussion of Ehrlich's hypothesis, and it has withstood many assaults, mostly inspired by misconceptions of the fundamental claims. The scope of this paper does not

*These receptors of various kinds, cast off into the body fluids under the most diverse conditions, Ehrlich has called "haptines."

permit me to touch upon the many and most ingenious experiments by which this view of antitoxic immunity has been sustained, nor is it practicable now to call attention to many of the phenomena not yet accounted for or seemingly inconsistent with the interpretations here set forth.

Having thus glanced at antitoxic immunity, let us now turn to a new line of research bearing upon bacteriolytic immunity which has already led to most significant results and opened biological fields of great scope and complexity.

Cytolysis.—It has been known for some time that the blood serum of one animal species, when injected into the vessels of another may do serious damage, and even kill the latter through a rapid separation of the hæmoglobin from the red blood-corpuscles. This dangerous effect brought to a speedy end attempts which were at one time made to sustain the ebbing forces of life by the transfusion of alien blood. But the significance of this so-called "laking" of the blood by mixture with alien sera was overlooked and passed into the textbooks on physiology as another of the many curious and unexplained phenomena relating to red blood cells.

Bordet, however, was led to inquire whether if the animal body be capable of adapting itself to toxic substances and to bacteria in such a way as to neutralize the effects of toxins and to destroy bacteria, as had been shown by earlier experiments, it may not respond similarly to the introduction of other foreign substances, such as alien red blood cells, for example.

The blood serum of the guinea-pig is not normally lytic for the red blood cells of the rabbit; that is, it does not cause the separation of the hæmoglobin from the stromata, with a partial destruction of the latter. Now Bordet injected a few cubic centimeters of the whipped blood of the rabbit, containing the serum and red blood cells, into the subcutaneous tissue or peritoneal cavity of normal guinea-pigs. This operation, which does not markedly interfere with the well-being of guinea-pigs, was repeated five or six times with intervals of a few days. When now blood was drawn from the treated pig, allowed to clot, and the clear serum secured, it was found to have become markedly lytic for rabbit corpuscles. A very small proportion, mixed with rabbit's blood diluted with physiological salt solution, in a short time brought the hæmoglobin into a clear ruby solution in which the stromata or "ghosts" of the corpuscles floated as a pale and scarcely visible cloud. This process is called *hæmolysis;* serum possessing this capacity is called *hæmolytic* or *hæmotoxic* serum.

This adaptation of one animal to the red blood cells of another species may be accomplished without difficulty with a great variety of animals.

But a most remarkable thing about this newly acquired lytic capacity of the serum is that it is limited to the red corpuscles of the species of animal whose blood was used for the injection—in Bordet's experiment to the corpuscles of the rabbit. Red blood cells of the dog, cat, sheep, bovines, fowl, etc., are no more affected by this serum of a guinea-pig which has been adapted to the blood of the rabbit than they were before. In other words, the adaptation to foreign corpuscles is specific.

I have said that this adaptation to alien blood is specific; that is to say, the serum becomes active only for the corpuscles of the species injected. This statement should, however, be so qualified as to recognize the curious fact that a slight degree of lysis may often be induced in corpuscles of species of animals very closely related to those from which the injected blood is derived. For example, if a rabbit be adapted to human blood by intraperitoneal injections, the serum of this rabbit, now strongly lytic for the corpuscles of man, may be slightly lytic for the corpuscles of monkeys. Similarly, serum artificially lytic for the red cells of goats may be slightly lytic for those of sheep, but not for the corpuscles of cats, dogs, man, etc.

This form of test, delicate beyond anything hitherto known in physiological chemistry, may thus prove of value in defining the relationships and limitations of animal species.

I show to you here, in illustration of this remarkable experiment, a series of slender test tubes placed against a white background. In this instance the material which I show was secured by adapting the rabbit through successive intraperitoneal injections to beef blood. In the first tube is a little simple salt solution of a strength of 0.85 per cent., which is approximately isotonic for red blood cells. To this salt solution I have added a small quantity of beef red blood cells. You see that the corpuscles have settled to the bottom leaving the perfectly colorless salt solution above. In the second tube is the same quantity of beef corpuscles which have been mixed with normal rabbit serum. Here also the corpuscles have settled to the bottom, leaving the clear, color less serum above. You see from these two control experiments that neither physiological salt solution nor normal rabbit serum are lytic for beef red blood cells.

The third tube is prepared in the same way as number two, except that here the fluid is serum from a rabbit which has been adapted by successive intraperitoneal injections to the beef corpuscles. Here the corpuscles have disappeared save for a faint cloud at the bottom composed of the colorless "ghosts" of the cells, while the fluid has the fine ruby color of dissolved hæmoglobin. This adapted rabbit serum is therefore hæmolytic for the beef corpuscles.

In order to show to you the specific character of this adaptation I have here two tubes containing the serum of the beef-rabbit, to one of which I have added corpuscles of the dog, to the other corpuscles of man. In these there is no solution of the hæmoglobin; the corpuscles lie in a red mass at the bottom; the serum above is colorless.

This preliminary observation of Bordet was immediately followed by a series of studies upon artificial hæmolysis, the results of which I shall summarize in the simplest fashion. In the first place, to what is this remarkable acquired lytic capacity of the serum due? Bordet heated for half an hour to 56° C. some of the lytic serum secured by adapting the guinea-pig through subcutaneous injections to the red blood cells of the rabbit. He found that it had completely lost its new lytic power. But when he now added to this inert serum a little fresh blood serum from a normal guinea-pig, which is not in itself lytic, the original dissolving power of the heated serum for rabbit corpuscles was at once restored. The inference from this experiment is obvious. The dissolving capacity of this artificially lytic serum is due to two distinct substances. One of these, that one which results from the adaptation of the animal to the alien blood, is stable at 56° C.; the other, which is present in normal serum, is rendered inert at 56° C.; that is, it is very labile. These two substances were named early and have been often renamed. For the present I shall speak of the stable substance resulting from the adaptation to the alien blood as the "*immune substance*" or "*immune body*," and of the other, more sensitive to heat and present in normal serum, as "*alexin*," a name which was long

ago applied by Buchner to a substance or substances in normal serum, to which its germicidal capacity, first clearly demonstrated by Nuttall, was attributed.

Here is a series of tubes illustrating these points. In this first tube is a little normal rabbit serum which has been mixed with beef red blood cells. The cells have settled to the bottom, leaving the colorless serum above. In the second tube is the serum of a rabbit which has received a series of intraperitoneal injections of beef blood to which I have added the same quantity of beef red blood cells as in tube 1. But these cells have disappeared and the serum is red with dissolved hæmoglobin. This adapted serum is thus lytic. In tube 3 are the same substances as in 2, except that the beef-rabbit serum, seen to be strongly lytic in No. 2, has been heated for one-half hour to 56° C. Here you see there is no lysis of the corpuscles. They lie unchanged at the bottom of the tube. The fluid above is colorless. In tube 4 I have the same substances as in tube 3; namely, beef corpuscles and heated beef-rabbit serum (not in itself lytic) but I have added a very little fresh normal rabbit serum which, as you may see from the control tube 1, is not in itself lytic. It does, however, contain alexin, and you see that it has "reactivated" the heated serum of tube 4, so that complete hæmolysis has occurred.

There now followed a series of important studies by Ehrlich and his associates which throw still further light upon these curious lytic agents.

We have seen that in order to secure the immune substance free from the alexin one has only to heat the lytic serum to 56° C., for half an hour, when the alexin is destroyed. If one wishes to secure the alexin apart from the immune substance he makes use of a very curious property of the latter; namely, its capacity of uniting with the cellular element under whose influence it was elaborated. For example, if one places a small portion of the serum of a rabbit which has been adapted to beef blood in contact with beef corpuscles at a low temperature* for a few hours, he will find that the immune substance has formed so staple a combination with the corpuscles that on their separation from the fluid by centrifugation, none of the immune substance, but all of the alexin, will be left in the fluid.

That the corpuscles under these conditions actually contain the immune substance is readily shown by adding to them a little normal serum—containing alexin but no immune substance—whereupon the lysis will at once take place, as shown by the red color of the fluid. This union of the immune substance with corpuscles is strictly specific, occurring only with the corpuscles of the animal species used in the adaptation.

Many other points of extreme interest and significance have been revealed in these studies on artificial hæmolysis which I have not time to touch upon.

The question of a multiplicity of immune substances and of alexins has been brought forward, and it seems probable, especially from the researches of Ehrlich, that in adaptation of each animal species to a single form of cell several immune bodies may be developed. It is not unlikely, furthermore, that more than one alexin may be normally present in the blood serum of each animal species, and that a single immune body may be capable of uniting with several forms of alexin.

It has been found that the hæmolytic capacity of the *normal* blood serum, which in many animals, as we have seen, is very marked for the corpuscles of alien blood, is also due to two substances which in character and action are similar to those which have been so carefully studied in the lytic sera of artificially adapted animals.

It is evident that this artificial hæmolysis, secured by the adaptation of one species of animal to the red blood cells of another, is quite analogous to the process by which immunity is secured against pathogenic bacteria—cholera, for example—and which is called bacteriolysis. Both are specific examples of the general process called cytolysis, meaning cell destruction. But this reaction of hæmolysis is not only one of extraordinary delicacy, but is easily observed under conditions quite within our control, and permitting such elaborations and variations as involve great technical difficulties when we are directly engaged with the phenomena of bacteriolysis.

Thus these studies of hæmolysis have a practical significance in their bearing upon our conceptions of bacteriolytic immunity quite apart from the interesting general biological field into which they have led the way.

The development of cytolytic capacities in the blood serum of the living animal as the result of adaptation to bacteria and to alien red blood cells being known, it was natural to extend the method to other cells.

Thus it has been found that in the adaptation of one animal to the spermatozoa of another species by intraperitoneal injections, a serum is obtained which quickly brings to an end the movements of fresh spermatozoa of the species used—*spermotoxic* serum.

Similarly, specific *leucolytic* sera have been procured by intraperitoneal injections of emulsions of lymph nodes, spleen and bone marrow. Such leucolytic sera may not only dissolve the leucocytes outside of the body, but they are extremely toxic when introduced into the living species from which the tissues originated. The effects of these leucolytic—leucotoxic—sera in the body are most pronounced in the blood-forming organs. Here, as the studies of Flexner show, a very significant impulse to new cell formation may be associated with the action of the leucotoxic sera.

Emulsions of liver cells of one species injected into the peritoneum of another have led to the development of *hepatolytic* serum; that is, serum which on injection into the body of an animal of the same species as that furnishing the liver cells induces noteworthy degenerative changes in the liver.

Thus, also, *nephrolytic*, *pancreolytic*, *thyreolytic*, *neurolytic*, and other analogous cytolytic substances have been developed.

So far as they have been studied, the nature of the active agents in these various cytolytic sera and their mode of action is analogous with those in hæmolytic sera. Here, as there, the action is due to two groups of substances: one, the "immune body," stable and increased by the adaptive process; the other, the alexin, occurring normally in the body, not increased in adaptation, and readily destroyed or rendered inactive by heat.

All of these last-mentioned forms of cytolytic sera require more extended study before far-reaching conclusions should be drawn from them. But it is now evident that the different functional types of cells in one animal are capable in the adaptation to the economy of another of inciting more or less definitely specific responses, as shown by the various types of cytolytic sera.

When one musters all the possible combinations

*It is necessary to reduce the temperature in this experiment, because at the ordinary temperature the integrity of the corpuscles would be destroyed through lysis.

in this form of adaptation and considers the probability that multiple immune bodies may develop in each instance, and that these furthermore may correspond to multiple alexins, the complexity of artificial cytolysis becomes sufficiently evident.

But now still another phase of this matter demands a word. These cytolytic or, as some prefer to call them, cytotoxic sera, when introduced into the living bodies of the species from which the cells inciting their formation are derived, act as toxins to which the organism responds, each after its kind, by the development of antitoxic substances. These are called *anticytolysins* or *anticytotoxins*.

Let me illustrate this interesting point. The blood serum of the normal guinea-pig has, as we have seen, no lytic action on the red blood cells of the rabbit, but after the adaptation of the guinea-pig to the blood of the rabbit by repeated intraperitoneal injections, the guinea-pig serum is strongly lytic for the rabbit corpuscles in test tubes outside the body. But this lytic serum is not less toxic when introduced into the body of the rabbit. Under these conditions the rabbit produces an antitoxin, an antihæmolytic substance which is in solution in his serum. If now a little of this antihæmolytic serum be mixed with some of the lytic serum from the adapted guinea-pig, it will be found, on the addition of rabbit corpuscles, that the lytic serum has lost its power, just as diphtheria toxin loses its harmful properties on mixture with diphtheria antitoxin.

Thus may be formed a great variety of specific "anti-bodies"—anticytolysins—from sera which are normally lytic or have become so through experimental adaptations.

In view of the remarkable results of the adaptation of the body to alien cells from different animal species which we have reviewed, it was natural to ask how an animal would respond to the introduction into the recesses of his body of cells—red blood-corpuscles, for example—from another individual of the same species. It was found, in fact, that under these circumstances lytic substances are sometimes, though not uniformly, developed. The possibility of the formation of *isolytic* substances was thus established.

But if this be possible, why may not *autolytic* substances be formed by the adaptation of an animal to his own cells experimentally displaced. Such substances have, however, not been found under the experimental conditions thus far observed.*

Still it is well known that cells and tissues worn out from use, or dead as the result of injury, inflammatory exudates, etc., are constantly removed from the living body by processes apparently analogous, if not identical with those which can be experimentally evoked. So that autolysis in some form seems to be an important factor in the maintenance of the integrity of the body. Just what the agencies are under which normal living tissues cells are protected from the action of autocytolytic substances is not yet clear. But the multiplicity of known "anti-bodies" justifies the conjecture that such substances—anticytolytic—may be constantly formed and act as safeguards to living and useful cells.

*Some observations are recorded in which, after profuse internal hemorrhage, hæmaturia has developed, indicating the possibility of autohæmolysis under special conditions.

If now we turn to the various hypotheses which have been advanced to account for the formation and action of these cytolytic substances, we find that an elaboration of Ehrlich's views as applied to antitoxin is here a source of great illumination. It is evident at once, however, that the matter is not as simple as in the case of antitoxin because we have here two substances at work, the immune body and the alexin. Neither the immune body nor the alexin alone can induce cytolysis. They must act together.

The phenomena are, in the main, accounted for if we assume that it is the alexin which when the necessary conditions are fulfilled exerts the destructive action upon the bacterial or animal cell. But the alexin cannot enter under ordinary conditions into direct chemical combination with the cell receptors. The union is effected only by the intervention of the substance which is increased in amount in the process of adaptation; namely, the immune body.

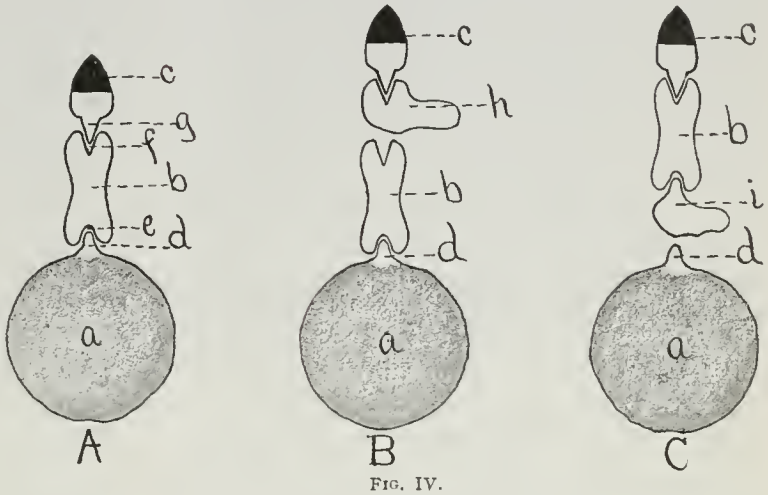

Fig. IV.

A long series of experiments has led to the belief that the immune body has two free atom complexes which enable it to form chemical unions. Through one of these atom complexes it unites with the cell to be destroyed; through the other it is joined to the alexin. Then and not until then is the alexin so linked to the cell that its toxic or destructive action upon the cell occurs.

This conception may be illustrated as in the case of antitoxin by crude figures.

Here it should be remembered we are illustrating not the production of the cytolytic substances, which we shall speak of later, but the action of them upon the cells to be destroyed.

Let *a*—Fig. IV.-A—be the cell which is to be destroyed with one of its receptors indicated at *d*. Let *b* represent the immune body with one atom complex *e* capable of uniting with the cell receptor *d*, and with another *f* capable of uniting with the alexin *c* through *g*. Now the alexin which appears to be the effective agent in the destruction, cannot unite directly with the cell receptor. When, however, it becomes linked to the cell by means of the immune body *b*, its destructive capacity can come into play.

In similar fashion one may indicate the action of anticytolytic substances which may be effective through union either with the alexin or with the immune body, as shown in Fig. IV, B and C. In B the "antibody" *h* prevents the linking of the alexin *c* to the immune body *b* by itself uniting with the former. It then acts as an antia'exin. In C the "antibody" *i* prevents the linking of the immune body *b* to the cell receptor *d*, and hence acts as an anti-immune body. We shall see in a

moment why at present the substance here spoken of as antialexin is usually called the anticomplement.

The experimental evidence that the anticytolytic substances may be thus due to the formation of adaptive substances of two classes, anti-immune substances and anticomplements, cannot be entered upon here.

In view of the rationale of cytolysis, as just set forth, we may consider the immune substance to be an intermediary between the alexin and the cell to be destroyed; or, on the other hand, we may consider the alexin as the complement to the immune substance, since only through their union is the toxic action possible.

In fact, following Ehrlich, one sometimes speaks of the immune body as the "*intermediary body*," or "*intermediary substance*," but since it is furnished with two combining affinities, it is now usually called the "*amboceptor*." Furthermore, since the experimental analysis of the lytic process by the new technique has shown that the germicidal and destructive action of blood serum, formerly supposed to be due to a single substance called alexin, is really due to the combined action of two substances, the use of the word alexin for one of them is misleading and has now been largely given up. The substance present in the serum of both normal and adapted animals through which lysis is effected when it is linked to the cell by the intermediary body is called the *complement*. Other names have been applied to these hypothetical complexes or substances which we need not now stop to consider.*

It was natural in the early studies on bacteriolysis which were incidental to researches on immunity, that the new substance which was found in the serum as the result of the immunizing process should be called the immune substance or immune body. It was natural also, although less appropriate, to apply the same term, immune substances, to the analogous substances which appeared in the serum as the result of the injection in the same fashion of cells and other materials which were not infectious, not disease producing, and against which, therefore, the body is not, in the old sense, immunized.

But these new uses of the word are, I think, unfortunate because the word immunity has come to have a special and useful significance in relation to infection, intoxication, and other conditions of natural or acquired tolerance to obviously and seriously harmful agents. The process in both instances is, indeed, one of adaptation, and the newly-acquired capacities of the serum are due to substances resulting from this adaptation. They arise from a functional modification of parts of the body, and hence may be appropriately called adaptive substances. It seems to the writer that it would be better to consider immunization as a special phase of adaptation, and so limit the application of the word that it shall still connote infection and intoxication in the traditional sense.

*These strange and multitudinous names are stumbling-blocks to those who have not followed step by step the development of these new lines of research. But most of them mark temporary phases in the development of the new conceptions and are no longer current. One should remember that immune bodies or immune substances, amboceptors, sensitizing substances (*substances sensibilisatrices*), or fixatives (*fixateurs*), and intermediary bodies or intermediary substances, all mean the same thing; and that alexin in its modern sense, *cystase*, addiment, and complement are synonymous; and, further, that for the expression of Ehrlich's views, the words *immune bodies* or *amboceptors* and *complements* suffice for practical purposes. (See Table showing synonyms, page 251.)

If we continue to speak of immunization to the countless possible adaptations of the body to such innocuous substances as milk, pepsin, white of egg, etc., we may be forced at last to regard intestinal digestion as immunization, and thus miss a distinction which is not without value in the expression of our conceptions of immunity to the infectious diseases.

This, then, is the rationale in accordance with Ehrlich's hypothesis of the action of these cytolytic or cytotoxic substances, either existing naturally, as they do in some animals, or being called forth in larger quantities in the process of adaptation to the cells which they destroy. This view has been most fully tested upon hæmolytic sera, since here the reaction is most easily studied. But so far as one can see it applies as well to the phenomena of bacteriolysis, whose direct study is much more difficult. It should, however, be borne in mind that the erythrocytes are very delicate and very peculiarly constituted cells, and it is possible that inferences drawn from hæmolysis are not applicable without qualification to other and less vulnerable cell types.

The origin of the amboceptors of these cytotoxic substances is accounted for in the same way as in the case of antitoxin. The cells or substances which are introduced into the animal, and to which it proceeds to adapt itself, lead, through union with such body cell receptors as may be fitted to them, to the overproduction of these special complex receptors. These are presently cast off as superfluous to the body cell producing them, and are then free as amboceptors in the body fluids.

As in the case of antitoxin formation, it is probable that the cell receptors which are thus increased are normally concerned in cell assimilation, and it is not unlikely that their complex character may have some relationship with the complexities of the great albuminous molecules, which must suffer initial changes before becoming fit for assimilation. At any rate this hypothesis assumes that in the process of adaptation either to toxic substances or to foreign cells or other albuminous material, the body develops no new capacities, but only an exaggeration of those already existing.

As to the exact source of the intermediary substances we cannot yet speak with certainty.

Phagocytosis.—It was inevitable that these remarkable studies on cytolytic sera should lead to considerable modification of the doctrine of phagocytosis; just as inevitable as that the recognition of the important offices of the cells in the formation of these lytic sera should lead to noteworthy concessions from the camps of the humoralists. I regret that the scope of this paper does not permit me adequately to review the later conceptions of Metschnikoff and his associates of the action of phagocytes in the adaptive processes by which immunity is secured.

Metschnikoff fully recognizes the importance of the adaptive substances, some of which may be largely increased in amount in the processes of immunization. More strenuously than other observers, however, he insists upon the phagocytic cells, especially the leucocytes, as the originators of the substances concerned in cytolysis, and holds that under ordinary conditions it is only within these cells that these substances are effective. In artificially immunized animals, however, the intermediary substances, it is conceded by Metschnikoff, may be set free from the cells which produce them and mingle with the body fluids. The complement, on the other hand, which he, in common with others of the French school, calls *cytase*, in recognition of its

ferment-like characters, Metschnikoff does not believe to be set free in the body fluids except through some damage to the leucocytes in which it is formed. Such a damage, for example, as befalls the leucocytes in the clotting of the blood: for in this process it is assumed that the setting free of the fibrin ferment involves the destruction—phagolysis—of the leucocytes.

The views advanced by Bordet and others of the French school regarding the union of the amboceptors with the cells to be destroyed are less precise than those of Ehrlich. Both, however, recognize the importance of an association of the amboceptor as a condition for the effective action of the complement (*cytase*). It is for this reason that the amboceptor is called by Bordet, Metschnikoff, and others the sensibilizing substance (*substance sensibilisatrice*) or the fixative (*fixateur*).

Finally, a long and ingenious series of experiments have led Metschnikoff and his associates to believe that there are two forms of *cytase*, one called *macrocytase*, formed by the macrocytes (large lymphocytes derived from the spleen, lymph-nodes and certain endothelial and connective tissue cells) and concerned in the destruction of animal cells, such as red blood cells, leucocytes, spermatozoa, various parenchyma cells, etc.; and *microcytase* derived from the microcytes (polymorphonuclear leucocytes), which is active in the destruction of bacteria.

The greatest diversity of view concerning the cytolytic process between Metschnikoff and his followers and the observers of the Ehrlich school relates to the question whether the complement (*cytase*) does or does not exist free in the blood plasma, for upon the answer to this question depends largely our belief as to the relative significance of intra- and extracellular cytolysis. This is one of the points concerning which more data is urgently needed. But even now the views of Metschnikoff are not inconsistent with the hypothesis of Ehrlich.

It is, in fact, most entertaining to observe the mutual felicitations of the exponents of the phagocytic and the humoral doctrines, each group being congratulated upon finding at last in the cherished fetich of the other the long sought clue to the solution of their common problem.

Agglutinative Substances.—But we have not finished with the tale of these curious adaptive resources of the living body when called upon to deal with foreign material of special character introduced in unusual ways into its recesses.

The phenomenon of agglutination has been known for several years, and especially widely known on account of its practical application in diagnosis. The general fact being that as an individual adapts himself—that is, becomes immunized, to a special bacterium or its toxic products, either in the course of an infectious disease or as the result of artificial processes, his serum, if placed under suitable conditions in contact with cultures of this special microorganism, may speedily immobilize the organism if it be motile, and whether motile or not, lead to its clumping into irregular masses.

This reaction has been used, as you well know, not only as a clinical test of special infections, but also as a means of differentiating species or varieties of bacteria. To most of us the term agglutination connotes Widal's test in typhoid fever. But recent studies have emphasized the fact that agglutination is a much more general phenomenon than has been commonly supposed, and is by no means limited to the sera of animals immunized against bacteria and bacterial products.

For example, in the adaptation of one animal to the red blood cells of another species, one finds that the serum of the adapted animal becomes not only lytic but agglutinative also for the corpuscles used for the injections. This is not only true in adaptation to red blood-corpuscles but to other cells as well. We have then to add agglutinative substances or agglutinins to our list of those which are developed in the body in this form of adaptation. (See Table, p. 251.) These also within the limits already set forth are specific.

Permit me to illustrate this point. I have in this first tube a little 0.85 per cent. salt solution, in which are a few beef-red blood cells. In the second tube is a little normal rabbit serum mixed with beef red cells. You see that the mixture in both tubes is homogeneous. There is no clumping. These two controls show that neither physiological salt solution nor normal rabbit serum are agglutinative for beef-red cells. In this third tube I have a 5-per-cent. suspension of beef corpuscles in salt solution. To this I add a few drops of the serum of a rabbit which has been adapted by successive intraperitoneal injections to beef blood cells. You observe the immediate clumping of the red cells, which float in visible masses as the tube is tilted to and fro. This serum then is agglutinative for alien blood cells. Finally, in this other tube is a suspension of the red blood cells of the dog. When I add to this some of the rabbit serum adapted to the corpuscles of the beef, no agglutination occurs, since the adaptation was to the cells of the beef and not of the dog. This test then illustrates the specificity of the agglutinating substances for erythrocytes.

Just as the specific red blood cells are capable of fixing the immune substance in lytic serum, so also the agglutinating substance may be fixed and removed from serum by placing in contact with the serum some of the corpuscles of the particular animal species under whose influence the agglutinative substances were formed.

While agglutinative substances are developed in the process of immunization, they are not , so far as we know, in any way protective. They seem to differ in many ways from lytic substances. Thus their activities are not suspended by a temperature of 56° C. They become inert, however, at about 70° C., and their agglutinating capacity is not restored by the addition of normal serum. It is inferred from this fact that the receptors concerned in agglutination are of simpler character than those through which lysis is secured.

The normal blood serum of some animals contains substances which are agglutinative for the red cells of other species. Thus normal beef serum is agglutinative for the corpuscles of the cat and rabbit. This capacity of the normal serum sometimes is, sometimes is not, associated with marked lytic capacity.

The mode of action of these so-called agglutinins is not yet very clearly understood, but a great many interesting facts have been developed in the studies on the general phenomena of agglutination which we cannot mention here.

Precipitating Substances.—There is still another way in which the body reveals adaptive alterations in the presence of foreign proteid substances. If a few cubic centimeters of the blood serum or exudate containing globulin from one animal be injected into the subcutaneous tissue or peritoneal cavity of another species, in repeated doses, it is found that, on adding a little of the blood serum of the adapted animal to a dilution of the fluid injected, a precipitate is formed. This reaction is also specific, save that in some instances body fluids from closely

related species, such as man and monkey, fowl and pigeon, sheep and goat, horse and ass, dog and fox, may both afford a precipitate. But this precipitate is invariably much more marked in the fluid used for adaptation than in the similar fluid from the related species.

This reaction is extremely delicate, it having been possible to recognize human blood in a dilution of 1-50,000.

By the use of this test, Nuttall, who has made very extensive observations, has been able to demonstrate in a most striking fashion phylogenetic relationships between animal species and groups of species, both warm- and cold-blooded, which have an important bearing upon classification.

The use of this precipitation test has been urged in forensic medicine to reinforce the present unsatisfactory methods of distinguishing between human and other blood. For if one have a rabbit or other animal artificially adapted to human blood from which fresh serum can be secured (even the dissolved dried serum will answer) he has only to dissolve in a little salt solution a suspected blood clot, and, mixing the two, observe the result. If under suitable conditions of dilution a considerable precipitate be formed, it is claimed that the suspected material could have been derived from no other animal than man. Since, however, it has been found that the blood not only of monkeys but of some other of the lower animals may give slight precipitates under these conditions, and since other human fluids containing albuminous substances, such as saliva, pus, inflammatory exudates, etc., may also give precipitates, it is evident that the result of this test should be interpreted with great caution.

The white of a hen's egg injected into the peritoneum of rabbits after a time gives rise to substances in the rabbits serum which induces a precipitate in fresh solutions of hens' egg albumen. No precipitate is produced by this serum in albumen solutions from the blood of the mammalia, and only a slight precipitate is formed in the egg albumen of related fowls, such as the duck, for example.

It has been shown that by the adaptation of the living animal to extracts of muscle tissue from another species, precipitating substances may be formed in the serum which are specific for the muscle used in the injection. Thus it is proposed to follow hard upon the trail of such malefactors as may turn horses into canned beef or dogs into sausages.

Milk of one animal thus introduced into the body of another gives rise to a substance in the adapted animal which causes a precipitate in the diluted milk used for injection, but not in the milk of another species, save sometimes in slight degree in milk from closely allied animals.

This reaction is also applicable to plant albumens. Thus, if an animal be adapted to a given species of bacteria, its blood serum on being added to the clear filtrate of the pure culture throws down a precipitate which is in some instances light, in others voluminous. This reaction is again specific, except within the group limits of related species. Thus, precipitating substances which are developed by the adaptation of the rabbit to the typhoid bacillus induce a slight precipitate in the culture filtrate of the colon bacillus, but not in the filtrate of B. *prodigiosus*, for example.

Numerous experiments have shown that other vegetable albumens call forth specific adaptive precipitins.

This precipitation-test is so delicate that it appears possible not only to distinguish the albumens from different animals and vegetable species, but to differentiate also some at least of the various albuminous substances in the individual.

The attempts which have been made to secure these adaptation products in the serum by the administration of special forms of albuminoids through the alimentary tract have been, for the most part, unsuccessful.

Finally, it is worthy of note that it has been possible by the adaptation of a fresh animal of the appropriate species to these precipitating sera to obtain "antibodies"; in the case of milk adaptation, for example, by the use of the so-called lacto-serum, to secure an antilacto-serum capable when added to the test fluids of preventing the formation of the specific precipitate.

A great deal of most careful research has been devoted to the nature of the precipitating substances which the scope of this paper does not permit us to touch upon. But it should be said that in their resistance to heat and in other ways the precipitating substances appear to be more closely related to agglutinating than to lytic substances.

The sera of cold-blooded animals, like those of the warm-blooded, contain, under normal conditions, hæmolytic and agglutinating substances, as shown by the recent studies of Noguchi. Furthermore, the experiments of v. Dungern show that in the cold-blooded animals also the precipitating substances may be increased by the injection of alien blood plasma.

Although we have considered separately the development in the body of cytolytic, agglutinating, and precipitating substances, it should be remembered that these may be formed together in the same animal.

The effects of foreign cells and their derivatives upon whatever body cells produce the lytic, agglutinating, and precipitating substances is apparently not lasting, since if the injections be suspended they gradually disappear from the serum. The time of their disappearance, however, like that of appearance, is not regularly the same, even in the same animal.

If now we draw together these devious lines of research which I have so hurriedly and so superficially traced, we find that the living body is capable of adapting itself to certain foreign materials introduced into its recesses, by the formation of various substances, for the most part specific in their relationship to the materials which called them forth. These substances may be tabulated, following the plan of Aschoff, as on page 251.

Welch's Hypothesis.—Among the new researches relating to immunity none have been more interesting and suggestive than those which deal with the toxins and their baleful effects in the living body. With the new technique and the delicate tests which are now at command, applicable without as well as within the body, we may confidently expect new light upon some of the most obscure problems of infection and intoxication.

In view of the recent valuable summary of Welch in the Huxley Lecture for 1902, which treats with especial fulness this subject of bacterial and other toxins and their relationship to various pathological processes, I need not dwell upon the subject here. But I would not fail to call your attention to the hypothesis advanced by Welch in this lecture to account for the very significant fact that the toxins developed by many species of bacteria when within the living body seem to be far more potent than those which it has been possible to secure from the same sources in artificial cultures outside of the body.

TABLE SHOWING VARIOUS FORMS OF ADAPTATION PRODUCTS, WITH THEIR RELATIONSHIPS AND SYNONYMS.

A

The body-cells in adaptation to alien substances of protoplasmic origin may elaborate—	Antitoxins, Antiferments,		Formed of two substances.	**Complement:** Alexin, Addiment, Cytase. **Amboceptor:** Immune body, Intermediary body, *Substance Sensibilisatrice*, *Fixateur*, *Präperateur*, Copula, Desmon.
	Cytolysins, (Cytotoxins),	Hæmolysins, Bacteriolysins-bacteriocidal substances. Special Cytotoxins: Spermatoxin, Nephrotoxin, Hepatotoxin, etc.		
	Agglutinins, Precipitins.			

B

The "antibodies"	Cytotoxins, Agglutinins, Precipitins,	may lead to the formation of "anti-antibodies."	Anticytoxins	Anticomplements. Antiamboceptors (anti-immune bodies).
			Antiagglutinins. Antiprecipitins.	

Welch's hypothesis may be outlined as follows: If it be true, as the view of Ehrlich assumes, that the living body cells when brought into intimate relationship with microorganisms or their toxic products in infection or immunization are capable of adapting themselves to the new conditions by the elaboration of protective substances—bacteriotoxins—especially potent to harm the invading organisms, may it not also be true that these invading organisms in their turn—being even as the body cells are, living structures capable of adaptation to a harmful environment—have the power of self-protection through the development of substances—cytotoxins—of exalted potency: substances which are protective to the microorganisms through the damage which they inflict upon the living body cells? Such substances, finding in the body their necessary complements, may not only neutralize and render futile the protective substances which the body cells elaborate by direct union with them, but may also induce toxic effects of the severity of which our studies on the toxins of artificial cultures give us no adequate conception. This ingenious hypothesis opens a new field for research which may hold the key to many subtle and obscure problems of infection.

If I have succeeded in this hurried survey of these newly opened fields of research, it is clear that we are face to face with problems of the highest theoretical interest and importance, and that in the achievements of the last decade lies abundant inspiration for the immediate future. But I fancy that I shall not have fully absolved myself from the exigencies of the practitioner's outlook unless I shall point to some of the directions in which this new lore may become available in the ministrations of the physician. In this I must perforce be brief, for in truth the outlook is chiefly one of promise, and much patient research will be required before the bearings and relationships of these new conceptions shall have been co-ordinated and rendered available in either the prevention or the treatment of disease. But two or three points I shall venture to touch upon.

We are first led back to the great group of infectious diseases in which, as it now appears, the protective agencies in both natural and artificial immunity are not chiefly antitoxic but bacteriolytic.

In the light of the new knowledge of cytolytic sera, and the conditions under which these may be effective, the promise of serum therapy, so long limited to antitoxic immunity, seems now to be definite and encouraging. Let me develop one of the new possibilities.

We have seen in our review of hæmolysis that hæmolytic serum heated to 56° C. loses its lytic power owing to the destruction of the very labile complements. We have seen further that this power is restored by the addition of a little fresh serum from a normal animal; that is, a serum-containing complement. Now it has been found that this "reactivation" of the serum, as it is called, can often be brought about by the sera of various animals. Thus, for example, the serum of the guinea-pig adapted to the erythrocytes of the rabbit is lytic for these cells of the rabbit. If such sera be heated to 56°C. it is no longer lytic, the activities of the complement are destroyed; but the serum can be reactivated by a little fresh serum not only from a normal rabbit, but from the goat and the rat. The serum of many other animals, however, is ineffective under these conditions. The reason for this, of course, in accordance with Ehrlich's hypothesis, is that the complements of the reactivating sera have combining capacity with the special amboceptors, and so can become effective, while in other sera, the linking of the complement to the red cells through the amboceptors being impossible, there can be no restoration of the lytic action.

It is not difficult to secure immune substances (amboceptors) by the adaptation of animals to various kinds of pathogenic bacteria. These may be formed in such abundance as to be out of proportion to the complements. But unless these immune substances when injected into the body for protective purposes either carry with them or find in the new environment an abundance and appropriate forms of complements, they are not wholly available in destroying bacteria. One of the great problems of the immediate future, then, so far as serum therapy is concerned, seems to be to secure suitable complements to act with immune substances if the former do not exist in the human fluids, or to reinforce these substances from the sera of suitable animals if the human stock be scanty.

The search then for bacteriolytic sera takes on a wider range, and it is not unlikely, in the opinion of Ehrlich, that the nice adjustment of immune substances and complements which must characterize

the most effective bacteriolytic sera will be secured rather by a combination of sera from various animals than from a single animal.

There is, however, much ground for believing that in order to be most effective the complements with which we may seek to reinforce the potency of bacteriolytic sera should come from species closely allied to our own.

It is possible, therefore, that our blood relation, the monkey, may win at last, through his contributions to the pharmacopœia, some measure of esteem which, by reason of the scruples of the church and his objectionable personality, has been so long and so unjustly withheld.

If the securing of an appropriate complement is thus of such importance in the attempt to prepare bacteriolytic sera for therapeutic purposes, the maintenance of sufficient complements in the human body must be of the utmost significance in its intrinsic protective mechanism against infection. That this consideration is not without support in fact is shown by the studies of Abbott, Longcope, and others, who have found that after the continuous administration of alcohol and in various chronic as well as acute diseases, the amount of complement in the blood may be notably reduced. We have thus a distinct and definite contribution to our knowledge of one of those factors in predisposition to infection which, in a general way, are so fully recognized, but which are, for the most part, but ill-defined and little understood.

One other point deserves brief mention here. If it be possible so to adapt an animal to a particular form of cells that its serum shall become specifically lytic for these cells, may we not have here a possible outlook for the preparation of sera which will be effective in limiting the growth if not of locally destroying malignant or other tumors? But few experiments have been done with this end in view, and these appear to afford little encouragement. It is possible that with a fuller knowledge of cytolysis the outlook will be more promising. But a great amount of preliminary research must be carried out before the problem can be confidently approached.

The hypothesis of Ehrlich, which so closely correlates the action of toxins with the assimilation of nutrient stuff, has led to new conceptions of the details of the relationship of foods transformed by the preliminary digestive process to the material which is finally placed at the disposal of the cells. It seems not unlikely that through the action of the cell receptors the food material which arrives in the body fluids may not only be adapted to the specific uses of the cells, but that by the formation of countless varieties of substances analogous to the so-called "antibodies" of immunization, the cells are protected against equally various toxic substances. If this be true, the hope seems justified that following the lines of research suggested by this new technique we may be able ultimately to understand more clearly the details of the so-called internal secretion and those disturbances of chemical adjustment which give rise to many important phases of autointoxication.

To sum up the whole matter, then, we have reason to believe from our present knowledge that immunity is either antitoxic or bacteriolytic, and that the two protective processes may often act together.

It appears probable that bacteriolytic immunity is dependent upon the mutual action of two groups of substances, one amboceptors or immune substances which may be specifically increased by artificial adaptation; the other—complements—existing already formed in the normal animal, either free or within certain types of cells.

There seems to be abundant ground for the belief that the protective agencies which are evoked in both natural and artificial immunization are simply those which the body makes use of in its normal metabolism, exaggerated and diverted to different ends, it is true, in the face of emergencies, but giving evidence of the birth of no new physiological capacities.

The new methods of research and the far-reaching conceptions which they have stimulated and fostered seem likely to mark a new era in physiological chemistry, and to link more closely than any other extension of knowledge in our time some of the most subtle and urgent problems of medicine to the wider outlooks of general biology.*

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The records of these recent researches are widely scattered through the German, French, and English technical periodicals.

The summary of Aschoff (Ehrlich's Seitenkettentheorie und ihre Anwendung auf die künstliche Immunizierungsprozesse. *Zeitschrift für Allgemeine Physiologie.* Bd. I. Heft 3; 1902) is most complete and contains a full bibliography. The monograph of v. Dungern (Die Antikörper, 1903) contains much valuable material.

In English, the recent Huxley Lecture by Welch (Recent Studies of Immunity. Reprinted in the *Medical News*, October 18, 1902; and in *Science*, November 21 and 28, 1902) is admirable, and deals with especial fulness with toxins and their relationship to various important pathological processes.

Ritchie's discussion of the subject (*The Journal of Hygiene.* Vol. II, Nos. 2, 3, and 4, 1902) treats in a clear and philosophical fashion the facts and hypotheses involved, and contains many valuable suggestions for further research.

THE PROBLEM OF EPILEPSY: SOME SUGGESTIONS FOR ITS SOLUTION.*

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THERE is now some sort of special provision established for the epileptic class in nineteen States. In each of these institutions adequate systems of segregation, occupation, and education of the patients are in course of more or less complete installation. With the accomplishment of these primary and important tasks, attention must be directed toward solving the problem of the real nature and treatment of the disease. As the application of a rational therapy awaits the discovery of the lesion and its method of production, the importance of the work is obvious.

In relation to their order of occurrence, we will briefly consider the questions involved in this problem: (1) What is the nature of the organic anomaly, the material basis of the predisposition? (2) What is the immediate excitant operating upon the predisposition? (3) What is the seat and the nature of the lesion?

Some of the gross organic anomalies lie in the existence of rickets, cerebral palsy, various forms of injury, hemorrhage, embolism, alcohol, syphilis, both inherited and acquired, and the vague but none the less important hereditary instability of the cerebral cortex. Again the various deformities

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and abnormalities of development of the organism shown in the persistent thymus, stigmata of degeneration, and an inadequate vascular system are but evidences of the maldevelopment of the individual as a biologic unit, in which imperfection the nervous system surely participates. The particular character of the cortical cellular anomaly is not known. We suggest, however, that animal experimentation be one of the means used for clearing this point, especially to determine the nature of the morbid cell anatomy, chemistry, and physiology. The work should be done in part at least upon hereditary and induced epilepsies in animals; 50 to 80 per cent. of the progeny of such animals ultimately become epileptic, as proven by Obersteiner and Sommers. Normal control studies should also accompany the work. By examining a part of the progeny before and after the epilepsy developed, light would be thrown upon the state of the cortex before and after the disease in a progeny known definitely to be predisposed. The nature of the excitant and counteracting principles of treatment would also be suggested coincidently.

In considering the development of the disease, we believe the excitant is a toxic or autotoxic agent for the following reasons: First, the lesion is a general one affecting the entire cortex; second, it involves most extensively the cells of the second or so-called pyramidal layer type, the cells which present a relatively larger surface exposure to the circulating poison in proportion to their volume than the large pyramids; third, the presence of a marked neurogliar proliferation; fourth, the changes in the cell are quite analogous to those definitely known to be caused by toxic agents, as furfurol, alcohol, and the tetanus bacillus and its toxins.

Further study in physiological chemistry, experimental pathology, and allied studies must be undertaken to isolate the exact toxic agents, care always being exercised in maintaining normal controls and excluding the *products* of the disease from those *causing* it.

Researches should also be undertaken not only upon faulty gastrointestinal changes in the foods, but upon the liver and its secretions and the blood-modifying organs.

That the seat of the lesion is in the cerebral cortex we believe all are agreed, therefore its evolutional history, ascending through its past cycles of being considered successively as a muscular peripheral nerve, cord, medullary, basal ganglia cerebellar, and, finally, cerebral affection, however interesting, will not be touched upon here.

As to the nature of the lesion: We have during the last six years examined the cortex histopathologically in twenty-one cases from the Craig Colony, under what are considered at present ideal conditions and methods; nine cases were of status epilepticus, occurring in organic and idiopathic epilepsies; these were of serial epilepsy—three died during single seizures, and six died of coincident affections independent of their disease. The same lesions were uniformly found present in all. The lesions differed only in degree, not in character. The changes were most marked in the status, as it is the maximum intensity of the disease, the true climax of epilepsy. The evidences of cortical degeneration were general. The expression of acute and chronic exhaustion were shown in a diffuse chromatolysis and other characteristic protoplasmic changes.

The manifestation of a vital intoxication of the cell was presented in a swollen nucleus, a destruction of the nuclear membrane and intranuclear network, and, finally, an abstraction of the nucleolus was rendered easily possible by the knife, it behaving as a loose body in the nucleus.

Contributory evidence of the ultimate disappearance of the cell from the cortex was manifest in an infiltration of the cortex with leucocytes and a progressive gliosis. Controls in the normal human and animal brain were employed throughout the study. The recent or primary lesion of epilepsy is a cell destruction, while the remote or secondary one is of a gliosis, a sclerosis more or less diffuse of various cortical areas. From the nature of the lesion we infer that epilepsy is a highly sensory motor reflex phenomenon. It is primarily sensory with a motor expression. The nervous discharges are not only transmitted over the motor tracts, but also over others for motor reflex impulses, as demonstrated by Starlinger, Bischoff, Prus, Hering, Redlich, and Rothman. These tracts, from a functional point of view, have been called by Prus extrapyramidal tracts.

The interpretations of these findings, pathologically and clinically, is interesting in the extreme. It is a well-known biologic fact that the nucleus presides over vital processes of the cell. Its destruction ultimately causes the disappearance of the cell as a functionating body from the cortex. Commensurate with its destruction, dementia and paralysis in effect result. The lesion is not confined to epilepsy alone; indeed, quite similar changes are found in myoclonus, general paresis, chorea, and the like degenerative cortical disorders. The data, however, are of sufficient proof that the lesion of epilepsy is a diffuse and profound cortical degeneration, and we believe every well-marked case of epilepsy will show these lesions in some degree, depending upon the varying factors of preparedness of soil and the severity and persistence of the excitant.

In order that these and similar problems as to the nature and pathology of epilepsy shall be investigated, it is necessary that workers in the special institutions for epilepsy be enlisted. It is essential that proper places for such workers be established. There should be built in every colony and hospital for epileptics a special building for the reception, observation and study of all newly admitted cases, a clinico-pathological hospital, fashioned much on the admirable plan of the psychopathic hospitals abroad for the study of the acute insane. Naturally, rational therapeutics, principles in dietetics, massage, and hydropathy, would find their proper place here also. After due and exhaustive study of each case, the patients may pass from the observation ward and laboratory to the less restricted confines of the colony proper for continued application of treatment in its broadest sense. We would then have a reception hospital for all acute cases and the colony proper for the continued observation and treatment.

The field of research is too vast; the problem too intricate for any one set of workers to cover the ground. We would, therefore, suggest that all investigations in the several institutions for epileptics should be arranged on a definite scientific plan, so that a correlation of the results may be made from time to time. Such a co-operative scheme could be best put into effect by the establishment of a central scientific advisory committee.

We venture to prophesy that there is no one disease whose careful study in the near future will contribute more to the elucidation of the obscure points all over the broad field of neurology and psychiatry as that of epilepsy. Indeed, Hughlings-Jackson has made the greater part of his marvelous discoveries of the laws underlying the structure and function of the nervous system during the past

thirty years almost solely through the study of epileptic seizures.

To summarize in conclusion: We submit that epilepsy is a disease resulting in diffuse and profound cortical degeneration; a highly complex sensory motor phenomenon, primarily sensory with a motor expression. The lesions attending its course are shown in the following: Swollen nucleus, destruction of the nuclear membrane and intranuclear network; easy abstraction of the nucleolus by the knife, as it becomes a loose body in the nucleus; diffuse chromotolosis, and other protoplasmic changes. All these lesions result in the ultimate disappearance of the cell as a biologic unit and its replacement by a gliosis. The lesions are induced by a toxic or autotoxic agent operating upon an organic anomaly of the cerebral cortex which forms the predisposition.

We urge, therefore, the construction of special accommodations for the reception and study of each newly admitted case of epilepsy in the colonies, and hospitals which shall be arranged on similar lines to the psychopathic hospitals abroad, and we finally suggest that some central scientific advisory committee be appointed to formulate a correlated plan for future study and research.*

*At the completion of the paper microscopical slides and camera lucida drawings were shown in demonstration of the lesion of epilepsy as detailed in the article. Reproduction of the same here was impossible, as they form a part of the authors' monographic research study now in press.

THE RADICAL CURE OF INGUINAL HERNIA WITH LOCAL ANÆSTHESIA.*

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It is estimated and accepted that 5 per cent. of our male population is ruptured. It would be of equal interest to know what percentage of these seek aid from sources other than the surgical profession. Certain it is, a flourishing army of truss-adjusters attest the fact that we have not offered a method of cure entirely satisfactory to the public. From the surgeon's standpoint, few operations are so satisfactory as the radical cure of an average-sized inguinal hernia. From the view-point of the patient, it evidently appears less attractive—and he prefers, rather than submit to operation, to carry with him an actual disability and a potential death.

The reasonable certainty of cure and short detention from business which we offer must be encouraging to a patient, and no doubt the majority would be operated on if a danger to life (which though small) were not in conscience to be added to our proposition. This danger in herniotomy is represented alone by the danger of general narcosis, hence it is the anæsthesia that becomes the deterrent factor to the patient. With this premise, I feel assured of your interest in the recital of forty-eight cases of radical operation for inguinal hernia without general anæsthesia.

In all the cases, muriate cocaine was used as a local anæsthetic, and in no instance was one-half of one grain of the drug exceeded; consequently danger to life was eliminated.

A moment's thought of the anatomy involved will convince one that herniotomy is peculiarly well adapted to local anæsthesia. The operative area lies superficial. Scarcely ever is ligation of a bleeding point demanded. Intraperitoneal or visceral work, if needed, is of short duration, and usually simple in character, and, lastly, and of greatest importance, the sensation of the entire field of work is presided over by three trunk nerves. These are superficially placed and easily found.

The problem, then, is to find these nerve trunks, and with a few drops of cocaine solution injected within the nerve-sheath abolish pain sensation within the entire field of work.

The hypogastric branch of iliohypogastric, inguinal branch of ilioinguinal and genital branch of genito-crural are the three nerve trunks in question. They have been named in the order of their pain-bearing importance, also in the order of their constancy of anatomical position.

All three nerves are derived from the first and second lumbar, and participate slightly in forming the lumbar plexus. They possess intercommunicating branches, which explains why the operation may be completed with comparatively little pain, after cocainization of the iliohypogastric, though the other two are not identified. The anatomy of these nerves prior to their entrance upon the inguinal region does not interest us. The largest, most constant, and easiest found is the iliohypogastric. It runs from the iliac crest inward, just beneath the apponeurosis of the external oblique muscle. It may lie on the internal oblique, just above the arching fibers of the internal ring, or across the front of the hernial coverings as low as the external ring. If it is large, one or both of the other two nerves may be absent, and little time should be spent in their search. The ilioinguinal, as stated, is absent in a certain proportion of cases. In situation it is less constant, and, in fact, occupies many different positions. Generally it lies at a lower level than the iliohypogastric, and parallel to it in direction. Again it frequently runs to the outer side and parallel to the long axis of the hernial protrusion. The genito-crural is also unfaithful in position, and often not identified during the operation. It most frequently emerges from the internal ring with the hernial protrusion, lying between the cord and hernial sac. An apology is due you for this imperfect and unsatisfactory anatomy. Yet you will obtain even less information by consulting textbooks on the subject. A special study of the location and direction of these nerves is here promised in a future communication.

The uncertainty in situation of the last two nerves would be discouraging if their identification were essential to the success of the operation, but if the iliohypogastric is found and cocainized, the pain can be almost entirely controlled by occasional infiltration into areas known to be sensitive. Frequently a white, fibrous cord, the remnant of fetal peritoneum is found running along the front of the hernial coverings and looks not unlike a nerve. It should not be mistaken for the ilioinguinal.

In forty-eight cases all three nerves were identified seventeen times—the iliohypogastric and ilioinguinal twenty times—the iliohypogastric alone forty-eight times.

Technique of Operation.—In the effort to avoid bleeding points, wide dissection, and to secure precision, the textual description, of the operation has been modified in certain steps. Of very greatest importance is the length to which the lower end of the skin incision is extended. While it may be started as high as desired, it should stop at the lateral end of the suprapubic skin-fold. This incision we may deepen to our operative field without encountering a vessel sufficiently large to demand a ligature, while if the incision be extended an inch lower from six to thirteen catgut ligatures will be required to tie the bleeding points. Not only is this catgut, when

*Read at a meeting of the New York State Medical Association, October 23, 1902.

softened by the tissues into gelatin, an invitation to sepsis, but in cocaine work it means six to thirteen acute twinges of pain in the *beginning* of the operation. There is a fatal difference between pain at the outset and equal pain near the end of the operation. The one destroys the confidence of the patient in our assurance of immunity to pain and may utterly demoralize him, while the other is borne with equanimity because the termination is at hand. Whenever a blood vessel is cut or tied in cocaine work it produces acute pain.

The incision so placed gives ample room by downward traction of the mobile skin, and nearly always permits completion of the operation without the use of a ligature. This is repeated, for emphasis, on account of its importance. The line of incision in the skin is cocainized by introducing the needle just under the scarf epithelium. It is in this plane of the skin that the highly differentiated end-organs of the sensory nerves lie. When the needle point lies true it can be seen from the surface.

This anæsthesia will permit the incision to be painlessly deepened to the apponeurosis of the external oblique. This structure is infiltrated with a much weaker solution, especially into the arciform fibers around the external ring, where lie the terminal ends of the ilioinguinal nerve. Upon splitting and reflecting the external oblique, the iliohypogastric nerve is seen in the situation stated, and cocainized as described. The ilioinguinal is also sought, but if not found, infiltrate the hernial coverings in a straight line over neck of sac and deepen incision until this structure is reached. The neck of sac, also margins of internal ring, should now be infiltrated and the sac incised. The visceral contents are returned to abdominal cavity by Trendelenburg posture.

If omentum is to be excised, it is gently withdrawn, ligated, and amputated without additional cocainization, and, in my experience, without pain. Forcible traction on the omentum produces pain, referred to the stomach, and may even induce nausea. Specific instances of visceral handling will be detailed later. A *dry* pad, if large, inserted through the peritoneal opening, produces pain from friction against the parietal peritoneal reflection. The hernial contents having been treated, the neck of the sac is gently separated from the cord (a look-out being kept for the genito-crural nerve) and amputated; leaving the sac-fundus lying in its bed. After transfixion and ligation of neck, the fundus is caught, on its cut edge, by two or more equi-distant artery clamps, and wig-wagged from its bed. Even old, thick sacs may thus be liberated with an occasional snip with scissors. If the three nerves have been cocainized, the remainder of the operation is entirely without pain, but if only the iliohypogastric has been found, some infiltration will be needed into the conjoined tendon. The cord is lifted from its position and the operation concluded according to Bassini.

Two suggestions of proven worth are offered: (1) If a strip of dry gauze is used to hold up the cord it may, during the necessary manipulations, roll the cord on its long axis, and exposure to air causes agglutination in this position of torsion. A wetted strand of catgut as a retractor will obviate this danger. (2) The deep sutures should include in the bite only one-half the thickness of the conjoined tendon. This gives perfect apposition to Poupart's ligament, and does not induce pressure necrosis with cutting out of stitch, because blood supply is not endangered.

The Cocaine Solution.—One-fourth of one per cent. solution is used for the skin and nerve trunks while for all sub-dermic infiltrations one-tenth of one per cent. is sufficiently strong. When intra-neural anæsthesia cannot be obtained infiltration must be used. This holds good in all cocaine surgery. It is essential to use a weak solution, as we cannot infiltrate with a two-per-cent. or a four-per-cent. solution for fear of cocaine poisoning. A one-fourth of one per cent. solution, when properly infiltrated, will completely anæsthetize the skin for one hour and a half. When a two-per-cent. solution of cocaine is used, one-fourth per cent. anæsthetizes sensation, while the remaining one and three-fourth per cent. goes to intoxicate the patient.

It is confusing at times to use solutions computed by per cent. A better way is to dissolve a one-grain tablet in two drachms of boiled water, which approximates one per cent. in strength, and then dilute this as needed, in the syringe, with sterile, warm water. The amount of cocaine that has been used can be told at any stage of the operation by what remains of the original two drachms. This saves troublesome mathematics. Cocaine solutions should always be freshly made at time of operation and used warm. In six hours a fungus begins to form, and the solution is potentially septic; in twenty-four hours it is distinctly septic and will produce suppuration. A sterile solution of cocaine does not interfere with wound healing any more than does salt solution. Again, a solution tends to become acid and loses in anæsthetic value. We have never used morphine prior to operating or in the cocaine solution as does Schleich. It is reserved to relieve pain after operation.

A descriptive recital, in detail, of the cases would be monotonous and unprofitable. All were inguinal hernias, in patients ranging in age from sixteen to seventy-six years. Five were strangulated, and these were slightly more painful than the non-strangulated. I believe this greatly due to vitiated morale of patients. In one of these cases fully sixteen or eighteen inches of intestine were withdrawn and freely handled—pain not complained of—while in another of this group considerable complaint was made against the application of hot cloths to the intestine.

Of the forty-three non-strangulated cases six had thick, adherent sacs, requiring scissors and gauze rubbing to separate the cord. In five cases the omentum was ligated and excised. In one case the amputated omentum weighed sixteen ounces, and was ligated in sixteen sections. There was absolutely no pain in this manipulation. The appendix was adherent to the sac in one case, and was painlessly amputated—stump inverted and sutured—without additional cocainization. Three cases were of the congenital type. In one case, with thin muscularis, Bloodgood's transference from rectus was easily accomplished. The remainder were simple cases, without complications.

In eighteen cases there was entire absence of pain; in twenty-eight the pain may be characterized as moderate, and in two it was acute when ligating the neck of the sac. In three cases of double hernia, which are classed above as *moderate* in pain, the second side was done with local anæsthesia at the patients' request.

Dr. Morris of Pontiac, Mich., had a small nasal spur removed under cocaine two days before his herniotomy. He declares the pain was infinitely greater in the nasal operation. Three other physicians express the pain as less trying than the nausea after ether.

In conclusion, we are nearly convinced that the usual textual advice of using cocaine when ether is contraindicated should be reversed.

128 East Thirty-fourth Street.

Albuminous Expectoration Following Thoracentesis, with Report of a Case.—Herbert W. Allen describes this case. The patient was a man twenty-five years old, admitted to the hospital with pleural effusion. He was tapped three times. Toward the close of the last operation the patient complained of shortness of breath and of a smothering sensation. After about half an hour there began a series of severe paroxysms of coughing, each being followed by profuse expectoration of serous, frothy sputum. The paroxysms followed each other at very short intervals, and the patient complained much of dyspnœa. The symptoms gradually subsided after lasting about an hour, but the patient expectorated for two or three hours longer. The total amount of expectoration was not accurately measured but approximated one liter. It was very frothy, of a pale green color, translucent, and on standing deposited a muddy sediment. Treated with nitric acid it gave an abundant precipitate of albumin. Examined microscopically it contained large numbers of bacteria, many flat epithelial cells, a few red blood-corpuscles, and some polynuclear leucocytes. A differential count of the leucocytes in the effusion showed: polymorphonuclear leucocytes, 1.7 per cent.; large mononuclear leucocytes, 1.9 per cent.; small mononuclear leucocytes, 96.4 per cent. No tubercle bacilli could be found in a centrifugalized specimen. The subsequent history was satisfactory, and there was no reaccumulation. Four main theories have been advanced to explain the phenomenon of albuminous expectoration: (1) Perforation of the lung by the trocar. (2) Spontaneous perforation of the lung. (3) Reabsorption of the fluid remaining after thoracentesis. (4) Acute œdema of the lung. The last theory is the one accepted to-day by most observers. The exact mechanism by which the lung œdema is produced must still be left an unsettled question.—*Bulletin of the Johns Hopkins Hospital.*

The Prevention of Pneumonia.—In an address on Pneumonia, recently delivered before the Michigan State Board of Health, Dr. Reynolds, Health Commissioner of Chicago, formulated the following rules looking to the reduction of the mortality from this disease: (1) It is well known that pneumonia is a highly contagious disease, the cause of which is a microorganism in the sputa of those suffering from the malady, and that it is contracted by inhaling this germ. Therefore, the same care should be taken to collect and destroy the sputa that is taken in pulmonary tuberculosis, or in diphtheria or influenza. (2) During the illness the greatest pains should be taken to prevent soiling bed-clothing, carpets, or furniture with the sputa, and after the illness the patient's room should be thoroughly cleansed and ventilated. (3) The fact that the disease is most prevalent in the winter season, when people are most crowded together and live much of the time in badly-ventilated apartments, makes obvious the necessity of thorough ventilation of houses, offices, factories, theatres, churches, passenger cars, and other public places, in order that the air which must be breathed may be kept clean and free from infectious matter. (4) Laymen should be taught not to be afraid of a patient who has pneumonia, influenza, or tuberculosis, but to be afraid of lack of cleanliness about him during his illness, of failure to enforce prophylactic measures and of close, badly-ventilated apartments during the season when these diseases most prevail. (5) Since pneumonia is most fatal at the extremes of life—the young and the aged—special care should be taken to guard children and old persons against exposure to the infection of those already suffering with the disease and against cold, privation, and exposure to the weather, which are potent, predisposing causes.

Surgical Features of Typhoid Fever.—Thomas McCrae and James F. Mitchell summarize their two years' experience in typhoid fever: (1) Two hundred and seventy-five cases have been treated. (2) Of these a certain number had unimportant complications, as boils or abscesses, the cultures from which, in every instance, yielded pyogenic cocci. (3) Periostitis and perichondritis have been seen occasionally, always subsiding without surgical interference. (4) Glandular affections, especially mastitis, occurred, but were not serious. (5) Abscess of the liver occurred once with recovery, the cultures being practically negative. (6) There have been symptoms of cholecystitis in five cases, of which three subsided without operation; one was operated upon and recovered; while in one the gall-bladder ruptured and general peritonitis, resulting in death, followed. (7) Appendicitis was suspected on admission in three cases and developed once during the course of typhoid fever. (8) Perforation of the intestine occurred eight times. Of these, seven were operated upon with two recoveries, a third dying of toxæmia after a week. All of these seven were recognized within nine hours, except two in which hemorrhage from the bowel accompanied the perforation. In one case operation was not advised because the patient was evidently in extremis. (9) Exploratory laparotomy was done in two cases in which no perforation was found. In one the symptoms proved to be due to intestinal hemorrhage; in the other to a low grade of peritonitis. The first died; the second recovered. (10) Eleven cases with suspicious abdominal symptoms were not operated upon. Of these, two died and the autopsies showed no perforation. The remaining nine recovered.—*The Johns Hopkins Hospital Reports.*

Diet in Rheumatism.—G. O. Jarvis thus sums up the result of his researches: Allow a liberal meat diet, cooked by being either broiled or roasted, and served rare, because well-cooked meats are not easily attacked by the digestive juices. They should not be boiled until all the salines have been dissolved out of them. Eat carbohydrates in moderation, cooked so as to preserve the salts (that is to say, by frying in an excess of boiling oil), and selected so as to avoid those likely to undergo pathologic fermentation in the digestive tube. Fats in rather small amounts. Water should be drunk plentifully, and it should be especially directed that some water be taken between meals. Alcoholic drinks, tea, and coffee are to be used in great moderation, say one cup of tea or coffee daily, and alcoholic drinks not at all, or, if prohibition be impracticable, according to the individual temperament, and bearing in mind that malt liquors are generally worse than wines or diluted liquors. Results in lithemics treated upon this basis have been good, and of forty-five cases of trigeminal neuralgia not one has been lost sight of until cured. These cases are mentioned because it seems to the author that nearly all cases of facial neuralgia have a rheumatic basis. It should not be understood that these cases were treated simply by dietetic methods, for the skin, teeth, stomach, bowels, kidneys, and rectum each came in for their share of examination and treatment.—*International Medical Magazine.*

Acute General Peritonitis a Sequela of Measles.—Everett S. Hicks reports two cases of this rare complication. The first was a child of nine years who, on the third day of the measles, had a temperature of 105°, pulse 130. Fourth day, rash out and all symptoms better. Seventh day, patient complained of severe pain in region of umbilicus, headache and vomiting; temperature 102°, pulse 120. Abdominal muscles rigid, and tenderness general. In the second case, a child of four years, peritonitis appeared on the tenth day, with pain and tenderness, and temperature of 103°. Salines were used in the first case, and a rapid recovery followed. Salines were advised in the second case, but the treatment was not persisted in, and the bowels were kept confined for two weeks. (The author was called in consultation only in this case). The patient was in bed for a month, and was ill for three months.—*Annals of Gynecology and Pediatry.*

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INCREASE OF INSANITY IN GREAT BRITAIN.

STATISTICS dealing with mental disorders seem to show that undoubtedly these forms of disease have become more numerous within the past few decades. Perhaps the increase has not been so rapid as the figures appear to demonstrate, but at the same time it would be idle to argue that cases of insanity are not decidedly more frequent than formerly.

Mr. W. J. Corbett has been for many years a persistent contributor to the English *Westminster Gazette*, with the object of proving to the public that insanity has increased in the United Kingdom by leaps and bounds, and that the authorities have been attempting to hoodwink the people as to this fact. According to the *Fortnightly Review* of 1884, the registered number of lunatics in England was 36,762; in 1884 this number had risen to 76,765; while a later issue of the same journal showed that in 1901 there were no less than 110,713 lunatics in England.

Mr. Corbett, referring to what he terms the inability of alienists permanently to cure mental disorders, says: "While specialists in zymotic diseases have rendered signal service to mankind, the alienist alone has, so far, failed to make any appreciable progress in his own specialty; at all events, as results prove, he has failed to arrive at any discovery tending to lessen the spread of lunacy. From year to year, from decade to decade, from generation to generation, in spite of every effort made to stop the ravages of the disease, the insane continue to increase in great numbers—the leaven spreads annually with cumulative force, apparently under the influence of the natural law of reproduction, and the question has to be faced, How long will it take before the whole mass is leavened?"

Without admitting the truth of the writer's contention, that insanity cannot be treated successfully by present-day methods, one must acknowledge that it is a rare event for a lunatic to be permanently cured. Of course the treatment of the insane is conducted upon far more intelligent and humane lines than was the case fifty years ago. They are well housed, well fed, and used with kindness. Nevertheless, insanity increases, and, if we may believe Mr. Corbett, is spreading in Great Britain with alarming rapidity.

What then is the remedy? He argues that, cure being impossible, a policy of prevention should be pursued, and that, in place of erecting magnificent buildings in which the patients are pampered and coddled, an endeavor should be made to prevent the union of individuals with the taint of insanity, and to put forth vigorous efforts to improve the human breed in every way possible. Darwin, in the "Descent of Man," more than hinted at his belief that insanity was hereditary, while Francis Galton has stated plainly his views in the following words: "It is too certain that insanity and deteriorated mental powers likewise run in the same families."

With regard to means of prevention, Mr. Corbett quotes an American writer, Dr. Godsell, who says, in his Introduction to Clinical Gynecology: "I frankly confess that, in order to stamp out insanity, I am strongly inclined to advocate the legal sterilization of every man and woman who is the unfortunate victim of this hereditary curse." Again, Mr. Arnold White, in the *National Review*, suggested some time ago the following plan as a means of arresting "the propagation of the unfit." His proposal was to "extirpate them, by immuring them for life, not because they are wicked, but because their stock is corrupt," and he proceded to lay down this broad general principal: "If we are to become a healthy people, the permanent segregation of habitual criminals, paupers, drunkards, maniacs, and tramps must be deliberately undertaken."

This question has been discussed in America widely and often. Some States have gone so far as to favor the legalizing of measures by which persons would not be permitted to marry until they had undergone a strict medical examination, in order to prove that they were sound, and especially to show that they were not suffering from syphilis. However, such a scheme does not come within the range of practical politics, besides being an invasion of the rights of a citizen of a free country. It would surely be for the good of the communtiy at large if syphilitics, consumptives, maniacs, and habitual drunkards could be prevented from propagating a contaminated stock, but how to effect this object is at present not clear. The only remedy that Mr. Corbett can suggest is to have an international conference of qualified persons to consider the matter.

It would be interesting to gather statistics as to insanity from the whole of the United States, to compare with those of Great Britain, and to ascertain if lunacy is on the increase here, and, if so, to what extent.

HOSPITAL FOR TUBERCULOSIS IN NEW YORK CITY.

THE fight against disease is being waged in all parts of the world with increasing vigor. Scarcely a day passes but the news comes from one or another part of the globe that large sums have been provided, either by Governments or by private individuals, for the purpose of scientific research. Sanatoriums and hospitals have been given with a lavish hand. Of all the maladies to which the human race is subject, tuberculosis seems by common consent to take the first place. It probably kills more persons than any other disease, and is besides preventable and, under certain conditions, curable.

Recently, in both Great Britain and America, very large amounts of money have been donated by rich men, to aid in the efforts of medical men

to prevent, and if possible to extirpate, pulmonary tuberculosis. Sir Ernest Cassel in England a year ago presented $1,000,000 for the erection of sanatoriums for consumptives, and for research work in tuberculosis. Mr. Phipps a few weeks ago gave a larger sum for similar objects to Philadelphia, and now Mr. Rockefeller has placed at the disposal of Chicago University a still larger amount of money, to be devoted to the study of contagious diseases, especially of tuberculosis.

These gifts to other cities give rise to a sentiment somewhat akin to envy in the breasts of New York physicians. They cannot but feel that New York—of all cities in the United States most in need of the sinues of war with which to carry on a crusade against tuberculosis—has been left in the cold both by its municipal government and by its wealthy citizens. Dr. Henry P. Loomis voiced the sentiments of the medical profession of New York when, on Thursday evening, January 29, at the Pro-Cathedral, Stanton street, he urged the paramount necessity of the city government establishing a large and completely equipped hospital for the accommodation and treatment of tuberculosis and other lung troubles. As a matter of fact, not only is New York inadequately provided with facilities for caring for its consumptives, but in this respect is worse off to-day than it was ten years ago, for the reason that those suffering from tuberculosis are now, owing to the fear of spreading infection, barred from the general wards of city hospitals.

It is estimated that there are 30,000 persons suffering from consumption in New York, the majority of whom live in the overcrowded districts of the city, where their presence is a menace to their neighbors.

Dr. Loomis is of the opinion that there are only two ways known of reducing the mortality from tuberculosis: "First—by preventing its spread by direct infection. Second—by educating the people to the importance of taking care of themselves when the disease first commences. He thinks that a large and thoroughly equipped consumption hospital should be erected on Blackwell's Island, and that this building should be large enough to accommodate all those in an advanced stage of tuberculosis. In connection with this main hospital an annex should be built in the country near New York, and should be used for the accommodation of those in the early stages of the disease.

The MEDICAL RECORD during the past three years has strongly advocated that adequate means should be provided for the care of the indigent consumptives of New York. Other cities far less rich than New York have exhibited greater humanity toward their poor consumptives, and it is a slur upon the city government that these unfortunates are left to die without proper help, and to some extent to act as a foci of infection. Such a policy is short-sighted and inhuman.

TREATMENT BY FINSEN LIGHT.

TREATMENT by chemical rays has not as yet made so great progress in the United States as in some of the European countries. The therapeutic effects of the violet and ultra-violet rays have been shown to be remarkable, and in France, perhaps, this form of treatment has reached the highest stage of development.

In *McClure's Magazine* for February are descriptions of the origin and rise of phototherapy, together with a sketch of Niels Finsen, its discoverer.

It was in 1893, according to Cleveland Moffett—after having experimented for some time, and after having practically demonstrated the efficacy of red light in preventing scarring from smallpox—that Finsen set himself the task of investigating the bactericidal action of the blue, the violet, and ultra-violet rays. He first showed that the green, yellow, and red rays are practically useless as bactericidal agents, and then found out that while unfocused sunlight from a midsummer sun had a limited destructive action upon bacteria, that these same bacteria were destroyed almost instantly when exposed to concentrated actinic rays. His experiments further proved that powerful electric light is more efficacious in destroying bacteria than ordinary sunlight, as the latter, however, concentrated, looses part of its ultra-violet rays in passing through the earth's atmosphere, while the former possesses these in abundance. It was also discovered that the penetrating properties of the actinic rays upon the tissues are greatly enhanced when the circulation of the blood has been arrested and temporary anæmia has been produced, as the red color of the blood acts like red glass in opposing the passage of any light but red.

Lupus was the first disease upon which Finsen tested the bactericidal action of the ultra-violet rays, and the success of his experiments is now a matter of history. The fact was at once recognized that a most important medical discovery had been made. The establishment of the Finsen Light Institution in Copenhagen was the first fruits of this discovery, followed by the installation of apparatus designed to use the actinic rays to the best possible advantage, in every civilized land.

At the London Hospital, in the East End of London, the largest hospital in the united Kingdom, and situated in the midst of the most poverty-stricken part of the British metropolis, a Finsen-light Department has been established. Since the installation, in the spring of 1900, 398 patients have been treated at the London Hospital, of whom 149 were discharged as completely cured, and 232 are at the present time under treatment. Lamps for the treatment have been installed at the Charing Cross and Westminster hospitals, as well as at Liverpool, Manchester, Dublin, and at various other of the provincial hospitals of Great Britain.

With regard to the Finsen system in America—as remarked before—its progress has been somewhat slow. Dr. George G. Hopkins, who writes on this phase of the matter in *McClure's Magazine*, attributes this tardiness on the part of American medical men to make their countrymen participators in the benefits of the Finsen-light treatment to the following reasons: "First, the established conservatism and distrust of new methods characteristic of the medical profession of this country, which has kept the Finsen system out of our hospitals; second, the considerable expense of instalment and maintenance which puts the matter beyond the reach of many practitioners; and, third, the rarity of lupus." Whatever, however, may be the reasons, it is assuredly the truth that American

European institutions—in their practical appreciation of the efficacy of the light treatment. There are, nevertheless, many private practitioners who have eagerly availed themselves of the road opened to them by the genius of Finsen, and, furthermore, have had much success with the Finsen ray, and this ray in conjunction with the *x*-ray in the treatment of various forms of skin diseases, and even of superficial cancer.

The time is yet young to speak definitely of the future of the actinic rays as a therapeutic agent in many diseases. But, so far as can be judged from the results up to the present time, the discovery of Finsen bids fair to take rank with the most valuable medical discoveries of this or of any age.

Subway and Crowded Car Ventilation.

In immense cities, such as London and New York, the transportation of the inhabitants presents a problem of almost insuperable difficulties. In London subways and deep tunnels have been resorted to as almost the only way of successfully grappling with the situation, and New York is, to some extent, following suit. But subways and deep tunnels, although they may relieve the congested service traffic, are by no means unmitigated blessings. Dr. Sutherland has recently made analyses of the air of the London "tubes," with the result that while air taken at the street level outside the stations of the Central London Railway contained an average of 2.83 parts of carbon dioxide per 10,000, tests of air taken at the same time from the interior of the stations, and from the cars within the tubes, showed that on the station platforms the percentage varied from 4.23 to 7.36 parts during the hours of moderate traffic and during the busiest hours the percentage rose from 11.04 parts to 20.46 parts per 10,000. Such a percentage of carbondioxide is in a high degree unhealthy to a strong person, while a much less percentage cannot be but injurious to an individual of weakly constitution.

The *Scientific American*, January 24, points out that soon there will be both deep level tunnels and subways in New York City, and that therefore the question will become one of the most vital moment to the New York traveling public. The above-named journal says that "it is at present rumored that the subway engineers are trusting to the movement of trains to produce sufficient ventilation, and if so, it looks as though they were confusing ventilation and circulation. The movement of trains will produce circulation, but if the air be already vitiated, it will require something more than the mere transfer of the air by the piston-like action of trains to render it pure. Provision must be made for taking into the tunnels a supply of fresh air and expelling that which has been vitiated, and to secure the best results, the action should be constant and not intermittent."

The Merritt Bill and the Superintendent of Public Instruction.

The medical profession is much interested in the "Merritt bill," and naturally so. This measure proposes to place in the hands of the State Superintendent of Public Instruction such moneys as the Legislature may appropriate to pay for the tuition in high schools of such children as can find no high-school accommodations in their own school districts and are desirous of continuing beyond the grade schools. Governor Odell has recommended such an appropriation by the Legislature, and all educators and sociologists are favorable to the proposition. Who shall administer this fund? Such is the issue raised by the Merritt bill, because the author of that measure would make the innovation of having the State Superintendent of Public Instruction act as the disbursor of these moneys. Educators throughout the State are opposed to such a dispensation. They demand that the mentors of the common schools remain in their own sphere of action, and leave to the Regents the care and management of all matters pertaining to secondary or higher schools. It is true that under a law passed in 1895 the Legislature did enact that the Superintendent of Public Instruction might approve courses of study in secondary schools to satisfy himself that the standards of study were sufficient for teachers under his care, but the fact remains that the Regents are and have been held responsible for the rank and standing of all high schools and academies in the State, and any attempt to alter their control of these institutions will be deemed an attack on a system of which all professional men, and especially physicians, are proud. To use a homely expression, symbolic of school-boy days, we would advise the State Board of Public Instruction to "shinny on its own side." We want no innovations in our system of secondary education, but we do want a continuance of our splendid Regents' management, which has made us the envy of our sister States because of the advances in professional standards which have been made by reason of the excellence of Regents' methods. Every three years there is likely to be a change in the personnel and in the policy of the Department of Public Instruction. Education, pure and simple, is the factor controlling the policy of the Regents' office, and the executive of that body and all of his subordinates are appointed solely because of comparative merit. The policy of the Regents' office is one of progress in education and advancement in standards, regardless of the party which controls the political situation. Therefore, it is that the medical profession of New York State, jealous of its laurels gained through coöperation with the Regents' office, calls to its legislators: "Hands off the secondary schools! Let the Regents administer for their own!"

Cremation.

Cremation within the past few years has made much progress in Europe, and still greater progress in the United States. San Francisco at the present time leads the world in the number of its citizens who are yearly cremated. Despite, however, that more persons are, year by year, subjected to this process, there still exists much prejudice against cremation among the population at large.

In *Municipal Affairs*, January, Louis Windmüller writes a strong article, advocating cremation as a healthful mode of disposing of the dead. He says "In a modern crematory the unclad corpse, simply wrapped in a damp winding sheet, is noiselessly rolled to the retort, and quickly consumed by air that has been heated to 1,500° F. Gases are consumed in the same furnace in which the body is burned, so that it may not offend the nostrils of the most sceptical critic. Some crematories have been erected in the very heart of modern cities, and would draw no attention, but for the peculiar construction of the edifice . . . Cremation merely reaches, in a shorter period the same final result as burial. Fleshy parts of the corpse decompose in the earth in five or ten years; during the whole period

of decomposition they constitute nothing but a putrid mass of carrion. Bones, which take centuries to crumble, are unceremoniously carted from one cemetery to another when necessity compels their removal, and increase the horror of death after they have ceased to be identified and claimed. If they are converted, with the flesh, into ashes in an hour, they are insured against desecration. The volume and weight of bodies are reduced by the process of cremation some 95 per cent."

Mr. Windmüller ends as follows, "Considering the marvellous progress we have made in every other direction, it is strange that we have failed to adopt the most rational means for the deposition of dead bodies. We hardly are abreast of Homer's contemporaries, who realized that, however well a cemetery may be managed, corpses can do harm, but ashes never can."

The most forcible argument that can be urged in favor of cremation, is that no danger to health can happen to the community from the process. In these times of over-crowded cities, grave-yards in our midst, and cemeteries in our immediate neighborhood are, to say the least, unhygienic. The other objections to cremation are chiefly of a sentimental nature, and will not stand the battery of sound common sense.

Becquerel Rays.

Since the discovery of the Röntgen rays, various observers have been making investigations into the subject of radiation. The fact that the *x*-rays produced phosphorescence when they fell on sensitive substances, directed attention to the phosphorescence spontaneously emitted by the salts of uranium and substances of a like nature. It was thought that the phosphorescence of the Röntgen rays might be due to the uranium present.

Joseph John Thomson, P.D.S.C., F.R.S., Cavendish Professor of Experimental Physics, Cambridge, England, writes on the matter in *Harper's Magazine*, January. He says, in part, "The subject was taken up by Professor Becquerel of Paris. He took a quantity of salt of uranium, and placing it near a photographic plate protected from light by light-proof screens, kept the uranium in a state of phosphorescence by continued exposure to sunlight. On developing the plate after the experiment had lasted several hours, he found a picture upon it, showing that something similar to Röntgen rays had been given out by the uranium. In all the earlier experiments the uranium was kept exposed to the sunlight, and was thus phosphorescing during the whole time of exposure. It happened, however, one day, that after Becquerel had prepared his uranium and photographic plates, and exposed them to the sun, the sky, after a short time, became clouded over, and there was not light enough to make the uranium phosphoresce. Becquerel put his apparatus away in a drawer, and waited for better weather. The weather, however, did not improve, so that after waiting for some days, Becquerel developed the plate, expecting, as the uranium had been phosphorescing for so very much shorter time than in the earlier experiments, to get, if he got anything at all, an exceedingly faint picture. To his surprise, he found that the picture excelled all those he had previously taken." By further experiments, Becquerel established the fact that the emission of the radiation is a property of the uranium itself, and is not dependent upon any previous stimulation.

The Becquerel rays, so named from their discoverer, are very similar in their action to Röntgen rays, and are, indeed, a mixture of these rays and cathode rays. M. and Mme. Currie have continued researches with regard to uranium radiation, and have found out some very interesting points. Professors Rutherford and Soddy of Montreal have also investigated the matter of radiation from uranium, and obtained valuable results.

Professor Thomson finally concludes that all objects on the surface of the earth, which are radioactive, are cathodes, discharging cathode rays into the air, and that cathode rays are omnipresent on the earth surface.

The discovery of the Röntgen rays has given an immense impulse to investigations into the properties of light and radiation. The subject is, as yet, in its infancy, but judging from the good effects of the light treatment of certain diseases, it may not be too much to hope, that with greater knowledge of radiation, there will be corresponding progress in this mode of treatment.

The Large Intestine Regarded as a Syphon.

Dr. R. W. Leftwich, writing in the *Edinburgh Medical Journal* for December, states his opinion that the ordinarily accepted view, that the large intestine and particularly the ascending colon does its work by peristaltic action, is not borne out by the anatomy of the latter organ. He believes that the large intestine acts on its contents by syphonage.

"The large intestine," says the writer, "has a remarkable resemblance to a syphon. A syphon consists of a reservoir, a short ascending tube, and a long descending one. So does the large intestine. The reservoir, in this case closed, though compressible, is the cæcum; the short ascending tube, 8 in. long is the ascending colon; while the long descending tube consists of the descending colon, 8½ in. long, and the rectum about 7½ in.; the total length being, therefore, about double that of the short tube, and likely to act as a very efficient syphon."

By experiment Dr. Leftwich convinced himself that a syphon can act, although its contents are partly fluid and partly gaseous, and from further experiments he concluded that in all essential respects the large intestine was qualified to fulfil the functions of a syphon.

The argument as to the manner of working of the large intestine, considered as a syphon, is thus described: "The point in a syphon which it is necessary for the descending current to pass in order to start the flow, when the short tube is full, may be conveniently termed the balance point. The balance point in the bowel is the sigmoid flexure. The following is the cycle of events in health: After the partial evacuation of the large bowel, consequent upon defecation, all syphonage is stopped, the vacuum is broken, and the cæcum and colon slowly fill again. The following morning meal increases both the peristalsis and the intraintestinal pressure, and there soon comes a time when the fæces are pushed past the balance point, and syphonage takes place. The rectum and its pouch are filled, and the cæcum emptied. Should the contents of the bowel be very liquid, the quantity may be so large that the syphon endeavors to work after the rectum is filled, and then the sphincter being unable to resist such pressure for long, the hint to defecate becomes a command. But, in general, the fæces are more or less clayey, and the syphonage more deliberate. Thus the contents of the cæcum are transferred to the ascending colon, while those of the sigmoid flexure are transferred to the rectum. Voluntary defecation is accomplished by reducing the cubical capacity of the abdominal cavity. The diaphragm is made to descend by an inspiration, and is fixed in that position by the closure of the glottis. This

gives a rigid roof to the cavity. The levator ani in contracting encroaches upon the pelvic cavity. This forms a rigid floor. Then the abdominal muscles contract, and so compresses the sides of the abdominal cavity, that the contents of the rectum, aided by the contraction of its muscular walls, follow the path of least resistance and escape from the anus. The collection in the rectal pouch is that most susceptible to pressure and escapes first; there is then a pause, during which the pouch is again filled up from the rectum; another voluntary effort evacuates the second collection, and, perhaps, a third or fourth effort may be necessary; and, after all, some fæces may be left in the cylindrical portion of the rectum, which, indeed, is not very susceptible to pressure from voluntary effort. The expression 'the bowels have been emptied' must not be taken literally. The volume of an ordinary stool is very small compared with that of the contents of the entire large intestine; the bowel, therefore, is practically left full to within a short distance of the 'balance point.' Thereafter the cæcum slowly fills again till the bottom of the column on the left side is once more pushed past the balance point, when syphonage recommences, and the other steps follow. In diarrhœa the time occupied by the refilling may be very short, and the syphon action recurs at very frequent intervals. The time is prolonged in health by the concurrent absorption that takes place."

According to Doctor Leftwich's theory, syphonage explains the customary single evacuation a day. With a continuous flow, and no sphincter above the rectum, one would expect frequent evacuation, and this is the case in such quadrupeds as maintain the horizontal position of the trunk at all times.

The suggestion of the author is, therefore, that the force used to move the column of fæces and start the flush is hydraulic. We have, he says, a small cylinder, the ileum; a large cylinder, the cæco-colon; and a piston, the column of fæces, inseparable, albeit, from the body to be moved. The difference in the sectional areas will represent a multiplication of the power by six. The article concludes by saying that definite functions have now been assigned to the rectal pouch, the sigmoid flexure, the great arch of the colon, the cæcum, and the intestinal gas.

The explanation given by Doctor Leftwich of the mode in which the great intestine performs its duties is at least plausible, although contrary to preconceived notions. Perhaps the strongest point to be urged in its favor is that animals which maintain a horizontal position defecate frequently. If further investigation into the matter tends to confirm Doctor Leftwich's views, the road will be opened for fresh ideas as to treatment. It would be interesting to learn the habits of the monkey tribe with regard to defecation, as this class of animals, on the whole, most closely resemble the human species in manner of ordinary posture.

The Menace of New Orleans.

According to the *New Orleans Medical and Surgical Journal*, the streets of that city were never dirtier than they are at the present time, and the authorities seem to be absolutely indifferent to their condition. Filth of all kinds is accasionally scraped out of the gutters and collected in piles in the streets, and then is blown about as dust or oozes back into the gutters when it rains. "The main thoroughfares," says our contemporary, "usually the pride of urban communities, are so covered with accumulated mud and dirt as to invoke comment at strangers' hands. The City Board of Health is trying to do its best along its own lines, and it has met adverse criticism because of the attack upon the present method, or lack of method, in garbage disposal. We have already become a great convention city, but our streets and conditions of hygiene in those regards are not of the sort just now to command the highest regard or praise from transient guests. There must be some reason and also some remedy."

If the city authorities are so indifferent, cannot the State Board of Health do something? Of what use to insist upon strict quarantine, which experience has shown repeatedly cannot ever be absolute, when all the conditions in the city, with its countless breeding-places for the yellow-fever mosquito, invite to an epidemic of that disease? The city is a menace to the country. Its authorities should take a lesson from Havana, and learn to trust more to internal cleanliness than to the frail and permeable barriers of quarantine. The medical officers of the United States Army have shown the way of preservation from yellow fever, and the boards of health of our southern cities and States can do no better than to follow the lead which has been shown them. Academic discussion is interesting, and no one would suppress it, but in the presence of danger what is demanded is action, speedy action, and action that has been amply demonstrated to be effective. Summer is close at hand.

News of the Week.

The Bellevue Hospital Alumni Association.—The annual dinner of this association was held at Delmonico's on February 4. Speeches were made by Mr. Homer Folks and Drs. John W. Brannan, A. Alexander Smith, D. B. St. John Roosa, and Ramón Guitéras. In the course of the evening a presentation of silver was made to Dr. J. W. S. Gouley in commemoration of his fifty years of service as an attending physician at Bellevue. Dr. Brannan, President of the Board of Trustees of Bellevue and allied hospitals, in the course of his speech made the welcome announcement that plans are on foot for a new building for Bellevue Hospital, which will take about five years for completion and will cost in the neighborhood of $3,000,000. He spoke also of other important changes accomplished or projected, such as improvement in the insane pavilion, under which Bellevue patients now received the same treatment as that administered at the State hospitals; of the organization of a fire brigade, with frequent and regular drills, and of changes in the house staff. He also spoke of the newspaper charges against nurses and attendants in the alcoholic ward of the hospital. These, he maintained, were absurd in their nature and utterly unfounded.

Report of the New York State Board of Health.—The annual bulletin of vital statistics for 1902, recently issued by the State Department of Health, shows that there were 124,160 deaths during the year, making a death rate of 17 per thousand population. The number of deaths was that of the average of five preceding years, and about five thousand less than the mortality of 1901. The decrease from last year was in all the sanitary districts. It occurred mostly in the winter months. The midsummer mortality last year was unusually low. The infant mortality was almost 5,000 less than the average. This decrease was in the autumn, in rural parts of the State. One-fourth of the deaths occurred in children under five years old; deaths of

persons more than seventy years old ranged from 10 per cent. of the total in the maritime to 30 per cent. in the central districts. There were 8,800 deaths from pneumonia, and about 5,500 from Bright's disease. The acute respiratory mortality was a little below the average. Influenza was estimated to cause 4,000 deaths in the early months of the year. Its annual recurrence in November and December was moderate, causing probably not more than 500 deaths.

Eating on the Run.—Our venerable contemporary, the *Lancet*, is alarmed by the report that the so-called American "quick-lunch" system is about to be introduced in London. In terror and dismay it urges its readers "to impress upon their patients that the adoption of this proposal would be a wicked physiological step. The demands of business may be pressing, but the demands of the body are a reality, and are more serious." Indeed they are, but the imagination of the American correspondent who dishes up horrors for the timid Britain to breakfast upon must have its playful way as well.

Anti-Tobacco Legislation.—The Nebraska State Board of Health recently passed resolutions commending a bill, now before the Legislature of that State, which provides "that no minor under the age of eighteen years shall smoke or in any way use any cigarettes, cigars, or tobacco in any form whatsoever, in any house, place, highway, street, square, or resort. Any minor violating the provisions of this act shall, upon conviction be fined in any sum not less than $1 or more than $10, or be imprisoned for two days for each offense, in the discretion of the court."

A New Italian Dispensary.—The McKinley Dispensary of New York City has made application to the State Board of Charities for incorporation. It is organized to maintain a dispensary especially for persons of Italian origin. The directors are John A. Price, Max Ghertler, E. K. Bowd, Michaele Viccali, and Marcus Schnitzer of New York City.

Increased Powers Asked for the State Board of Health.—A bill to increase the powers and prerogatives of the New York State Board of Health has been troduced into the Legislature. It requires water supply, sewage, etc., in works built by or for the State to be approved by the State Health Commissioner. It permits the State board to appoint local health officers upon nomination of local boards, and provides for extra pay in cases of epidemics, etc. It requires villages to improve their sanitary facilities upon order of the State Health Department, if necessary, by extra taxation or loans, and to enforce general vaccination upon the State board's order.

The Plague.—Wisdom is breaking upon the business men of San Francisco, who are learning that their policy of concealment is having a contrary effect to what they fondly hoped. A joint committee representing various boards of trade and merchants' associations has adopted a set of resolutions addressed to the Governor of California and the municipal authorities of San Francisco, urging them to coöperate with the United States Marine Hospital Service "to the end that all danger from bubonic plague may be eradicated, that all fears of infection may be removed, that the confidence of the boards of health of other States and Territories may be restored, and that no injury, however remote, may result to the foreign and interstate commerce." The energetic measures adopted by the Mexicana National Board of Health and the local authorities are having their effect in a noticeable abatement of the plague epidemic at Mazatlan United States Consul Kaiser of that city has advised the State Department in Washington that the total number of deaths from plague up to February 1 was 200, and the total number of cases to the same date was 260.

An Emergency Hospital Car.—The Erie Railroad Company has converted a combination baggage and smoking car into a hospital, for use in case of wrecks in which anybody is injured. Six single cots, with woven wire springs and hair mattresses, have been placed in the large compartment and the baggage room has been fitted up with an operating table and the necessary sterilizing apparatus. The company has in course of construction a specially designed hospital car, which, when completed, will be substituted for the temporary ambulance now in use.

Typhoid Fever was never apparently more widely prevalent in this country than it has been and still is this winter. It is epidemic in nearly every large city in the country, Chicago and Philadelphia enjoying their usual proud preëminence as leaders in this respect. In Ithaca there have been over three hundred cases, the epidemic being readily traceable to the impurity of the water supply. Many of the sufferers are students of Cornell University, some of whom have died. The Cornell infirmary can accommodate no more patients, but the university authorities are fitting up rooms in private houses near the hospital, and hope thus, by concentrating the cases, to properly care for all with the available number of physicians. Many students have left the town for fear of the fever. The situation in Cleveland is beginning to cause alarm. The number of cases has increased steadily during the past few weeks, and the hospital accommodations are taxed to their utmost.

Reopening of a Hospital.—The Williamsburg Hospital at Bedford avenue and South Third street, which was closed last month for lack of funds, will probably reopen, as sufficient funds have been secured to cover the greater part of the deficit of last year.

A Legislative Clinic.—There is a bill before the New York Legislature providing for the appointment of a State board of examiners to inspect the condition of barber-shops and to enforce the sanitary regulations. In support of this bill, several members of the Assembly, who are suffering from barbers' itch, appeared before the General Laws Committee, which has the measure under consideration, as living exhibits of the dangers of even well-appointed and seemingly clean barber-shops where the necessary sanitary measures are not strictly enforced.

The Rockefeller Laboratory.—It is reported that a tract of land covering several city blocks on the east side of the town near Eightieth street has been bought for the Rockefeller Laboratory for Medical Research. The land is reported to have cost about $750,000 and the buildings will probably cost half a million more. As soon as all the formalities of the purchase are completed the location and plans will be made public.

Medical Practice in Spain.—Since 1868, foreign practitioners desirous of exercising their calling in Spain have been accorded very great facilities, the recognition of equivalence and the grant of the right to practise having been left in the hands of the medical faculties. This latitude, it seems, has given rise to considerable abuse, at any rate that is the reason alleged by the Government for withdrawing the right of granting dispensations and permits from the universities and vesting them in the State. All existing licenses to practise granted to persons not possessed of a Spanish diploma will be held to have expired six years hence, dating from November 9,

1902. In future only temporary permits will be conceded, and these only at the instance of the Government and with the approval of the General Council of Education.—*The Medical Press and Circular.*

Smallpox Hospitals.—A new smallpox Hospital in Rochester N. Y., built at a cost of $40,000, was opened for the reception of patients on February 7. The epidemic in the city is believed to be over, there now being only thirty-three cases left in the old Hope Hospital. At one time more than 200 cases were there, being cared for in city election booths. A hospital for smallpox sufferers is to be built soon in Washington, the House District of Columbia Committee having recommended an appropriation of $25,000 for this purpose.

Philadelphia Neurological Society.—At a stated meeting, held January 27, Dr. D. J. McCarthy demonstrated a new spinomuscular phenomenon, which consisted in contraction of the adductor tendons of the thighs when the finger of one hand used as a plexímeter, and applied to the lumbar spine, is struck with percussion hammer. Dr. McCarthy demonstrated also some new pelvic reflexes. These consisted in contraction of the adductor muscles of the thigh when their tendinous attachment to the pubic bone was struck with a percussion hammer, and a similar contraction of the sartorious under the same conditions. Dr. W. G. Spiller spoke of paradoxical reactions of the pupils, such as dilatation on distant vision and contraction on distant vision, and dilatation on looking inward and downward. Drs. C. W. Burt and D. J. McCarthy presented a communication entitled "Two Cases of Huntingdon's Chorea, wirh a Report of the Pathological Examination in a Case." The cases reported were typical, and occurred in father and son, three other sons also being affected. In the case examined histologically hemorrhages and infiltrations were found in various parts of the brain, together with internal hydrocephalus. Dr. Wilfred W. Hawke exhibited a case of hemiplegia with sweating on the palsied side of the head and the opposite shoulder. The patient had had several appoplectic attacks in the course of some ten years, and he presented right hemiplegia without aphasia, with contractures, exaggeration reflexes, widening of the palpebral fissure and dilation of the pupil on the right, sweating on the right side of the head and face and the left shoulder and without other symptoms of aneurysm or neoplasm. Drs. Wm. J. Taylor and Wm G. Spiller reported a case of multiple fibromata confined to the internal plantar nerve. Pain and nodules developed in the sequence of traumatism, and several operations were required in the course of fourteen years to get rid of the constantly recurring formations and to free the patient from her symptoms. Drs. L. Pierce Clark and Thomas F. Prout presented a communication entitled "The Histopathological Changes in the Cerebral Cortex of Epileptics and Their Interpretation, with Demonstration of the Lesion." Examinations made in a number of cases dying in the epileptic status were made shortly after death and degenerative changes found in the cells of the second layer of the cortex at almost all points. The disease was considered a sensory disorder, the attacks being excited through impulses conveyed by way of afferent nerves, the underlying condition being one of instability of the nervous system, inherited or acquired, and the determining factors irritants of various kinds generated within the body or introduced from without. The following officers were elected for the ensuing year: *President*, Dr. H. A. Hare; *Vice-Presidents*, Drs. Jos. Sailer and D. J. McCarthy; *Secretary*, Dr. A. A. Eshner; *Treasurer*, Dr. Guy Hinsdale; *Councillors*. Drs. C. W. Burr, C. S. Potts, and W. G. Spiller.

Obituary Notes.—Dr. Eugene Foster of Augusta, Ga., died on January 23, of cancer of the stomach, at the age of fifty-three years. He was a graduate of the Medical College of Augusta in the class of 1872, and at the time of his death was professor of the practice of medicine and of sanitary science and dean of the medical faculty at the University of Georgia. He was especially interested in matters of public health, and was a recognized authority in sanitary science. For twenty-five years he served as president of the Augusta Board of Health, and he was a prominent member of the American Public Health Association. He was also a member of the American Surgical Association, of the New York Medico-Legal Society, of the Richmond County (Ga.) Medical Society, of the Georgia State Medical Society, of which he was president in 1885, and of the American Medical Association.

Dr. Earle Eugene Woolworth of Brooklyn died on February 5 from cerebral injuries received in being thrown from a carriage two weeks before. He was born in Lyonsdale, N. Y., thirty years ago. and was graduated from the New York University Medical School in 1897. He was a member of the Alumni Association of the City (Charity) Hospital, of the Kings County (N. Y.) Medical Society, and of the New York State Medical Association.

Dr. J. Frank Valentine died on February 5 at his home in Richmond Hill, Queens Borough, from typhoid fever. He was born in this city in 1856, and was graduated from the College of Physicians and Surgeons in 1879. For many years he was a visiting surgeon at St. Catharine's Hospital, Brooklyn. He also served as surgeon of the old Thirty-second Regiment, and for several years was Coroner's Physician in Brooklyn. He became chief surgeon of the Long Island Railroad in 1890, and also acted as visiting surgeon at St. John's Hospital, Long Island City, and as consulting surgeon to the Nassau Hospital, at Mineola, L. I. Dr. Valentine was a member of the Queens-Nassau Medical Society, and an ex-President of the New York State Association of Railway Surgeons.

Dr. Henry W. Allan of Brooklyn died on February 5, at the age of forty-two years. He was a graduate of Bellevue Hospital Medical College in the class of 1882, and had practised medicine in Brooklyn for about five years.

Dr. Herman Mynter died at his home in Buffalo, N. Y., on February 9. He was born in Denmark in 1848, and was graduated from the University of Copenhagen in 1871. He had lived for many years in Buffalo and was one of the leading practitioners in the western part of the State. He was one of the surgeons in attendance upon President McKinley when he was shot by the assassin at the Pan-American Exposition in September, 1901.

Dr. Thomas N. DeBowes died at his home in Brooklyn on February 7. He was born seventy-one years ago in Ireland and was a graduate of the University of Dublin. He came to this country when quite a young man, and was graduated in medicine from the New York University in the class of 1858. During the Civil War he served as a surgeon in a regiment of Connecticut Volunteers. For many years he was a coroner's physician in this borough. He was one of the founders of St. Mary's Hospital in Brooklyn.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

BART'S—LORENZ'S DEMONSTRATION—PYLORIC STENOSIS—HEMORRHAGIC TYPHOID FEVER—STEPHEN COLERIDGE AGAIN—SIR M. FOSTER—LONDON UNIVERSITY LIBRARY—SIR W. TURNER—EDINBURGH UNIVERSITY—DR. CLOUSTON—QUALIFIED NURSES.

LONDON, January 23, 1903.

THE Lord Mayor presided over the Mansion House meeting on Monday of the Special Committee of Governors of St. Bartholomew's Hospital. This meeting appointed a a committee of fifteen members, nine to be nominated by the Lord Mayor and six by the treasurer of the hospital (Sir Trevor Lawrence), the two nominators to be *ex-officio* members, to report as to whether it is desirable to retain the hospital on its present site, and if so, whether a better scheme of rebuilding than that proposed can be devised. Further the committee may report on any other matters affecting the hospital which they may think it desirable to inquire into.

Professor Lorenz has given his demonstration here. It is curious that his arrival was widely announced in the public press, and that with him the ubiquitous reporter should have attempted to follow the methods practised at Chicago. Perhaps curious is not the proper word. Either the professor or those who exploited his visit here must be held responsible for what occurred. His demonstration was given at a small special hospital in the city, where he was received by the staff, the senior member making a speech and the professor replying. This surgical discussion was reported in some of our more sensational papers—to the disgust of the general profession. It is asked who supplied the copy to these papers, and when reporters are blamed the question is followed up by who invited and who admitted reporters to an operating theater? Others asked did the professor exploit the staff or the staff the professor? The staff should try and clear themselves, unless they are contented to be regarded askance by their confrères.

English surgeons, and I doubt not Americans, also, know as much about congenital dislocations of the hip as Professor Lorenz, and they have given full recognition to his views. On the 9th of this month, at the Clinical Society, Mr. Openshaw, C.M.G., read a paper on the "Morbid Treatment of These Luxations," based on seventy cases, upon nine of which he had operated. He had always found that the acetabulum was small, shallow, rather triangular, and the cartilage forming its floor thickened. He thought the head of the femur remained normal up to about three years, and after that age became flattened and gradually disappeared. He had tried two operations: (1) reduction of shortening by tenotomy and extension and so-called reposition by manipulation, as practised by Lorenz; (2) remaking acetabulum by the open method after reposition had been made possible by the former proceeding.

As a result of about twenty cases treated by the first plan in the last five years, he considered reposition *within* the joint impossible and redislocation exceedingly common. Consequently he advocated a combination of the two methods. He said that shock was much less if the shortening was first overcome, and if any open operation were advisable the acetabulum ought to be deepened. In illustration of his views he showed two cases in which he had obtained excellent results. He also exhibited a specimen from a girl of five years who had died of pneumonia to show the condition of the parts at that age.

The President, Mr. Howard Marsh, directed attention to Mr. F. F. Burghard's paper in the *British Medical Journal* of 1891, in which were very exact anatomical investigations. Mr. Burghard referred to hour-glass contraction of the capsule, which was an obstacle to reduction, probably due to the iliopsoas tendon. The head of the femur was often found in an upper pouch of the capsule above the acetabulum and shut off from it. The President did not believe in simple extension, and thought the best result was often bony ankylosis. He remarked, too, that the subsequent history was often wanting, as in a young woman to whom he had been called and whose case had been widely reported as cured by long extension at the hands of a late well-known surgeon, but, as a matter of fact, it was obviously a case of unaltered, unreduced congenital dislocation.

Some of our practitioners are rather exercised in their minds about congenital hypertrophic stenosis of the pylorus, chiefly on account, perhaps, of a discussion which took place last month at the Medico-Chirurgical Society. The affection, whatever its nature, seems rare enough, only about twenty cases being recorded. It seems likely, however, that some deaths registered under such terms as atrophy, marasmus, etc., may have been due to this stenosis. The surgeons, therefore, are reckoning on a fresh triumph, successful operations having been performed, though they are not quite agreed as to the best procedure. One thing they are, as usual, unanimous in demanding, viz., early diagnosis. Some general practitioners are disposed to shake their heads at this, but on them and physician-accoucheurs would seem to rest the responsibility of calling in the surgeon. Others seem to think abdominal section in new-born babes rather a desperate remedy. Certainly if a few infants have died from unsuspected stenosis, it is also possible that a general knowledge of the occasional existence of such a condition might have led to a few unnecessary operations; for, at present, there are some who consider the affection to be secondary to spasm, a view which suggests that it might be amenable to treatment in the primary stage.

Hemorrhagic typhoid fever being rare and the symptoms for a time sometimes masked, diagnosis is difficult. Dr. Goodall related a case to the Clinical Society which occurred in a hospital nurse who, after being "out of sorts" for a week, noticed purpuric spots on her legs. Her temperature was then taken and found to be 104° F. In the next few days more purpuric and petechial spots appeared in the skin and subcutaneous tissue, and there was bleeding from the gums and fauces, with epistaxis. There were also hæmatemesis, hæmaturia, metrorrhagia, malæna, with continued pyrexia, but no rose spots and no splenic enlargement. The patient died a fortnight after the first spots appeared. The post mortem revealed typhoid ulceration. There were also hemorrhages into the stomach, peritoneum, bladder, and right kidney. In this last-named organ were small yellow spots, which were masses of round cells surrounding clumps of bacilli —probably bacilli coli. The blood gave a feeble serum reaction. The heart blood contained colon bacilli, and that from the spleen and a mesenteric gland gave colon and typhoid bacilli.

This case was first diagnosed as acute bacterial infection, perhaps streptococcal, but two or three days before death typhoid fever was suspected. Calcium chloride and adrenalin were tried without effect. A little discussion ensued, in which it was stated that such cases were mostly met in confirmed alcoholics, and Dr. Wright lately stated that alcohol diminished the tendency to coagulation of the blood. In this case Dr. Goodall said alcohol could be excluded, and it was not given medicinally until late in the case. It was the only marked case of the kind in a series of 1,733 cases of typhoid fever.

Mr. Stephen Coleridge takes the opportunity of the London Hospitals' quinquennal appeal to write again to the papers that, in his opinion, it is a misappropriation of the funds to give any to the school. He has been told before that to dispense with the services of the school would entail expenses fully seven times as great, and in spite of his ridiculous assertions the governors have found it a good investment. He wants the school to furnish him, as standing counsel for the Antivivisectionist Society, with detailed accounts, and the hospital too. He is now told that he has no right to ask, as he has never subscribed a farthing. But he does not like to be snubbed, and so returns to the charge with the pretense that as the students are learning their profession their services have no pecuniary value to the hospital. He knows quite well that those who have learned and are qualified, in considerable numbers, give their services, and if there were no school attached they would have to be paid. But it is useless to argue. If it be true that a counsel is paid to "make the worse appear the better cause;" his advocacy of the antis may be worth all they choose to pay him.

Sir Michael Foster, with the help of a post-card plebiscite of his supporters in the constituency conducted by his committee, has at length been enabled to make up his mind, and will retain his seat for the London University. It is frequently remarked that his vacillation is not a recommendation of scientific candidates for the House of Commons.

Convocation of this university has urged better treatment for its library. It was said at the meeting that the books had not been arranged since the removal two years ago, and a number are certainly still piled upon the floor. Shades of Grote and De Morgan who bequeathed their libraries to the university!

Sir Wm. Turner has been elected Principal of the Edinburgh University, and has told his class he will resign the Chair of Anatomy. The principalship will give him full scope for his remarkable energy and organizing talents, and he well deserves this highest honor the university can bestow. He may now, perhaps, resign the presidency of the General Medical Council.

Dr. Clouston has been elected president of the Royal College of Physicians of Edinburgh.

An appeal is about to be made for £20,000 to enlarge

and extend the work of the Edinburgh Students' Union.

A proposal to create an inferior grade of nurses for certain work-house duties under the name of "qualified nurse" has roused the rest of the nursing sisterhood, and the president of the Local Government Board is being bombarded with protests. It certainly seems absurd to use the word qualified for the very inferior class proposed. Many women interested in nursing are indignant at the proposal, but a considerable number of them should remember how they delighted to thrust an inferior order of midwives upon the public and profession.

LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

THE CHOLERA SITUATION IN THE PHILIPPINES—THE LEPER COLONY.

MANILA, December 1, 1902.

THE cholera situation in the Philippines is still most serious, in spite of the fact that the time has arrived when the disease should wane and disappear, if this is to occur before the next rainy season. While cholera has practically ceased to exist in the northern part of Luzon, a few cases occur daily in Manila, in spite of every effort; and in the southern islands the pestilence still rages with much violence. In fact, it is in these southern islands that the cholera death rate has attained its maximum. Up to the first of December nearly 80,000 deaths were officially reported to the sanitary authorities as having occurred in the islands as a result of cholera; and of this number about 3,000 have occurred in the city of Manila. These official figures, however, are undoubtedly much too low, and it is safe to say that in the neighborhood of 140,000 persons have perished from cholera during the nine months it has been present in the Philippine Islands. In many instances the only records of deaths in the smaller towns are kept by the friars, who classify nearly everything not actually homicide, under the heading "died from natural causes." In the small country barrios it often happens that no sanitary records, at all, are kept, and it is in just such little towns that cholera has prevailed with the greatest intensity. In many instances not only large towns but entire provinces were without any qualified medical men, and in those towns where quarantine measures were attempted the cause of death was often wilfully misrepresented, in order to prevent discomfort to the survivors and to prevent the destruction of property. For this reason, many native physicians have not hesitated to render false death certificates, thus running up the apparent death rate from dysentery, gastritis, etc., in a most extraordinary manner. Further, the friars have always tried to belittle the situation, and have lost no opportunity of trying to impress the people that the disease was not cholera, and that the sanitary measures of the Americans were thus not necessary. It is obvious also that no record could be made of the ravages of cholera among the savage hill tribes of the interior, or among the hostile Moros in the southern islands. For these reasons it is only fair to estimate that the official returns, as to cases and deaths, should be almost doubled. As the mortality among those affected appears to run in the neighborhood of 70 per cent., it may be considered that more than 200,000 cases of frank cholera have occurred in the islands during the continuance of the present epidemic.

As already intimated, the outlook for the coming year, with respect to cholera, is not reassuring. Every house in Manila is inspected several times daily for the purpose of detecting possible cholera cases, and these, when found, are at once removed to the cholera hospital, and their former surroundings disinfected. The value of this treatment is shown by the fact that but few "contacts" have so far developed the disease—nevertheless, from a dozen to twenty cases are occurring daily, and not a single district of the city appears to be free from the infection. The cases are more of a sporadic nature, and there have never occurred in Manila such virulent and general outbreaks as have devastated Iloilo and other southern towns. Still, cases are occurring constantly, and in sufficient number to show the widespread nature of the infection. Even should the northern islands and Manila become entirely free from the disease during the next few months, the climatic conditions in the southern islands are such that the cholera would, undoubtedly, spread among the Moros and other tribes not yet attacked, whence the infection would almost certainly be reimported into Manila and the northern islands, as interisland communication by the natives in their small boats is scarcely preventable, and this has been one of the chief factors in the extension of the present epidemic. Hence, if cholera exists anywhere in the islands by the first of May next, its extension over the entire archipelago during the coming rainy season may fairly be expected. That cholera infection will still exist in the Philippines at that time is practically certain. It is true that a second outbreak would not entail the widespread mortality of the present epidemic, but its occurrence would be most serious from not only a sanitary, but also the financial and political aspects—the latter being the result of the insufficient crops depending upon the paralysis of industry due to the existence of the disease.

In Manila, at present, the infection seems to be transmitted by food, rather than the water supply, and to be kept alive by the indescribably filthy and insanitary personal habits of the Filipino native. Lazy, indifferent, fatalistic, and deaf to sanitary advice, it would be a most difficult matter, even with abundant funds and ample executive powers, to prevent him from contracting any disease which it might be possible for him to acquire. Like a wilful child, he is impervious to reason and argument, and yields a grudging obedience only under the constant pressure of superior force. It is absolutely impossible for the sanitary authorities to overthrow the domestic customs which have been handed down from many generations. Even if it were possible to place a guard in every house, the guards themselves would, of necessity, be Filipinos, in sympathy with those they were set to watch, and perfectly willing to overlook any infractions of the, to them, unnecessary rules of the Americanos. In addition to fighting disease itself, the sanitary authorities must also contend against national custom, racial instincts, and character, and religious superstition—and the combination is one which would prevent entirely satisfactory results under the best obtainable circumstances. One does not wonder that cholera still exists in the islands, but rather, that all the natives are not killed off by it, when hearing of such cases as, for example, of a woman sopping up the discharges of a cholera patient from the floor, and then plunging her unwashed hands into the common bowl of rice, from which she and the remainder of the family made their dinner. It is by just such uncleanly habits as this that cholera still maintains itself in Manila.

The religious superstitions of these people in relation to disease are also extraordinary, and in these they are supported by the friars—always hostile to the Americans, and anxious to inculcate the idea that the occurrence of disease is purely a sign of a displeased deity, and that it is not only futile, but impious to attempt to control such disease by human means. The practice of medicine is discouraged by the priests as weakening their influence. During the height of the epidemic, charms and amulets against cholera were openly sold by the friars, who gained much money thereby. Later, as the disease declined, the friars attributed this supernatural interference instead of to natural causes and endeavored to show the instrumentality and intervention of the church in bringing about this happy result. For instance, one *padre*, in a northern province, told his congregation that he had had a vision in which he had seen San Roque, the patron saint against cholera, descending into a well, and that San Roque had informed him that whoever drank or bathed in the waters of this well would have no cholera, that he (San Roque) thought that his people had been chastened enough, and had come back to protect them. This announcement was made immediately after the priest had heard that cholera no longer existed in the province. Immediately following the announcement of the priest, the people of the vicinity flocked to the well by hundreds, the news rapidly spread, and within a week a crowd of thousands had collected, many coming from distant provinces and camping in the fields. It was a sight never to be forgotten to see hundreds of men, women, and children, stripped stark naked, standing about the well and having its waters poured over them, while others were drinking the water and carrying it away in bottles. The conditions were present for a most virulent outbreak, for many of the faithful came from districts in which cholera still existed, and the well was certain to become ultimately infected, and prove a focus from which the disease would be transmitted in all directions. Argument was useless with the pilgrims, and it became necessary for the authorities to close the well by force, and place it under an armed guard—for the people firmly believed that San Roque would stamp out cholera, if they only did as the priest told them.

A very serious hinderance to the efficient handling of the cholera proposition is also the lack of a sufficient number of medical men to act as supervisors, and of sufficient funds. A considerable number of volunteer surgeons were placed under the control of the civil government by the military authorities, but these men are soon to be mustered out, and their places have not been filled. Of course, no reliance can be placed on the native physicians, who are not only few in number, but are of a generally low degree of professional merit, and the civil government has not the money to attract and retain many good men in positions under it. Major Carter, the Sanitary Commissioner, is a most excellent man who is doing magnificent work, but it

is quite impossible for him to carry the whole sanitary work of the archipelago on his own shoulders. In Manila he has also had to contend with fraud and dishonesty among his subordinates, as a result of which several of the latter will pass much time in the future behind bars. The sanitary situation is thus highly complicated, and the outlook is, to say the least, unsatisfactory.

Within the next few months the leper colony, planned some time ago, will become an accomplished fact, work having been delayed by reason of the outbreak of cholera. So far, a preliminary appropriation of $50,000 has been made for the work, which is now to be pushed as rapidly as possible. The colony is to be located on the island of Kulion, about in the center of the archipelago, and southwest of the island of Mindoro. The island offers good facilities for proper isolation, the water supply is good, the timber abundant, drainage is excellent, and it possesses an admirable harbor. The soil is fertile, and the climate particularly adapted to rice culture. The present population is estimated at about 800, of which only 300 are fairly civilized, the others being savages. It is now estimated that the number of lepers in the Philippines is in the neighborhood of 10,000, with twice that number of persons belonging to leprous families, though not themselves lepers. To prevent the breaking up of families, both classes will be established on the island, the non-lepers in a separate town, and occasional communication between them will be allowed under suitable regulations. Both classes will be permitted to cultivate land and engage in their ordinary avocations. Those who are able to do so will be required to pay to the Government a small rental for the land cultivated, as it is the purpose of the authorities to make the colony as nearly self-supporting as possible. The purpose is to provide normal homes, eliminating, as far as possible, the repulsive features of the disease. The lepers will be allowed to organize and control their own government; select their own officers, and make their own laws, subject to such restrictions as the Philippines Commission may consider necessary. Marriage of lepers is to be prohibited, and the men and women will be kept apart, separate schools being provided for boys and girls. It is hoped that through this colony it may be possible to ultimately eliminate leprosy from the islands. It is understood that Dr. de Mey, a former volunteer army medical officer, now in charge of the San Lazaro leper and venereal hospital in Manila, is to be the first medical superintendent of the new colony.

OUR ALBANY LETTER.

(From Our Special Correspondent.)

POLITICS IN THE STATE SOCIETY—HOW PRESIDENTS ARE CHOSEN—THE BENEFITS OF THE FOUR YEARS' COURSE IN COLLEGES OF THE STATE—THE DOCTOR OF PUBLIC HEALTH.

ALBANY, February 2, 1903.

NARRATION of the incidents leading up to the selection of the present President of the Medical Society of the State of New York shows how much harm is being done to the cause of science by the strife, which, for so many years, has estranged medical men in the State of New York. While there is no written rule or regulation which makes necessary any geographical considerations in the annual selection of the society's president, there has, for years, been a tacit understanding that New York City should have the presidency every third or fourth year, and that the western, middle and southern tier, should also be recognized in rotation and in order. With this arrangement it has become difficult for Kings County, even occasionally, to edge in with presidential timber, of which it naturally always has an abundance. Thirteen or fourteen years ago Brooklyn had her last president, and last year it was conceded, in decency, that the City of Churches was "past due," and the wishes of the delegation were consulted as to whom they most desired. They had agreed upon a very excellent physician, but unfortunately for their ambitions, when he was "weighed up" by the physicians of the State generally, it was concluded that he was not heavy enough, and they asked for another name. "Our own choice, or no Brooklyn man!" was the slogan of the member of the nominatting committee, and "no Brooklyn man" was chosen. This year, of course, Kings County was again told by all interested, "Choose a good man, and we will elect him unanimously." Accordingly a caucus of the Kings County delegates and members was held previous to the meeting of the State Society, and after a contest, a well-known practitioner of Brooklyn was selected as standard bearer. At Albany it developed that the prominent members of the society throughout the State had reason to suppose that the selected Brooklynite had been flirting with State Medical Association men; that he had been guilty of so conspiring with others to amend the constitution and by-laws of his county medical society as to recognize the code of ethics of the American Medical Association, and practically to forswear allegiance to the State society. Of course, such a man could never be permitted to be the head of the State society—again, it would not be fair once more to relegate the claims of the Brooklynites to the rear and select a president from elsewhere. The nominating committee, grappling with the novel situation, concluded, on learning from the Long Island contingent who might be considered an alternate, finally agreed on the man now occupying the presidential chair. A popular man from the southern tier received six of the nine votes, the second choice received two votes, and the Kings County man, slated by them, received his delegate's one vote. And so the committee reported the two nominees having the largest number of votes in committee (as per the society's by-laws); but when their report had been read, the southern tier nominee, mindful of Brooklyn's right to the presidency, withdrew his name, and a Brooklyn physician, untainted with association affiliations, was unanimously elected president of the society. For two days and two nights nine of the society's prominent members, who came to Albany to read and discuss papers of scientific value, were compelled to remain in practically continuous session, joining issue with one of their number as to who should be president of the society; for an equal length of time, every Long Island delegate and member was equally busy trying to convince someone or anyone that his was the only righteous candidate for executive of the society; for hours the issues involved were discussed by all interested in the society's welfare, and with the exception of the personal friends of the original Kings County candidate, there was a unanimity of opinion that the man who wrote a letter, which showed that he was tarred with the association stick, although not a member of that organization, even though but over-zealous or indiscreet, was not fit to serve as President of its society at this particular time. So ends another chapter in what is supposed to have been the latest attempt of its enemies to cripple the usefulness of the Medical Society of the State of New York.

It must be gratifying to the sponsors of the existing statute regarding lengthened time of study at a New York medical school, previous to graduation, to note the beneficial effect of this legislation. The enemies of the proposed four years' course of study predicted many and serious losses in attendance at New York medical schools, and some of these latter were alarmed at the promised result. Secretary Parsons of the Regents' office presents figures and facts in his report which show a greatly *increased* attendance at New York State medical schools, undergraduate as well as post-graduate. Merit counts here as elsewhere. A wise parent or a discerning preceptor will advise his charge studying medicine to enroll at the institution affording the best facilities, and will make sure that proper standards are there established and followed. Four years of medical school study is none too much in these times of medical development. With statistics showing a lessened number of licentiates in medicine, and an increased number of students at medical schools in the State of New York, it follows that these schools are assuming a national import, and a study of the roll of attendance indicates that not only out-of-the-State but out-of-the-country matriculants are appreciative of the advantages to be derived from the pursuit of medical study in New York State medical institutions.

The increase of medical students in New York State medical schools is as follows: Cornell University Medical college, 86; Long Island College Hospital, 56; University and Bellevue Hospital Medical College, 20; University of Buffalo, medical department, 20; Eclectic Medical College, 16; College of Physicians and Surgeons, 12; Albany Medical College, 12; Syracuse University, College of Medicine, 12; New York Homeopathic Medical College and Hospital, 10; New York Medical College and Hospital for Women, 4.

The report of the State Board of Medical Examiners representing the Medical Society of the State of New York shows that during the past eleven years (since establishment of license law) the average per year of those applying for license has been as follows: Homœopaths, 46; eclectics, 16; regulars, 576. A closer study of the figures shows that the greatest number of homeopathic candidates (68) appeared in 1899; of eclectics (30), in 1899, and of regulars (809), in 1898.

The suggestion made that the post-licenciate title of Doctor of Public Health be established by legal enactment in the State of New York, seems to have found ready echo among the officials of the Medical Society of the State of New York at the annual session, just concluded. Retiring President Hopkins asked the society to advocate this action; Dr. Heffron's report of the Committee on Hygiene referred favorably to the same proposition, and President Potter of the State Board of Medical Examiners, in presenting the annual report of that body, came out in loud

praise of such legislation. Is there not sufficient in all this to justify the society's committee on Legislation in framing a bill embodying this idea for presentation at the present legislative session?

THE EXPLANATION OF THE CASES OF YELLOW FEVER ON BOARD THE S. S. PLYMOUTH.

To the Editor of the Medical Record:

Sir: The explanation by Dr. W. C. Gorgas of the cases of yellow fever which recurred on the S. S. *Plymouth*, in the Medical Record of October 4, 1902, has been quite a disappointment to me.

Seeing his name as the author of the article, I started reading it with eagerness, feeling sure that since he was presenting an explanation, he would certainly have a reasonable and acceptable one which would enlighten those who are earnestly seeking enlightenment.

But after reading not very many lines it is found out that the reader starts on the *supposition* that mosquitos were on board the vessel and hibernated on it. Now, those who know how scarce specimens of Stegomyia fasciata (the only kind of mosquito that is infectible) are on board of vessels at ports quarantined against yellow fever cannot but be mighty slow in accepting their intermediation unless supported by positive facts. The proof of the scarcity of the stegomyia on board of these vessels will be given by the present writer in a paper which is now under preparation.

Further on the distinguished sanitarian says that it was reported that flies had been seen crawling out of cracks between planks. The presence of flies must, of course, be accepted, but no mosquitos are mentioned, simply because there must have been none, otherwise they would surely have been named as the flies have been.

After attempting to prove that some mosquitos had resisted all the treatment which the *Plymouth* had been put through, Dr. Gorgas finally sees the unreasonableness of the explanation and says: "It would be very unusual for the stegomyia, as we know her here, to escape the cold and disinfection, as described with regard to the *Plymouth*." The doctor then goes on to say that he believes that the cases were not yellow fever.

Dr. Gorgas wrote to Dr. Carlos Finlay and to Dr. Juan Guitéras for an expression of opinion. Dr. Finlay says: "Regarding the diagnosis of the two cases on board of the *Plymouth*, I see no reason for doubting its correctness." Dr. Guitéras replies: "It appears to me that it is difficult to explain (the cases), no matter which of the theories of the etiology of the disease we may maintain." Hence we must conclude that there is a lack of harmony among the prophets. Edmond Souchon, M.D.

New Orleans, La., January 27, 1903.

MULTIPLE PREGNANCY WITH A VENGEANCE.

To the Editor of the Medical Record:

Sir: On December 22, 1902, I was called to attend Mrs. C. Escorza of Florence, Cal., in premature confinement (eighth month), at which her mother, a Mexican of perhaps fifty-seven years, was present, and stated, with perfect confidence in the truth of her assertion, that at two of her own several pregnancies she had aborted about the second or third month, at each abortion passing seven fœtuses! Before understanding the date of the abortion, I asked whether any of the seven lived, to which she replied in the negative, adding with a smile of amusement that there was not room enough, hence the early abortion. She could not recall what doctor attended her, but said the case was so unusual that the specimens were sent to Europe. I recall having treated this woman, whose name is Luiza Silva, for pneumonia about three years ago. R. C. Shultz, M.D.

Los Angeles, Cal.

Etiological Relation of Tonsillar Angina to Appendicitis.—Hans Weber reviews the literature and adds three cases which confirm the views of the other observers, which tend to show that many cases of appendicitis are accompanied or preceded by a tonsillar angina. None of these three cases went to operation, and the diagnosis of appendicitis, therefore, rests upon the clinical symptoms present. The latter, however, were sufficiently characteristic to admit of a positive diagnosis. In the first case the tonsillitis preceded the appendicitis by seven days. In the second the appendicitis first appeared during an attack of tonsillitis. In the third both conditions appeared simultaneously.—*Münchener medicinische Wochenschrift.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, Feb. 15, 1903.

Diet in Typhoid Fever.—Frederick C. Shattuck says that from 1886 to 1893 his hospital patients were given an exclusive milk diet until the temperature had remained at or below 99° for a week; since that time he has fed his typhoid patients according to their digestive power rather than according to the name of their disease, simply avoiding anything which contains, or can reasonably leave a residue irritating or harmful to the ulcerated surface. Under the exclusive milk diet he had a mortality of 10 per cent. in 233 cases; with the enlarged diet the mortality has been 8.45 per cent. in 246 cases. Relapse was less frequent, hemorrhage, and perforation no more frequent than among milk-fed patients. The patients are more comfortable and have a shorter convalescence.

Typhoid Fever in Private Practice.—J. T. H. Nichols says that a suitable, sunny room should be chosen without too much regard to the convenience of the household. He urges an abundance of fresh air night and day; even a breeze is not to be feared provided the patient have a screen. An open fireplace will secure the discharge of foul air. If too warm for a fire a kerosene lamp in the fireplace will give an efficient draught up the chimney. The bed should be a single one, preferably of iron, with wire spring, a soft hair mattress covered with rubber cloth, and a double layer of blanket over this. Sheets should be changed and the blanket aired daily the mattress, changed and aired often. If there is room there should be two beds, that the patient may have a daily change with the least disturbance. Cleanliness and the use of means to destroy the germ of the disease should be enjoined. When all these things have been done the question of drugs is of secondary importance.

Paratyphoid Fever and Its Complications.—Joseph H. Pratt describes cases of fever which may present all the classical symptoms of typhoid, but in which the Grünbau-Widal reaction is absent, while from the blood is obtained a bacillus intermediate in type between the typhoid and the colon bacillus. The paratyphoid bacillus may be defined as a member of the intermediate group which produces typhoidal symptoms in man. The disease affects chiefly young adults; it prevails most extensively in the autumn; although a few fatal cases have been reported, the fever is usually mild. The number and frequency of the complications is a striking feature of the disease. The surest way of making the diagnosis is to cultivate the paratyphoid bacillus from the blood of the suspected case. But if the organism cannot be recovered from the blood, urine, fæces, or some localized lesion, the diagnosis is justified, in the light of our present knowledge, if the blood agglutinates a paratyphoid bacillus in high dilution, and fails to agglutinate the typhoid bacillus or agglutinates it only in very low dilutions. There are two kinds of paratyphoid bacilli, A and B, and the blood shoud be tested with both, as in some cases a negative reaction will be given with one and a positive reaction with the other. Eighty-four cases have so far been recorded.

Journal of the American Medical Association, Feb. 7, 1903.

A Note on Malarial Vertigo.—T. J. Mays believes that vertigo is a very much-overlooked symptom of malaria. It may be intermittent or permanent, merely a condition of dizziness or associated with other neuroses, and is attributed to the effect of the malarial poison on the solar plexus. Associated with the vertigo are headache and backache, depression of spirits and exhaustion. The most favorable combination of remedies known to the author is a combination of quinine, pushed to mild cinchonism, and strychnine, blue mass, and capsicum. In obstinate cases of vertigo the possibility of a malarial origin must never be lost sight of.

How Not to Be Nervous.—H. T. Patrick says, if you wish never to be nervous, live with reason, have a purpose in life and work for it, play joyously, strive not for the unattainable, never regret the unalterable, be not annoyed by trifles, aim to attain neither great knowledge nor great riches, but unlimited common sense, be not self-centered, but love the good and thy neighbor as thyself. The time to start such an ideal life is in early childhood. Two capital errors in the training of children are deplored by the author—(1) leading children into pleasures and duties beyond their years and (2) magnifying their importance in the family and in society. It is quite as dangerous to give to children the pleasures of adults as to require of them the labors of the mature.

Cardiac Stimulants.—J. M. Patton discusses the various indications and contraindications of digitalis, strophanthus, sparteine, caffeine, strychnine, and various other

and less used remedies. Nothing new is presented, the conventional lines of argument being followed. Concerning strychnine, he says among other things, that during the second and third decades of life it is not as well borne as it is later, being likely to excite and irritate the nervous system. Mention is made of adrenalin as a cardiac stimulant. (In the discussion following the reading of the author's paper, H. C. Wood, Jr., observed that when given by the mouth adrenalin is too rapidly eliminated to produce any physiologic action on the circulation. It may prove efficient as a cardiac stimulant in acute conditions if used intravenously.)

Medical News, February 7, 1903.

The Facts in a Case of Hæmaturia.—Charles H. Chatwood reports the case of a man of forty years who suffered from hæmaturia for four years with a relatively small amount of deterioration in general health. Microscopical examination of the urine failed to show any evidences indicating the seat of the hæmaturia; but its general character suggested the bladder or prostate. Cystoscopic examination was very satisfactory and disclosed repeated jets of bloody urine coming from the right ureteral orifice. Operation was performed, and the kidney in its general contour and gross substance gave no satisfactory evidence of the cause of the trouble. There was one spot as large as a penny which seemed more dense than the rest of the organ. This was incised and a small piece removed for microscopical examination. The diagnosis from study of the sections was chronic parenchymatous nephritis. There was prompt cessation of hæmaturia following operation.

What Advice Should Be Given to a Woman Suffering from Fibroid Tumor of the Uterus?—J. Riddle Goffe sums up his paper as follows: "The proper treatment for fibroid tumor of the uterus, speaking in a broad way, is removal by operation, and that immediately, whether the tumor be large or whether it be small, whether in a married or in a single woman, excepting only women of very advanced years and those in which the tumor is complicated by pregnancy. In the last the course to pursue will depend largely upon the circumstances and conditions of the individual patient. As a rule, the majority of cases of fibroid tumor of the uterus complicated by pregnancy will go to full term and be delivered normally. In the hands of an expert, Cæsarean section at full term is safer for mother and child than myomectomy during gestation in the rare instances in which such an extremity is required. It is better to take the risk of such a procedure, the necessity of which is very remote, than to destroy the child by inducing miscarriage or taking the risks of myomectomy.

Trap-Drummer's Neurosis: A Hitherto Undescribed Occupation-disease.—Charles J. Aldrich describes this case. The man's occupation was to beat a drum by the operation of a pedal which is manipulated with the right foot, while with his hands he plays the other drums, triangle, and the various traps. Some time ago he began to have a cramping pain and sense of great exhaustion, which seemed to be located in the tibialis anticus and peronei of the right leg. He also experienced a feeling of constriction of the leg as if the circulation had been stopped. Soon after there was a sensation of heat in the kneecap and a painful sensation in the same area. Later there was a burning pain in the knee. This is only apparent while playing or walking rapidly. The writer concludes that the technique of this occupation furnishes all of the necessary elements for the production of an occupation neurosis. It is a series of educated movements, and rare development of kinesthesis in a set of muscles whose centers are very low in the cord and whose volitional stimuli travel farther than any others in the body. These stimuli are complexly derived by the way of the oculocortical apparatus, and by a volitional effort are transmitted to the motor cortex. There is great precision and nicety of irregularity demanded. The treatment is discouraging. The left foot is being used, however, with apparent success.

New York Medical Journal, February 7, 1903.

Astigmatism Cured by Operation.—The case is reported by G. J. Bull whose patient was a woman, aged twenty-seven years, complaining of headache and eye strain. She was wearing on the left eye a concave spherical glass, 0.50 D., combined with a concave cylindrical glass, 1 D., axis vertical; and on the right a concave spherical glass, 1 D., combined with a concave cylindrical glass, 0.25 D., axis vertical. These glasses had their centres widely separated for the relief of exophoria. The ophthalmometer showed me: left cornea 80°—0.8; right cornea, 150°—0.7. Vision with either eye alone was $\frac{6}{18}$. Examination of the refraction showed me that the left eye required a concave cylindrical glass, 1.75 D., axis vertical, which gave V= $\frac{6}{6}$ and that the right eye required a concave spherical glass, 1 D., combined with a concave cylindrical glass, 0.50 D., axis 75°, which gave V= $\frac{6}{6}$. There was also an exophoria of 6° or 8°. The operation consisted in complete (subjunctival) tenotomy of the left internal rectus, care being taken not to cut the capsule much beyond the upper and lower borders of the tendon. Three days later the corneal astigmatism of the left eye had disappeared. Improvement steadily continued so that an astigma of 1.7 D had disappeared and the vision had changed from $\frac{6}{18}$ to $\frac{6}{6}$.

The Modern Aspect of Common Colds.—J. Zahorsky believes that colds are due to pathogenic microorganisms and are contagious. He presents in support of his views the following propositions: (1) Colds run a more or less definite course. If colds were merely reflex congestions, these should terminate soon after the excitant eased. As a matter of fact, colds last from three to seven days in spite of our therapy. (2) The inflammation begins at one point and spreads up and down the respiratory tract. This is a common observation, and very much resembles the dermatitides of infectious origin; *e. g.*, erysipelas. (3) Colds are accompanied by fever and general symptoms. This is especially true among infants. These general symptoms are usually proportional to the extent of the local inflammation. (4) Microscopically, as well as macroscopically, inflammatory changes are found in the mucous membrane. (5) The ordinary secretion of the mucous membrane is soon replaced by a discharge more or less purulent. (6) Specific microorganisms have been isolated from these secretions. Among these, the bacillus influenzæ, diplococcus lanceolatus, Friedländer's bacillus, streptococcus, etc., have been demonstrated. (7) The varying clinical picture of colds speaks for a variety in the virulence and character of the bacteria. (8) Colds are contagious. It is hard to conceive how this clinical fact, so easily demonstrable, has received so little attention in the literature of the past. In schools, asylums, and hospitals this fact is very clearly shown almost annually. In family practice, too, the development of one case after another in spite of care is a very common observation. (9) A relative immunity follows each attack. Were colds merely reflex congestions, these congestions should appear after each exposure. But after an attack the individual will be free from a cold for some time.

American Medicine, February 7, 1903.

Hypodermoclysis in Pneumonia, with Report of a Case.—Maurice Kahn believes that a diminution in the amount of toxin in the system in pneumonia, and the inhibition of its reformation, can best be accomplished by hypodermoclysis. It is well known that subcutaneous infusion of salt solution is invaluable for renal elimination of poisonous accumulations. Probably the best safeguard against heart failure in pneumonia is secured by diminishing the toxins by this treatment. Saline infusion weakens the invading army and gives the phagocytes a favorable opportunity to combat the enemy. The object of treatment should be to bring the toxin-laden blood as near its norm as possible, thus eliminating the danger of pneumonia.

Electrolysis in Eustachian Salpingitis with Stricture: Report of Seventy-five Cases.—Ellwood Matlack states that when an electrode is passed into the tube and meets with a mechanical obstruction so great that further advance is impossible, the passage of a current of a few milliamperes will, in a half minute or so, cause such a shrinkage of the tubal structures as will usually allow further progress with ease. These seventy-five cases which are reported represent applications of electrolysis extending into the thousands, which should be sufficient to allow a fairly accurate estimate of its value. Excluding purely labyrinthine conditions, it has been of service in almost all other forms of deafness, and especially in cases of moderate degree, in which the most pronounced changes were in the tube. The best results cannot be obtained from its unaided use, so this should be supplemented by any other measures that have formerly been found of service. It is especially important to have free access to the tube, and to this end septum irregularities should always be connected and hypertrophies of the turbinals cauterized. The writer uses solutions of iodin, menthol, and camphor, conveyed to the parts by nebulizers, to improve the circulation in the nasopharyngeal mucous membrane After electrolysis has restored the normal caliber of the tube, a further use of vapors to the middle ear after the method of Deuch, will be found of great value. The writer believes that this line of treatment marks a distinct advance in aural therapy.

The Lancet, January 24, 1903.

Cure of Trachoma by X-Ray Tube Exposure and by High Frequency Brush Discharges.—S. Stephenson and D. Walsh have treated a single eye in four cases of severe

bilateral trachoma in children. Two eyes were cured —that is to say, the granulations and conjunctival hypertrophy disappeared and have not returned after a period of several months. The remaining two eyes were greatly benefited, and were well on the road to ultimate cure. The cures were effected by seventeen exposures in the one case, and by six in the other, with an average exposure of ten minutes and a distance of about eight inches of the anticathode from the lid. The good effects were found to be equally marked with closed as with everted eyelids. Twenty-two applications of a mild high-frequency brush applied by means of a vulcanite electrode connected with a d'Arsonval apparatus cured a severe case of trachoma in another patient.

On Reflex Convulsions in Growing Boys and Girls.—Eustace Smith says that it is not generally recognized that nervous seizures, due to pure reflex worry, are seen in children as late as the eleventh or twelfth year. The children are generally of neurotic families, are high-strung, excitable and easily moved to tears, but are not necessarily timid or spiritless. Several typical cases are narrated in detail. Perhaps the most common cause is the retention in the gastroenteric tract of undigested and fermenting food. The children almost always complain of poor circulation and cold feet. Hence they have but little resisting power against changes of temperature, and during the latter the chances of a catarrhal inflammation of the digestive tract are greatly increased. Removal of the offending material from the system is followed by prompt recovery. Another cause of such nervous outbreaks may be adenoid vegetations in the vault of the pharynx, and the author inclines to the view that eye-strain set up by hypermetropia and astigmatism may also prove to be the exciting factor in children predisposed to nervous instability. In any case a moderate irritation, if long sustained, may keep the system in a continual unrest, so that any further irritation, even a very slight one, may lead to a nervous explosion. To consider all such cases as epileptic, as is so often done, is to overlook their cause.

The Surgical Treatment of Rheumatic Fever.—J. O'Conor reports twenty additional cases of rheumatism treated by opening and draining the affected joint. The surgical rules guiding him are as follows, it being premised that the strictest antisepsis shall be observed throughout: (1) do not puncture, but open knee-joints; (2) ligate all bleeding points; and (3) drain, do not cork. Also he insists on the great value of thorough drainage in these cases. In order to carry this properly into effect in operations on the knee-joint, an incision an inch long is made on each side of the joint through the capsule. Through both openings a long closed forceps is passed and a fenestrated india-rubber tube half an inch in diameter is drawn across the synovial pouch, leaving about half an inch of tubing presenting at each wound. Drainage having been thus secured, the joint is washed out every morning with a jugful of warm carbolic lotion (1 in 60), and the tube is generally dispensed with on the third or fourth day. Irrigation of the joint is daily continued until healing no longer permits of the passage of fluid. A little superficial necrosis of wound tissue caused by pressure of the drainage-tube need not excite alarm, as this rapidly disappears under an iodoform gauze dressing. The latter is made fresh for each dressing by immersing pieces of dry sterilized gauze in a solution of equal parts by weight of iodoform, alcohol and glycerine. A little formalin (1 in 500) is added to the mixture before use. In arthrotomy of the wrist- and ankle-joints drainage is attained by a piece of gauze passed into the joint through the open blades of a dressing forceps previously inserted.

British Medical Journal, January 24, 1903.

On the Use of Alkalies for the Relief of Pain.—H. Campbell Thomson corroborates Lauder Brunton's views on this subject. He has recently treated several cases of neuralgia and other peripherial nerve lesions with alkalies, and the pain has apparently been greatly relieved. There was one case of persistent neuralgia which had lasted more than a year and had resisted all treatment. After giving an alkaline mixture, of which ammonium carbonate was the principal ingredient, great relief was experienced. Other cases of neuralgia and one of peripheral neuritis have been apparently benefited by this form of treatment.

Bottle-finishers' Cataract.—William Robinson says that this disease is undoubtedly due to the great light and heat of the furnace at which the bottle-finisher works; the explanation given for the fact that the mischief always begins at the posterior pole of the lens is as follows: (1) The nodal point (which practically corresponds to the optical center) is situated at the exact spot where the cataract begins, and here all the principal rays, of the various pencils of rays, falling on the lens, cross and pass without refraction, so that this point of the lens receives the brunt of all the direct rays, harmful by their intensity and heat from the furnace, and is therefore the point first to suffer injury. (2) All the rays from the furnace, except the direct and principal rays mentioned above, which have fallen on the cornea when they reach the anterior surface of the lens, are again refracted, so that when they reach the posterior surface of the lens they are much more crowded together, and are consequently more injurious there than at any other part of the lens. (3) The bright light of the furnace contracts the pupil so that the iris shields the periphery of the lens at first from damage. The disease can be prevented by workmen wearing dark pure blue spectacles.

Deutsche medicinische Wochenschrift, January 15, 1903.

Spontaneous Recovery from a Tuberculous Peritonitis.—O. Borchgrevink reports a case which shows that tuberculous peritonitis is not necessarily fatal and that spontaneous recovery may take place. The clinical course of the peritonitis was chronic, the symptoms at first being more or less intermittent in character and the exudate accumulating slowly. This was finally evacuated by puncture, following which recovery took place. Two guinea-pigs were inoculated (intraperitoneally) with 75 c.c. of the centrifuged exudate. Both of these animals died of tuberculosis. Three years later the patient died of an acute pulmonary lesion. At autopsy the tuberculous nature of the previously healed peritonitis was amply demonstrated.

Wandering Heart.—Rumpf more than fourteen years ago described a case, under this name, in which he regarded an excessively movable heart as the cause of the symptoms. He now defends his diagnosis against the recent attacks of Schwalbe, Romberg, and Braun. When lying on the back or in the upright position no cardiac symptoms were present, such only being present when the patient lay down upon his side. This proves conclusively that the symptoms of cardiac insufficiency were not due to dilatation of the heart, as has been claimed. By a careful percussion of the heart its change of location with the various positions of the body could be easily demonstrated. When first examined the apex beat was in the sixth intercostal space, but now (fourteen years) later is in the fifth. This does not, however, show that cardiac dilatation was originally present, since by percussion it can be shown that during the intervening time the *entire* heart has been raised in the thorax. While it is possible that a heart may show hypertrophy and dilatation in addition to an excessive movability, it is certain that such was not the case in this instance, and that here the sole cause of the symptoms was the excessive movability described.

Berliner klinische Wochenschrift, January 19, 1903.

Hereditary Persistence of the Ductus Arteriosus Botalli.—De la Camp reports six cases. All occurred in the same family and in the same generation. Two were females and four males. Neither the parents nor grandparents were blood relations. Neither of the parents showed any hereditary or acquired heart lesions. Syphilis was excluded from the family history. The diagnosis of the heart lesion of the children was made on the clinical symptoms, the physical examination of the heart, and the cardiac Röntgen picture.

Urinary Fistula and Carcinoma—L. Lipman-Wulf reports a rare case. The patient was a male fifty years of age, in whom a traumatic urethral stricture had given rise to marked urinary retention and subsequently to urinary fistulæ. An internal urethrotomy was performed and the fistulæ closed. One of the latter, however, remained persistent, and the patient, at his own request, was discharged from treatment. Four months later he returned. Upon examination there was found a tumor occupying nearly the entire perineal region. The tumor had ulcerated the central portion, being covered with necrotic tissue and the edges with flat epithelium. The entire tumor was perforated by a number of urinary fistulæ. The clinical diagnosis of carcinoma was made and subsequently confirmed by microscopical examination. Death took place in about six months. The case is of interest because of the great rarity of carcinomas which develop from the epithelium of the male urethra.

French Journals.

The Question of Mercurial Injections in 1902.—Pautrier states that the majority of syphilographers recommend the employment of injections in the following cases: (1) When the physician wishes to avoid all deceit on the part of the patient. (2) In the cases of former affection of the gastrointestinal canal. (3) In obstinate

cutaneous troubles, in nervous or grave visceral affections. (4) As an element of diagnosis in doubtful cases. In fact, aside from these indications the treatment by injections appears as the exceptional treatment.—*Gazette des Hôpitaux Civils et Militaires*, January 22, 1903.

Two Cases of Epithelioma of the Hand.—Paul Alquier and Halbron report these two cases. Amputation was performed in each case. In both cases the epitheliomata had shown this characteristic that is very exceptional: They developed on the palmar surface and remained predominant there. In one case the growth invaded the whole of the palm, destroying the internal border and reaching the dorsal surface. In the other the tumor was located on the thenar eminence and at the base of the thumb. Histologically, the tumor consisted of a lobulated epithelioma.—*La Presse Médicale*, January 21, 1903.

The Treatment of Scarlatina.—J. A. Le Sage declares that the treatment of scarlatina to-day is considered, to a great extent, under hygiene and the surroundings of the patient. Every patient with scarlatina should be submitted to a rigorous isolation, especially at the time of desquamation of the skin. For these tiny particles can spread the disease far and near. The physicians and attendant sought always to put on linen garments before entering the sickroom, and take them off on coming away from the patient. They should also plunge the hands into an antiseptic solution after each visit. These garments are put into boiling water. After the patient recovers the chamber should be carefully disinfected. The room should be large and well ventilated and the patient confined there as long as the desquamation lasts (thirty to forty days). The throat and nose should receive special attention. As to food, the milk régime—absolutely adhered to—is best in infectious maladies not only to reduce to a minimum intestinal or gastric fermentations, but to assure diuresis, which is so necessary in these cases. Cold drinks should be given in abundance, such as lemonade, etc. Salol, benzonaphtol, benzoate of soda, and calomel are excellent when indicated. If the eruption is slow in appearing, a lukewarm mustard bath will facilitate it. During desquamation, soapy baths, followed by antiseptic unctions, will hasten the process. The eyes and ears shoud be bathed with boric solution.—*L'Union Médicale du Canada*, January, 1903.

The Rôle of Anaerobic Microorganisms in Urinary Infection.—J. Albarran and J. Cottet state, as the result of their careful observations, that in urinary infection from the ureter to the kidney, the anaerobic microorganisms play a very important rôle which has not been previously recognized. This will explain a fact that has been noted but not understood by various workers who have observed it. It is the difference that exists between the results obtained from direct examination of pus on slides and those furnished by the cultures of pus made in ordinary media. In the first instance, the pus most often shows the presence of many microorganisms, while the media remains sterile, or at least show only a few colonies. The reason lies simply in the fact that the technique employed does not allow the anaerobic microorganisms to develop. At other times, on the contrary, the microbes are less abundant in the pus; cultures in ordinary media remain sterile, but those in appropriate media show the presence of anaerobic microbes. These facts show with what reserve we should accept the diagnosis of "sterile abscess." It seems probable that in many cases the apparent sterility of suppuration is the consequence of insufficiency of the methods employed. The bacteriological study of urinary infection, in order to be complete, ought to conform to these discoveries; that is, they should take account not only of the aerobic, but also of the strictly anaerobic microorganisms.—*La Presse Médicale*, January 21, 193.

Annals of Surgery, December, 1902.

A Simple Device for Holding Ligatures.—M. Rubel has devised an apparatus for holding ligatures, as, for instance, in bringing the edges of a wound together when it is desired to pass all the sutures before tightening any. The apparatus which he calls a "segregator" consists of a flat steel bar on which a tempered wire bent to form a row of V-shaped grooves about one-half an inch apart has been soldered. At either end of the bar there is a safety-pin to fasten the instrument to the dressings. The segregator is pinned to the dressings about ten centimeters from the wound and parallel to it. It is, of course, made entirely of steel, so that it can be sterilized without being injured. It does away with the use of clamps, which are always geting in the way, and enables the operator to pick up and tie any ligature he may wish.

Traumatic Rupture of the Spleen.—D. N. Eisenrath reports the case of a boy aged ten years who two hours before being seen had been struck in the left hypochondrium with a monkey-wrench. He fainted, but soon recovered consciousness, and was taken to hospital. When seen nine hours later his pulse was 96°, full and regular; there were extreme pallor, restlessness, and thirst, with evidences of abdominal hemorrhage. Abdominal section revealed the correctness of the diagnosis. The incision was made over the border of the left rectus, which at once exposed the spleen, and an extensive tear was found traversing its lower border, from which there was free hemorrhage. There was also a tear in the omentum. An attempt was made to suture this tear, but on account of the friability of the tissues the sutures would not hold. The spleen was then extirpated without difficulty. The patient seemed to do well for two days after the operation, and the anæmia began to decrease gradually. He died on the third day. Autopsy showed that the cause of death was a septic peritonitis, but that there had been no further hemorrhage.

Removal of an Upholsterer's Tack from the Right Bronchus.—A. V. Brokaw reports the case of a girl of eight years with the usual symptoms of a foreign body in the chest. Five days after the accident a skiagram located the body at the bifurcation of the trachea. Active symptoms subsided and nothing was done till about a month later, when the child was brought to Brokaw, who made another skiagram, which showed the body to be in the right bronchus. An opening was made in the trachea and a large endoscopic tube inserted, but the body could not be seen, and owing to the patient's cyanosis further attempts at removal were for a time abandoned, the wound being left opened in the hope that the body might be expelled by coughing. The wound closed spontaneously six days after operation the body not having been expelled. A few days later the trachea was again opened and thoroughly cocainized and swabbed with adrenalin solution. An electro-magnet was introduced, but, although the tack could be felt, it was too firmly imbedded to be withdrawn by the magnet. Finally with the aid of the endoscope it was grasped by forceps and withdrawn. Recovery was without incident.

Subcutaneous Rupture of the Kidney.—G. E. Dodge reports nine cases, and gives a general analysis of the disease, and gives the indications for non-operative and operative treatment respectively. In simple cases with evidences of only slight or moderate hemorrhage the treatment is expectant. The patient is placed at absolute rest in bed, with milk diet. Ice-bags are applied over the injured loin and abdomen and morphine administered where required for the relief of pain and restlessness. The use of internal remedies for the control of hemorrhage, such as ergot, gallic acid, and lead acetate, may also be tried. Where the employment of the catheter is necessary, either for the relief of retention due to clots or for diagnostic purposes, the strictest antiseptic precautions should be observed. When there is extensive accumulation of clots in the bladder, their removal by means of a suitable evacuator is indicated. Operative treatment has two main objects in view—the control of hemorrhage and the prevention of subsequent septic processes at the site of injury. The cases complicated by profuse extracapsular hemorrhage, either within or external to the peritoneal cavity, and those complicated with injury to other intraabdominal structures require prompt operative interference. The conditions that demand exploratory incision after the lapse of the first forty-eight hours are evidences of continued hemorrhage, persistent anuria, septic symptoms, and a well-defined tumor-mass, independent either of evidences of marked hemorrhage or of a septic process. In the latter case, if no other condition is found present at operation than a mass of extravasated blood and urine, incision is justified, since the removal of such material means the prevention of a possible septic process later. The incision that practical experience has proven best adapted to all cases of traumatic kidney lesion of the class under consideration is the transverse incision of McBurney.

Primary Tuberculosis of the Parotid Gland.—J. Frank reports a case of this nature, and believes it to be the first case recognized in this country. His patient was a child of twenty-two months. Two years after the operation it was in good physical condition. From a study of the cases on record, which are few in number, he offers the following conclusions: (1) The etiology of primary tuberculosis of the parotid gland may be divided into a predisposing cause (a slight injury) and an exciting (bacillus invasion). (2) The process may be diffuse or circumscribed; the latter is very rare. In some cases the gland tissue, in others the insterstitial connective tissue, is the seat of the tuberculous process. Histologically all the elements of a tuberculous process are found. In most of the cases bacilli have been found. (3) The course of this disease, like all chronic infections, is very slow. In most of the cases the enlargement was noticed accidentally, and, on account of its slow growth, no further notice was usually taken. (4) The symp-

tom found in most of the reported cases was swelling of the glands, in the form of either a circumscribed and fluctuating tumor or a more diffuse with occasional soft spots here and there, the skin being usually adherent, red, tense, shiny, and œdematous. As a rule, on pressure the size of the swelling does not diminish. There was no enlargement of the glands of the neck in any of the cases. In most of the cases pain was present late in the disease. (5) The diagnosis, on account of its rarity, the absence of the disease elsewhere, and also the absence of pathognomonic signs, is clinically very difficult. In all cases the diagnosis made before the operation was either syphilis, interstitial parotitis, or malignant growths. (6) The prognosis is very good, the affection being a purely local one. Operative interference results in a permanent cure, as was seen in all primary cases. In many cases temporary facial paralysis resulted, which in course of time disappeared. (7) From the cases recorded we learn that the total extirpation of the gland is not essential to a permanent cure.

Archives of Pediatrics, January, 1903.

A Case of Rheumatic Purpura.—Geo. Montague Swift reports the case of a girl of eleven years who, in connection with rheumatic pains in the knee-joints, developed marked purpura. The upper part of the face and the right cheek were first affected, but the coloration extended to other parts of the body. It was most surprising to see the eruption come and go; in places where a day or two before there appeared to be a submucous hemorrhage, there would be no appearance of discoloration. Salicylic acid was administered, and later changed to calcium chlorid. Pleuritic effusion complicated the condition, but finally the child made a good recovery.

Congenital Dilatation of the Small Intestine.—J. N. Hall describes the case of an infant of eleven months which seemed in every way to be normal except for constantly recurring trouble in obtaining a movement of the bowels. No normal spontaneous motion had ever been passed, but by means of medicines, high and low enemata, electrical stimulation and laxative articles of food, normal stools had been passed every one or two days. The child's abdomen was enormously distended, and in the course of a few days the patient died. At post mortem the first two inches of the small intestines were found to be about two-fifths of an inch in diameter, but it then dilated quite suddenly to a diameter of one and one-quarter to one and one-half inches and continued of this size until two inches before its entrance into the cæcum. This portion was of the size of the first two inches. No other abnormality was found except enlargement of the mesenteric lymph nodes. The author believes that the child died of an intestinal intoxication from the retention of fæces, and that the lymph nodes were enlarged through the irritation of the toxins.

Peribronchitis and Interstitial Pneumonia.—A Jacobi says that the vast majority of cases begin and run their full course in infancy and early childhood. The best preventive against the diseases of the respiratory organs is protection against infections and against colds; that means strengthening of all the integuments, both mucous and epidermic, and mainly the cutaneous, and thereby the general circulation and its innervation. Good air, plenty of good food. Begin to wash the well baby, when about a year old, after his warm bath, with water of 70, 65, 60°, and rub him well until he is dry and thoroughly warm. Diminish the temperature when he is older. Beguided by his strength and weight and preqious habits in selecting the treatment. When the disease is acute, subacute, independentf or complicated, it requires attention to circulation and nutrition, rarely to temperature. Frequent and protracted warm bathing, 95° to 90°, has a better effect in this form than in any other. In other respects the treatment is similar to that of other varieties of pneumonia with one exception; it is not to be forgotten that recent cellproliferation and the recently formed connective tissues are absorbable; iodin should be given early.

The American Journal of the Medical Sciences, Jan., 1903.

Eosinophilia in Pelvic Lesions and in the Vermiform Appendix.—William H. Weir concludes that: (1) Eosinophiles take a prominent part in the cellular infiltration associated with inflammatory and suppurative processes of the pelvic organs. (2) In such conditions they usually occur in the largest numbers in the subacute stage and associated with connective tissue hyperplasia. (3) Eosinophilic infiltration is found in most cases of carcinoma of the cervix, and in almost all cases of pyosalpinx and ovarian abscess. (4) In inflammatory conditions of the endometria eosinophiles occur in small numbers and in but few cases. (5) Eosinophiles represent a large poportion of the cells forming the stroma of the mucosa in the normal and the diseased appendix. (6) In inflammatory conditions of the pelvic organs associated with an eosinophilic infiltration of the tissues, the percentage of eosinophiles in the circulating blood is rarely increased and usually decreased.

Adrenal Tumors.—Paul G. Woolley divides these tumors into benign and malignant. The greater number of the benign tumors of the adrenals belong to the adenomata. Besides this class, there are fibromata, lipomata, nemomata, gliomata, angiomata, and cystomata. The most common adenomata are the small multiple adenomata, the large single tumors being far less commonly seen. The smaller tumors may arise in any zone of the organ. The larger ones usually originate in the cortex of the organ. Although these tumors may be large, they never involve the whole gland, and are usually seen as nodules projecting above the surface of the organ which they occupy. As types of malignant tumors originating in the adrenals, the following have been mentioned: Carcinomata, sarcomata, endotheliomata and peritheliomata. The microscopic appearances of the malignant adrenal tumors vary. Their most noticeable feature is their well-marked tendency to variation in type, due to the remarkable inclination of the cells to metaplastic changes. The writer gives an interesting table of primary carcinomatoid adrenal tumors.

The Pathology of the Tissue Changes induced by the X-Ray: Preliminary Report.—A. G. Ellis gives the following summary of the study of the cases which he reports: There is seen necrosis of cells and trabeculæ of varying degree. In one case there is also marked fatty degeneration. Increase of elastic tissue is seen in the three cases examined both before and after exposure. Fewer areas of lymphocytic infiltration were noted in one case after exposure, and about equal numbers in the others. There is a tendency to occlusion of vessels by deposits on their inner surfaces. This is marked in some instances, not so prominent in others. There is practically entire absence of infiltration by polymorphonuclear leucocytes. While endarteritis is probably induced by the *x*-ray, the accompanying tissue necrosis seems out of proportion to the vessel changes, suggesting the possibility of there being *parri passu* results of the same influence, instead of cause and effect. The presence of immense numbers of cocci and bacilli in the tissues of one case after twenty exposures to the *x*-ray would argue against the possession by that agent of bactericidal power. The pathogenicity of these organisms was not proven. It is important that diseased tissue be curetted or cut away, whenever feasible, before instituting treatment by the *x*-ray.

Paracolon Infections, with Report of Three Cases.—Herbert W. Allen describes the organisms obtained from two of his cases as follows: They were very actively motile, having the morphology and staining properties of bacillus typhosus. The growth on agar and in gelatin was similar to that of bacillus typhosus. Bouillon was diffusely clouded; no surface pellicle was formed after ten days' incubation. A slight trace of indol was formed in Dunham's peptone medium after one week. On potato there was a barely perceptible growth appearing as an increase of the moisture along the line of stroke. Litmus milk was slightly acidified after twelve hours; after one week there was distinct reduction of the acidity, and by ten days the color equalled that of the control. After two weeks there was distinct alkali production. There was no coagulation of milk after four weeks' incubation. The organisms fermented glucose and maltose, with the production of acid and visible gas, but did not ferment lactose or saccharose. The organisms agree very closely with most of the paracolon bacilli heretofore described. As to the agglutination tests, a time limit of one hour was used, and a reaction was not called positive unless there was good clumping and cessation of all motility. In none of the cases was a positive Widal reaction obtained in dilutions greater than 1:10, though tests were made frequently throughout the course of the disease. The writer adds that while no very definite conclusion can be drawn as yet regarding the pathology of the disease, it is evident that we are dealing with an infection quite distinct from typhoid fever.

On Multiple Serositis—the Association of Chronic Obliterative Pericarditis with Ascites, with Particular Reference to the "Pericarditic Pseudocirrhosis of the Liver" of Pick and the "Iced Liver" (Zuckergussleber) of Curschmann.—Aloysius O. J. Kelly states in his recapitulation that in a certain proportion of cases of chronic obliterative pericarditis, ascites is the striking clinical symptom, and leads usually to the diagnosis of cirrhosis of the liver. Whence Pick's designation, "pericarditic pseudocirrhosis of the liver," is not altogether inappropriate. Anatomically, the distinguishing feature of these cases is a chronic fibrous (usually hyperplastic) inflammation of the

several serous membranes of the body—a multiple serositis. The thick fibrous connective tissue that encases and compresses the organs gives rise to an appearance suggesting confectioners' icing—whence the term "iced liver." In the diagnosis of this multiple serositis or of chronic adhesive pericarditis with ascites, especial attention should be directed to the history of a previous attack of acute pericarditis, pleuritis, or perihepatitis; to the early occurrence and subsequent disappearance of the œdema of the legs; to the marked ascites, with little or no œdema of the legs; to the enlarged liver early in the course of the disease, and to the small and distorted, but otherwise smooth, liver, in the later stages of the disease; to the absence or very late occurrence of marked enlargement of the spleen; to the tendency to the occurrence of repeated attacks of pain; tenderness, rigidity, and possibly palpable and audible frictions in the right hypochondriac region, due to attacks of perihepatitis; to the rapid recurrence of the ascites after tapping, and to the physical signs of adherent pericardium—without which the disease is incapable of diagnosis. This obliterative pericarditis with ascites may be distinguished from cirrhosis of the liver; by the aforementioned symptoms and signs of adherent pericardium; by the absence of the etiological factors of cirrhosis of the liver; by the slow, insidious, protracted, and intermittent course of the disease; by the long periods of standstill during which the ascites may remain stationary and the patient in good condition; by the entire absence or the transient presence of slight jaundice; by the absence in most cases of portal congestion and gastrointestinal disturbances—hemorrhage, diarrhœa, hemorrhoids, enlargement of the spleen, marked dilatation of the superficial veins of the abdominal wall, etc.; in some cases, by the association of an enlarged, smooth, and firm liver, with marked ascites; and by the fact that in many cases the patient survives a large number of tappings.

Book Reviews.

Clinique des Maladies du Système Nerveux. Vols. 4 et 5. Par Professeur Raymond. Paris: Octave Doin, 1901.

These volumes, each of 600 pages, attest the energy tirelessness of Charcot's successor at the Salpetrièrè Hospital. The permanent value of such contributions is, probably, not very great. Each volume is made up of a series of lectures, which has been edited evidently with some care by Professor Raymond, and they have the value of the average clinical lecture and of articles in medical journals. In such a work as that before us, the author is not called upon to discuss the matter under consideration in an exhaustive way, such as would be necessary in a textbook or a treatise upon the subject, nor is he compelled to revert to the views of others in considerable detail, or to cite references in accord with, or in substantiation of, his statement. Such volumes are, therefore, particularly an attractive way of putting before the student and the reader the current teachings upon the topics handled.

An extract from the table of contents will give an idea of the diversity of subjects treated by the author. Amongst other subjects in volume 4 are: "Insular Sclerosis in Infancy," "Superior Polioencephalitis," "Double Ophthalmoplegia, in Tabic Patients," "Asthenic Bulbar Paralysis," "Hemiplegia with Muscular Atrophy," "Tabes with Muscular Atrophy," "The Various Forms of Progressive Muscular Atrophy," "Diseases of the Caude Equina," "Juvenile General Paralysis," and "Infantile Myxœdema." While in volume 5 some of the subjects are "Partial Epilepsy, Motor, and Sensory," "The Topography of the Sensory Cortical Centers," "The Psychical Equivalents of Epilepsy," "Focal Lesions of the Quadrigeminal Bodies," "Pseudobulbar Paralysis of Cerebral Origin," "The Differential Diagnosis of Multiple Sclerosis and Hysteria," "The Objective Disturbances in Tabes," "Chronic Progressive Anchylosis" (the name given by Raymond to the disease usually known as Spondylosis Rhizomyelique after Marie), and "Hysterical Word Deafness." Such topics, illustrated as they are by the great wealth of the material at the hospital which Charcot made famous, give the author abundant opportunity to display his clinical erudition.

Clinical lectures lose a great deal of their attractiveness on being printed, and these are probably not exceptions to the rule. The living subject shows the features of the disease in a way that words and pictures cannot. There is a freshness about this series of lectures that is particularly attractive, and one is impressed with the author's facility in handling the subject. They cannot help being of much value to the general practitioner who seeks information of typical forms of uncommon nervous diseases, and who wishes to get an epitome of what is known on the subject. He will find this conveyed in the shape of running commentary on different phases of the disease which the patient or series of patients present, and which are pointed out in succession. To the specialists and the neurologists the volumes are likewise of value. First, as showing the author's point of view; (2) his manner of attack of an obscure disease from a clinical standpoint; and (3) the conception which he puts upon features, clinical or pathological, whose interpretation is not yet satisfactorily made out.

Anleitung zur Diagnose und Therapie der Kehlkopf, Nasen, und Ohrkrankheiten. Zweite vermehrte und verbesserte Auflage mit 130 Abbildungen. von Dr. Richard Kayser in Breslau. Seiten 178. Berlin: S. Karger, 1902.

In the present edition the same arrangement of topics prevails as in the first, issued two years ago, but under the separate headings the progress made during this lapse of time has been incorporated, so that the volume before us is an exponent of the rhinology, laryngology, and otology of to-day. It is made up of lectures for practitioners rather than for either students or specialists, so that the general standpoint is that of clinical medicine. In view of the comprehensiveness of the title and the size of the volume, condensation has been required to a marked degree, yet all has been included that the general practitioner need know for the intelligent handling of the vast majority of his cases.

Outside of this we can hardly see that the book calls for special comment. It belongs to a class that has been enormously swollen in numbers during the last few years. While the personal views of so eminent a clinician as the author are of interest to those following this line of work, it cannot be said that manuals of this kind ever do much more than duplicate existing literature.

Biological Laboratory Methods. By P. H. Mell, Ph.D., Director of Alabama Experimental Station, Professor of Geology and Botany, Alabama Polytechnic Institute. Illustrated. New York and London: The Macmillan Company, 1902.

In this volume the author has brought together in condensed textbook form detailed descriptions of the apparatus and methods used in the biological laboratory. Beginning with an excellent description of the microscope and its accessories, the subjects are taken up in logical rotation and concluded with a chapter upon the polarization of light and its application to biological investigations. Especial mention is to be made of the sections on stains and photo-micrography. The majority of the most important staining methods are described in detail, and in such a manner that they can be successfully applied by one of very limited experience. At the end of the chapter there is given in alphabetical order an enumeration of the principal tissues, etc., together with the methods of staining them, which give the best results. This is especially meritorious, and will save the beginner many hours of useless work. The sections on photomicrography occupy a considerable portion of the book, and are to be commended for the accurate descriptions relative to developing the negatives. Taken all in all, the book fills a decided want, and will be found not only of service to the beginner, for whom it is primarily intended, but also of frequent use to the advanced worker who often feels the necessity of refreshing his memory concerning fundamental details.

Massage and Swedish Movements. By Kure W. Ostrom, from the Royal University of Upsala, Sweden. Fifth Edition. Philadelphia: P. Blakiston's Son & Co., 1902.

In this new edition the author has added ten new illustrations, and has rewritten and enlarged the chapters dealing with practical instruction for giving massage. This little book furnishes the professional masseur and nurse with a valuable textbook on the principles of massage and Swedish movements and their application to various diseases of the body.

A Textbook of Surgical Principles and Surgical Diseases of the Face, Mouth, and Jaws. For dental students. By H. Horace Grant, A.M., M.D. Philadelphia: W. B. Saunders & Co., 1902.

The plan and scope of the work are good, and a concise accurate statement of the essential points of these subjects is much needed in book form for dental students. This book, however, requires much revision before it can be safely placed in the hands of students. Such inaccuracies as surgical fever being the reaction from shock, as erysipelas, not being due to an infection of the

lymphatics with the ordinary pyogenic streptococcus and many others, must be corrected before the student is asked to accept the other good statements that the book contains.

The Practical Medicine Series of Year Books. Volume V. Obstetrics. Edited by Reuben Peterson, A.B., M.D., Professor of Obstetrics and Gynecology in the University of Michigan, and Henry F. Lewis, A.B., M.D., Instructor in Obstetrics and Gynecology in Rush Medical College. Chicago: The Year Book Publishers, 1902.

The subject matter of this excellent little volume is arranged under four parts. Part I, on pregnancy, begins with several pages on the placenta, ten being devoted to an abstract of Webster's Monograph, and six to *deciduoma malignum*. Placenta prævia is discussed under this heading—a new departure and not especially commendable, as we can hardly regard this complication as a "disease" of the placenta. The treatment certainly belongs under obstetric surgery. The same criticism applies to the section on premature detachment. The section on the physiology and pathology of pregnancy offer little that is new, especially with regard to hyperæmesis. Eclampsia is treated quite fully (pages 55 to 73), though it must be confessed that the amount of fresh information bears but a slight relation to the voluminous recent literature. Numerous abstracts of articles on pregnancy complicated with tumors appear, and appendicitis receives considerable attention. Twelve pages are devoted to a careful résumé of recent papers on ectopic gestation. Part I includes one-half of the book.

Part II, on labor, has an interesting section on prophylaxis of infection (an awkward expression). Several paragraphs on artificial dilatation of the cervix seem to be somewhat out of place here. Spinal anæsthesia is well discussed, also occipitoposterior presentations. An interesting section on dystocia from operations performed prior to pregnancy shows the complications of labor following ventro- and vagino-fixation. The concluding sections on traumatisms include rupture of the uterus and laceration of the perineum.

Part III, on the puerperium (pages 177 to 212), is devoted almost entirely to puerperal infection, but injuries to the fœtus are fully treated.

Part IV, on obstetric surgery, is quite meager as compared with the other three. It would seem as if either few recent articles had appeared on this important subject, or else the space allotted by the authors had already been filled. Cæsarean section receives most attention, though a few papers on symphyseotomy are abstracted. In general, the work of abstracting and condensing the large number of articles selected has been well done, though not always evenly. Doubtless this is, to some extent, unavoidable under joint authorship. We have aleady expressed the opinion that the arrangement is not all that could be desired. Undue space is allotted to some papers which possess purely scientific interest. Few comments are made by the authors. This volume, though good, is not equal to the one on gynecology.

Diseases of the Eye. A handbook of Ophthalmic Practice for Students and Practitioners. By G. E. De Schweinitz, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania; Consulting Surgeon to the Philadelphia Polyclinic; Opthalmic Surgeon to the Philadelphia Hospital; Ophthalmologist to the Orthopædic Hospital and Infirmary for Nervous Diseases. With 280 Illustrations and Six Chromo-lithographic Plates. Fourth edition, thoroughly revised. Philadelphia and London: W. B. Saunders & Company, 1903.

The fact that this work appears in a fourth edition within ten years attests to its popularity and to its value. In this edition the volume of the work is increased by about seventy pages over that of the third edition. The subject-matter has been thoroughly revised in every part. Lantern Tests for Color-blindness, Unusual Affections of the Conjunctiva and Cornea, Vascular Changes Occurring in the Retina, Anomalies of Motility, and Orthoptic Exercises have received additional treatment in this volume. The properties of new drugs that have been introduced into ophthalmic therapeutics are more fully described. The pathology of the eye has received greater attention—in short, the author has spared no pains to bring the work fully up to date and to make it as comprehensive as possible, within the scope of such a volume. The systematic arrangement of the material, the concise and direct method of treating the various topics, and a very complete index enables the reader to acquaint himself with all that the book contains on the different subjects, with a minimum expenditure of time.

The operations are considered in a separate chapter near the end of the book, and an appendix in which the use of the ophthalmometer and the tropometer is explained is added. The name of the author is sufficient to assure the reader that he can depend upon the accuracy of the statements made and that he may safely follow the procedures recommended. We do not hesitate in designating this as one of the most useful works on ophthalmology for the specialist, the practitioner, and the student that has appeared in recent years.

La Profession Médicale au Commencement du XXe Siècle. Par Paul Brouardel, Doyen Honoraire Professeur de Médecine légale à la Faculté de Médecine de Paris, Membre de l'Institut. Paris: J. B. Baillière et Fils, 1903.

The writer emphasizes the prophylactic rather than the curative rôle of the physician of this age. He points out the tendencies and consequences of certain laws which are of particular interest to the medical profession. He speaks of the increase in the number of physicians and the decrease in the number of patients; of sanitary confederations, and of international sanitary conferences.

Medical Microscopy. Designed for Students in Laboratory Work and for Practitioners. By T. E. Oertel, M.D., Professor of Histology, Pathology, Bacteriology, and Clinical Microscopy, Medical Department, University of Georgia. Philadelphia: P. Blakiston's Son & Co., 1902.

Realizing that many of the older physicians have had little or no opportunity for laboratory research, which is so necessary to the complete training of the modern physician, the author presents this concise but clear volume. The science of microscopy is new and is constantly expanding its limits, and many of the books on this subject are so full of details that they are more of a hindrance than a help to beginners. In this book the author usually describes only one method to reach a certain result, as this seems most simple in routine work. Among the subjects treated, are the microscope, the preparation of tissue, bacteria, and bacteriological methods, staining, pathological bacteria, tumors, the blood, variations in the formed elements of the blood, urine, semen, vaginal secretions, cerebrospinal fluid, nasal secretions, saliva, sputum, stomach contents, vomit, and fæces. There is a good index. The book is well calculated to fulfill the purpose for which it was written.

Diseases of the Skin. A Manual for Students and Practitioners. By Joseph Grindon, Ph.B., M.D.; Professor of Clinical Dermatology and Syphilis, Washington University; Dermatologist to the O'Fallon Dispensary, St. Luke's Hospital; Member of American Dermatological Association, etc. Series edited by Bern B. Gallaudet, M.D. Illustrated with Thirty-nine engravings. Philadelphia and New York: Lea Brothers & Co., 1902.

After an introduction, in which symptomatology, etiology, and diagnosis are discussed, the body of the book, consisting of 366 pages, is divided under Inflammations, Granulomata, Dermatitis Blastomycotica, Pinta, the Tineas of Mould-fungus Disease, Animal Parasitic Diseases, Purpura, Hypertrophies, Atrophies, New Growths, Pruritus, Diseases of Glands, of Hair Follicles, and of Nails.

Der Kampf des Tierischen Organismus mit der pflanzlichen Zelle. By Dr. R. Sleeswijk in Alkmaar (Holland). Mit Zehn Figuren im Text. Amsterdam: J. A. Sleeswijk, 1902.

This monograph is written in support of the osmotic character of the immunizing processes, not, however, as regards any one class of the body cells, but as regards the osmotic tensions in all of the various kinds of such cells. The author regards the body as composed of a multitude of cells, all of which are connected and unified by osmotic tension. While, therefore, in infective conditions the cells located near to the site of infection are the first to be involved in the conflict, the increased osmotic tension incited in these cells is soon distributed throughout the body, so that all of the cells composing the same become partners in the endeavors to protect the body against the infecting agent. The first portion of the work is devoted to a description of the anatomical and physiologico-chemical relations between the various body cells, and the remainder to a defence of the author's views, particularly as against those now being advanced by the leaders of the German and French schools. Whatever views one may hold concerning this theme, it is certain that the work makes interesting reading and in portions gives food for serious thought.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, Held January 22, 1903.

JAMES N. WEST, M.D., CHAIRMAN.

Myomatous Uteri Treated by the Apostoli Method Prior to Extirpation.—Dr. A. STURMDORF presented these specimens. He said that only last year at the German Medical Society no less a man than Dr. F. Lange vouched for the uterus having become smaller after the Apostoli treatment. The speaker said he had an opportunity of following three such cases to the operating table, the period of observation varying from three to eighteen months. The patient whom he had observed personally was a woman having very thin abdominal walls and an enormous diastasis of the recti muscles, thus affording an exceptionally good opportunity for palpation. It was remarkable how the uterine body itself shrunk under the treatment, although the small fibroids on the fundus of the uterus remained of the same size. Another one of the cases had been treated by Dr. H. J. Garrigues, but eventually the woman developed peritonitis, and it became necessary to remove the uterus. The Apostoli method could not be too strongly condemned as a radical treatment for uterine fibroids, and yet it had a certain field in the palliative treatment. The cases referred to would be more fully reported at some future time.

Solid Tumor of the Ovary; Double Uterus and Vagina.—Dr. GEORGE H. BALLERAY presented several specimens. The first was a large solid tumor of the ovary, removed one month ago, from a single woman, forty-two years of age. The report of the pathologist had not yet been received, but from the general appearance it was apparently a sarcoma. The growth was very adherent to the intestine and the abdominal wall, making the operation rather difficult. The woman made a good recovery from the operation. A point of interest in the case was that there was a double uterus and a double vagina.

Fibroid Removed After Delivery.—Dr. BALLERAY also presented a tumor taken from a woman who had passed through pregnancy and had been delivered without special difficulty despite the presence of the tumor. About two months after delivery it became necessary to perform laparotomy. There was some dark serous fluid in the abdomen. The pedicle of the tumor was ligated and the tumor removed. The tumor itself weighed about six pounds. The abdomen was closed without drainage, and the result was very satisfactory.

Uterus Removed because of Profuse Hemorrhage.—Dr. BALLERAY presented a uterus removed from a woman, forty-four years of age. She had borne three children. About eighteen months ago she began to flow rather freely, and the flow persisted in spite of curettage. On admission to hospital she was extremely anæmic and in very bad condition. From the history he suspected carcinoma of the body of the uterus. Owing to the woman's bad condition, an effort was made to check the hemorrhage by tamponade and rest, but it became necessary to remove the uterus. This was done six days ago and the woman had done well since then. The gross appearance of the uterus puzzled him, because it showed no obvious cause for the severe hemorrhage. A second tumor was presented, which had been removed for an unusual indication. The woman had been admitted three times to St. Joseph's Hospital almost moribund from profuse hemorrhage following miscarriage. She was advised to have the uterus removed as a prophylactic measure, and this was done. A third uterus was presented which had been removed by vaginal hysterectomy from a woman, twenty-five years of age. She had had a criminal abortion performed on her, and because of the subsequent profuse hemorrhage had sought relief at the hospital. She had a persistent discharge from the uterus. An attack of peritonitis occurred, which was supposed to be of gonorrhœal origin. The uterus was removed after considerable difficulty.

Tumors on Posterior Surface of the Uterus.—Dr. PHILANDER A. HARRIS of Paterson presented tumors to illustrate the peculiarity some fibroids had of filling the pelvis and lifting the uterus up behind the pubes. Two of these were examples of myofibroma and one of myxofibro-sarcoma.

Omphalocele.—Dr. L. J. LADINSKI presented, on behalf of Dr. Charles Dixon Jones, a specimen of omphalocele. On November 30, 1902, a primipara was delivered of a dead male child, weighing eight pounds, and well developed, with the exception of a deficiency of the abdominal wall. This exposed the contents of the abdominal cavity. There was also a marked scoliosis of the spinal column. With the rupture of the amniotic sac, there was a discharge of dark material like meconium. Further examination showed that an umbilical hernia had ruptured during delivery.

Dr. A. BROTHERS said that the uterine wall appeared to him to be considerably thickened in the first case for which hysterectomy had been done, because of persistent and dangerous hemorrhage. He had seen a similar case, in which the hemorrhage had resisted repeated curettings and even the intrauterine use of steam. Finally, he had been compelled to remove the uterus just as Dr. Balleray had done. When examined by Dr. H. T. Brooks, there was found to be beginning malignancy of the endometrium of the corpus uteri.

Dr. H. J. BOLDT thought the prognosis must be changed with regard to cases of sarcoma of the ovary. A year or more ago he had presented to this section a very large sarcoma of the ovary, which he had removed, and he had just learned that this patient was still alive.

Dr. J. RIDDLE GOFFE said he had been in the habit of leaving one ovary in cases in which there was sarcoma of only one ovary, and he had not had any occasion to regret this course, although he believed the general rule in such cases was to remove both ovaries.

Dr. JAMES N. WEST said he had seen two cases in which an apparently normal uterus had bled so profusely as to necessitate hysterectomy. The uterus in one of these cases had been carefully examined by a competent pathologist, but nothing had been found to explain the persistent hemorrhage.

Dr. GOFFE suggested that in two of the cases reported by Dr. Harris it would have been better to perform myomectomy and save the generative organs.

Dr. HARRIS replied that both of these patients were over forty years of age, one of them having passed the menopause.

Position of the Bladder in Fibroid of the Uterus.—Dr. J. A. SCHMITT read this paper. He said that even when slightly distended the summit of the bladder might still be in the true pelvis. Some time ago he had shown to this section a large myoma which had grown from the anterior surface and had developed high up in the abominal cavity. Low down the projecting myoma had barred the approach to the bladder. Such an imprisoned bladder produced no symptoms, because of the ready lateral distensibility of the organ. In women with a weakened pelvic floor, cystocele and prolapse of the anterior vaginal wall were likely to occur. Sometimes the entire bladder was elevated so that it lay near the upper border of the pubes, a true upward displacement. Pressure of a fibroma upon the bladder or upon the urethra might cause displacement. In the latter condition there were apt to be present symptoms of incontinence and cystitis. An elevation of the base of the bladder with the displacement of the whole bladder upward so that the anterior wall came in contact with the abdominal parietes sometimes occurred. Fibroids developing in the anterior wall of the uterus above the peritoneal fold left the position of the bladder

unchanged, except in those rare cases in which peritoneal adhesions between the bladder and the uterus had formed. Fibroid tumors situated in the lateral wall of the uterus might displace that organ toward the opposite side. The bladder followed such lateral dislocations only to a slight extent. The elevated bladder would push up the peritoneum, and a greater or less surface on its anterior wall, free from peritoneum, would come in contact with the abdominal wall. In cases of elevated bladder from uterine fibroid one would always be able to introduce the finger into the prevesical peritoneal sac for a variable distance. Those cases of elevated bladder in which no prevesical peritoneal pouch was found required a different explanation. They were the result of imperfect extrauterine development. The bladder of the new-born differed from that of the adult chiefly in position and shape. Three-fourths of the bladder projected into the abdominal, cavity, and was embedded in loose connective tissues extending between the peritoneum and the fascia transversalis from behind the pubes as far as the umbilicus. In the upper and middle third of the space the peritoneum was reflected on the summit of the bladder without forming a cul-de-sac. During infancy the bladder was conical in shape; in the course of years it descended and assumed an ovoid or cup-shape. At about the age of puberty the empty bladder lay in the true pelvis and the reflected peritoneum was at the level of the upper border of the symphysis pubis. Occasionally, for some unknown reason, this descent of the bladder did not take place. In such cases the conical shape of the bladder usually persisted.

The Palliative Treatment of the Fibroid Uterus.—Dr. A. H. Goelet presented this paper. He said that the palliative measures were: oophorectomy, cutting off the blood supply and ablation of the uterine arteries, dilatation of the cervix with curettage of the endometrium, electricity and, finally, medication, including the administration of animal extracts. The cases suitable for palliative treatment were: (1) Those in which there was present some local or constitutional condition forbidding the removal of the growth; (2) those in which the patient declined operation; (3) those in which the growth was small or was not producing inconvenience, and (4) in young women when the possibility of removing the growth and leaving the uterus and ovaries behind could not be definitely determined beforehand. Oophorectomy should be limited to women approaching the menopause and presenting intolerable symptoms, such as pain and hemorrhage. In small, sessile, interstitial growths, this operation should be done as a matter of necessity rather than of choice when the removal was not practicable, or the increased risk was not justifiable in the individual case. The ovarian arteries should be obliterated when the ovaries were removed as a means of relief in cases of uterine fibroids. The cutting off of the blood supply through the uterine arteries was proper in cases of small interstitial fibroids situated below the fundus of the uterus. Curettage should only be done with a blunt instrument, or one with a copper edge. Following this, the cavity should be freely irrigated with hot water or salt solution, and afterward with a solution of iodine and hot water. Iodine in full strength should not be applied to the endometrium; the strength should be half to one ounce to the pint of water. Electricity would arrest the hemorrhage when the electrode could be brought in contact with all parts of the endometrium. It would also relieve, in a measure, the congestion of the uterus, and diminish the blood supply to the growth. In suitable cases it would bring about a considerable reduction in the size of the growth, and occasionally true myomata would eventually disappear after prolonged electrical treatment. Sometimes electrical treatment would favor the extrusion of the tumor. In the subperitoneal and submucous fibroids electricity was powerless for good. Its use should be limited to small interstitial growths which were not large enough to rise above the umbilicus. The results from electrical treatment were not always permanent; it was advisable to make the application of the galvanic current directly to the endometrium. The faradic current was only useful to relieve the pain in some cases. Iodide and bromide of potassium were useful sedatives in some of these cases. Extracts of the thyroid and of the mammary gland were said to exert a decided action on some of these cases, but his experience with them had been negative.

Operative Treatment of Fibroid of the Uterus.—Dr. Brooks H. Wells read this paper. He said that as there was a definite mortality from the radical treatment of fibroids this was only indicated when there was persistent hemorrhage or pressure symptoms were present; when there was complicating tubal disease, and occasionally because of the nervous excitement and worry caused by a knowledge of their presence. The palliative treatment was practically covered by curettage, which might require to be repeated several times at intervals of a few months. The vaginal operation was indicated when the tumor was situated in the cervical region, but fibroids in this location were rather rare. Intrauterine fibroid polypus when small could be removed through the dilated cervix; when too large for this they might be removed by a T-shaped incision in front of the cervix and division of the anterior wall to the necessary extent. Even large tumors could be removed by this route by the process of morcellation. The wound in the anterior uterine and vaginal walls should be sutured after the removal of the tumor. The presence of pus tubes was a strong contraindication, and demanded a vaginal hysterectomy. For large tumors he preferred the abdominal route. When operating through the vagina one should always be prepared or an abdominal operation, as it might be unexpectedly demanded at any time. The mortality after vaginal hysterectomy should be almost nothing if infection could be guarded against, and yet, according to his experience, the mortality was greater than from the abdominal operation. Abdominal myomectomy was the ideal operation, yet in many cases it was not practicable. It should be remembered that any injury to the capsule of a fibroid would cause troublesome bleeding. The tumor having been freed from adhesions, was lifted from the pelvic cavity, and pedicle ligated in such a way as to occlude the ovarian arteries and the adjacent large venous trunks. The ovaries should be left outside of the ligature unless so diseased as to demand removal. The uterine arteries should be carefully ligated close to the cervix, first on one side and then on the other. Immediately after a hysterectomy a high enema of decinormal salt solution should be given, and repeated in a few hours if there was much shock. Formerly it was the custom to withhold water by the mouth, but he had recently found that these patients did very well if given water by the mouth freely, there being no trouble after the first vomiting, which washed out the stomach and prevented further trouble. If there was much intestinal distention salines should be administered quite early. The patient could usually be allowed to lie on her back or her side. The main causes of death were hemorrhage and sepsis, or general peritoneal inflammation with intestinal atony. In the hands of skilled operators the mortality varied between four and eight per cent. The chances of a secondary infection seemed to be slightly less when the cervix was removed, yet in his hands the supravaginal operation had given the smoothest convalescence and the best ultimate results. Drainage was only used when it was impossible to cover large denuded areas. He had done 106 hysterectomies for the removal of fibroids with four deaths.

Dr. Mary A. Dixon Jones said that by the operation of myomectomy a diseased uterus was left behind to develop more tumors. She declared that there never was a tumor of the uterus that did not give rise to symptoms. The cervix in every fibroid uterus was diseased, and in every such case the uterine appendages were also diseased;

hence, the best treatment was the removal of the whole uterus. She was of the opinion that a great deal of time was lost in tying arteries; total hysterectomy should be associated with very little hemorrhage.

Dr. Boldt said that he had been deeply interested in the very practical paper presented by Dr. Schmitt. He had tried the method of ligation of the uterine arteries in many cases, but had been disappointed with the results. Furthermore the tying of these arteries per vaginam was not very easy. If they were tied with two ligatures it was necessary to go some distance from the cervix, thus running great risk of injuring the ureters. The electrical treatment seemed to him of benefit in such a few cases that it was not worthy of further consideration. Occasionally the hemorrhages could be controlled by hydrastis and by thyroid and mammary extracts. The only really valuable palliative treatment was curettage, and this was not practicable in a great many cases, because of the tortuous state of the uterine canal. It was rare that he felt justified in advising operation for a small fibromyoma, because such tumors rarely caused trouble. He had formerly been of the opinion that total hysterectomy was better than supravaginal hysterectomy, but he now believed that there was the same mortality from both operations, and there was this disadvantage with a total hysterectomy, it was not at all infrequent for scar tissue in the roof of the vagina to give rise to such severe dyspareunia as to make life a veritable burden. Zweifel had led us to believe that the higher the uterus could be amputated the better the prognosis for the patient with regard to the appearance of neurasthenic symptoms. He had adopted this plan, and believed it was a good one, for the prognosis as to life was just as good as where amputation lower down was done, and as regards the condition of the patient after the operation he felt convinced it was decidedly better.

Dr. P. A. Harris was of the opinion that the field for the use of the curette was very limited in cases of large fibroid. The hemorrhage was probably due to attrition, or possibly to endometritis; hence it did not seem rational to resort to curettage. He had seen death occur in two cases as a result of the use of the curette.

Dr. E. J. Ill of Newark said that for a long time he had had no sympathy for the palliative treatment of uterine fibroids, unless it might be the use of certain medicinal measures in a few cases. He objected to any operation which left a mutilated organ in the abdomen. He did not like myomectomy for the removal of a large number of subperitoneal tumors. There were certain cases, especially those characterized by the presence of interstitial tumors, in which the animal extracts had given him excellent results. He had seen the hemorrhage lessen to such a degree that the patients conceived and went on to the full term of pregnancy, and subsequently the tumors were absorbed. He did not think sufficient stress was laid upon the absorption of these tumors which occurred not infrequently after pregnancy, and many of these women became pregnant after suitable medicinal treatment of the fibroids.

Dr. Goffe concurred in the views that had been expressed with regard to the use of the curette, and particularly as to the danger of laying bare the endometrium as referred to by Dr. Harris. His own experience with the animal extracts had been quite different from that of Dr. Ill, as he had observed no benefit whatever from their use. Possibly this was because he had been skeptical regarding their value, and had not kept them up sufficiently long. Mention had been made of the absorption of fibroids after pregnancy, but nothing had been said about the difficulties and dangers of a pregnancy complicated by fibroids. He made it a rule to advise all women with fibroids, whether these were large or small, to have an immediate operation for their removal. Small tumors could be removed by the vaginal route with absolute safety; when the tumor was large enough to rise above the brim of the pelvis the abdominal operation should be done. Cases which he formerly believed could only be relieved by hysterectomy he now thought could be successfully treated by myomectomy. Dr. McCosh of this city had recently reported a series of cases, in three of which, although a number of tumors had been removed by myomectomy, the patients subsequently became pregnant and were delivered of living children. Dr. Wells was to be congratulated upon the wonderful record he held for operations on uterine fibroids. He would differ with him regarding the delivery of the tumor through the abdominal incision before the application of the ligatures. By ligating the tumor *in situ* and then delivering it it was possible to make use of a much smaller incision. It was important to sew over the stump and raw surfaces simple flaps of peritoneum, thus shutting off the cervix and avoiding infection.

Dr. W. Evelyn Porter said that some years ago when the operation of myomectomy was severely criticised he had operated by this method a number of times, and with good results. In young women the operation was indicated in all cases in which a comparatively healthy uterus could be left behind. After the age of thirty-eight or forty it was often wiser to do a hysterectomy. The fact should not be lost sight of that many patients, after the artificial menopause, suffer more than from the fibroids, for which they originally sought treatment. When the tumors were low down and submucous, extirpation from below could be very successfully done. At one time he had presented to this section a tumor, about the size of a full-term child's head, which he had removed by morcellation. The patient's condition after this operation was certainly far better than after hysterectomy.

Dr. Le Roy Broun said that he did not think much benefit could accrue from the curetting of a fibroid uterus, and there was some danger of rupturing of a large venous sinus superficially situated. He had known this accident to occur in the hands of a surgeon who curetted as a preparatory step to further operation. The woman lost so much blood from this cause that she died on the operating table. At times a complete hysterectomy was far safer than a myomectomy, especially if the tumors were numerous, were deeply situated, and approached the uterine mucosa. The surgeon must be the sole judge as to which operation should be selected in the individual case. Of course, myomectomy was the ideal operation. About two years ago he had collected and analyzed 150 cases, and this analysis showed that the lowest death rate was from total hysterectomy with complete through drainage. At that time he had stated that the death rate from total supravaginal hysterectomy was largely attributable to infection through an open cervical canal. Acting upon this thought, he had adopted the plan of closing over this source of infection, and for the past year and a half there had been only uninterrupted recoveries in his hysterectomies. He believed the cervix should be closed in order to exclude this source of infection; certainly in some of the cases analyzed the bad result had been due to sepsis entering through the open cervix.

Dr. G. H. Balleray said that many years ago he had done oophorectomy for fibroids with what was considered fairly good results. In some cases the hemorrhage had been completely relieved, and some of the tumors had disappeared. However, it was not always an easy operation, the ovaries being situated deeply and below the tumor. He had seen two expert English surgeons fail in this operation. He would mention curettage in these cases only to condemn it. To check hemorrhage, a simple tamponade was often useful, if only to get the patient in proper condition for operation. As regards the fear of conception occurring in a woman with fibroids, he would say that he saw no reason for the general practitioner's becoming hysterical over this subject. He did not believe that unless the tumor were situated low down near the cervical region, thus offering obstruction to the descent of

the child, there was much need for apprehension if pregnancy should supervene. According to his experience, the supravaginal hysterectomy was the better operation.

Dr. S. Marx said that the remark that had been made in this discussion relative to pregnancy's taking place after myomectomy led him to say that not only had pregnancy been known to follow this operation, but the pregnancy under such circumstances had been known to terminate in rupture of the uterus. He objected to an extensive myomectomy in persons likely to become pregnant. He had obtained no good results from the medicinal treatment, except from very large doses of stypticin. He had no sympathy with the palliative treatment of fibroids.

Dr. A. Brothers protested against multiple myomectomy, and reported a case in which the first result had apparently been excellent, and yet some years later the uterus was filled with fibroids of larger growth than in the first instance, and they gave rise to more urgent symptoms.

Dr. E. H. M. Sell asked if it was to be taken for granted that many of these cases did not require operation at all. All present must know that there were many patients with fibroids who required no treatment, and who were not even conscious of the presence of the fibroid until their attention had been directed to it by something else.

Dr. West spoke of some cases of fibroids that he had treated by myomectomy. Four of them were women in the child-bearing period, and the operation was done largely with the object of overcoming sterility. One case in which the myomectomy was very extensive had a perfectly normal labor.

Dr. Goelet said that his individual preference was for operation in cases of fibroids, but there were cases which were inoperable, not only because of some constitutional or local condition preventing it, but because the patient often declined operation. For this class he would recommend electrical treatment. It was not always easy through a small incision to isolate and ligate the uterine artery; the easiest way was to find the pulsating vessel, apply a clamp, and ligate on either side of the clamp. He was strongly in favor of myomectomy, particularly in young women. If hysterectomy were done it should be by the abdominal route.

Dr. Wells said he wished to be understood as believing that the curette had a very limited use in cases of fibroid. He had personally used it in only five or six cases, and these were women near the menopause and having a small interstitial fibroid. Myomectomy was not a new operation by any means, but it had become less popular as the operation of hysterectomy had been perfected, and its attendant mortality had fallen from over 25 per cent. to almost nothing. Dr. Baer of Philadelphia and Dr. Goffe of this city deserved the credit for having introduced the improved technique by which these better results had been obtained. In many cases he found it necessary to divide the tumor quite extensively before it could be lifted out of the cavity. It was often necessary to divide the tumor boldly and quickly before the vessels could be secured. He had observed no permanent results from the use of animal extracts. He had seen two cases in which fibroids had been absorbed after pregnancy, whereas he had observed quite a number of cases in which fibroids had grown very rapidly during pregnancy and had undergone some involution afterward. Silk should not be used in the abdomen; properly prepared and not too coarse catgut was to be preferred.

Officers Elected.—Dr. L. J. Ladinski was elected chairman and Dr. C. F. Adams secretary of the section.

Dr. Nothnagel, professor of clinical medicine and therapeutics at the University of Vienna, has been nominated a life member of the Upper House of the Austrian Parliament.

Lord Lister has been created by the King of Denmark a Knight Grand Cross of the Order of Dannebrog on the occasion of his jubilee.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held January 19, 1903.

Alexander Lambert, M.D., President.

(*Concluded from page 160.*)

Significance of Oxaluria.—Dr. J. Bergen Ogden read a paper on this subject. He said that oxalic acid might be regarded as a normal constituent of urine, though present in very small quantity. It existed in the urine in combination with calcium as calcium oxalate, which was ordinarily held in solution by the monosodic acid phosphate. Whenever the production of calcium oxalate was excessive, this became insufficient to hold it in solution, and hence crystals were found in the urinary sediment. Properly speaking, the term oxaluria should only be employed in those cases in which the oxalate of lime crystals were present for a considerable period. A few large, primary crystals might be of far greater importance than a large number of small secondary forms. The continued presence of the crystals always showed an overproduction of calcium oxalate, which, in turn, pointed to some underlying pathological condition. One cause was fermentation in the gastrointestinal tract. Dr. Helen Baldwin had produced experimentally in dogs a pronounced oxaluria by feeding these animals on meat and large quantities of cane sugar and glucose. The oxaluria thus produced must have been brought about by other conditions, as, for example, a concomitant gastritis. Up to the time of this research we were without a satisfactory explanation of the cause of oxaluria in many cases, and the treatment was consequently attended by unsatisfactory results. We had yet to learn whether the proteid element was essential, and also whether these fermentative changes and the consequent oxaluria could be brought about by the ingestion of carbohydrates alone. Another cause of oxaluria which must be borne in mind was the ingestion of articles of food containing oxalic acid, *e. g* sorrel, rhubarb, tomatoes, asparagus, spinach, onions, cabbage, and some varieties of grapes and apples. It had been claimed that oxaluria was sometimes produced by the ingestion of fruits containing citric acid. Rhubarb and spinach probably constituted the chief causes of oxaluria arising from articles of food.

The tests for indoxyl in the urine were an index of the amount of fermentation taking place in the bowel, and there was found to be a more or less definite relation between oxaluria and an excess of indican in the urine. A distinction of some practical value was the division of the crystals of oxalate of lime into primary and secondary. The primary crystals were those which had separated from the urine inside of the body, and usually consisted of the large octahedral and most of the oval and dumb-bell forms. The secondary crystals separated after the urine had been voided. They were usually the very small octahedral forms, and perhaps a few of the circular, oval and dumb-bell crystals. The primary crystals often produced more or less marked irritation of the urinary tract, especially if they separated in the kidney itself or in the bladder. Blood globules were often an accompaniment of oxalate of lime crystals in the urine. If the renal pelvis were irritated in this way the examiner would usually find in the sediment some of the caudate cells supposed to be characteristic of this region along with blood cells; if the irritation were in the bladder there would be present some of the squamous cells and round cells of that region.

Oxaluria and Diabetes.—There appeared to be a rather close relation between diabetes mellitus and oxaluria. The latter was probably referable to the gastrointestinal fermentation resulting from an excessive carbohydrate diet or the abundant ingestion of meat in a nitrogenous diet. Not infrequently a marked oxaluria was associated with nervous disorders.

Hyperacidity of the Urine.—Dr. Thomas W. Hastings

read this paper. He said that this subject had chiefly received attention in books published twenty or thirty years ago. In these books some cases of incontinence of urine in children were ascribed to this cause. Normally the urine showed decreased acidity a few hours after meals, the so-called alkaline tide—the decrease being in inverse ratio to the acidity and quantity of the gastric juice. A meat diet tended to increase the acidity of the urine. The normal acid reaction was not due to free acid, but chiefly to the primary salts of phosphoric acid. Of the total phosphoric acid for the twenty-four hours, 0.6 would be due to the primary, and 0.4 to the secondary salts. The precipitation of uric acid did not necessarily mean that the urine was excessively acid; such a precipitation occurred with all degrees of acidity and of specific gravity. The reaction to litmus paper gave no idea of the acidity, the best method was similar to the one used for determining the acidity of the gastric contents. This method gave roughly the excess of the acid equivalents over the basic equivalents. In estimating the acidity, urine not over a few hours' old should be used. A hyperacid urine showed marked acidity throughout the twenty-four hours—in other words, there was no well-marked alkaline tide, and, therefore, it was of no importance at what time in the twenty-four hours the specimen was taken for this examination. Clinically it was found that hyperacidity of the urine caused a certain number of cases of enuresis and some disturbances of micturition.

Prognostic Value of the Diazo-reaction in Tuberculosis.—Dr. Frank C. Wood presented this paper. He said that from 1884 until the present time very little had been written upon this subject, but recently interest in the subject had revived. He had found an opportunity to study this reaction in a large number of progressive cases of tuberculosis in St. Luke's Hospital. This paper was based on 363 cases, of which 117 died. In eighty-one, or 69 per cent., the diazo-reaction was well marked and continuously positive before death. In twenty-two, or 18 per cent., a positive reaction was obtained during a large portion of the time, but disappeared shortly before death, or was occasionally irregular—in other words, about 87 per cent. of the fatal cases showed a positive reaction during the last few months of life. Of the fourteen remaining cases showing no reaction, ten presented symptoms of chronic diffuse nephritis, and two of these died from the kidney lesion. Of 208 mild and non-progressive cases, 188, or 90 per cent., of those examined for over four weeks showed no reaction. Twenty other cases gave alternating reactions. It was found that the reaction might be continuous and strong for a month or two, and then disappear for a short time only to reappear later; yet during this time the condition of the patient might grow steadily worse. The occasional occurrence of the diazo-reaction did not necessarily point to a grave prognosis.

Prognostic Significance of Albumin in the Urine.—Dr. Edward W. Lambert read this paper. He said that one of the first symptoms of disturbance of the renal function was the presence of a greater or less quantity of albumin in the urine. In his opinion, no healthy person had this substance in the urine, but it by no means followed that its presence indicated severe or incurable organic disease of the kidney. Very excessive heat or cold was apt to allow albumin to pass into the urine, but this perversion of function would right itself when the weather changed and the nervous tone returned to the normal.

Dr. Lambert said that from 1868 to 1888 he had been engaged daily in examining the urine of applicants for life insurance, and the rejection of applicants found to have albuminuria had been a means of saving enough money to the insurance, company to pay the entire expenses of the medical department of New York City. According to his experience, few men passed six months without an occasional albuminuria, and the passage of tube casts in the urine. Mention was made of a case, which had been followed for a considerable time, in which no albumin could be found in the urine if this were examined before noon. The quantity of albumin was no index of the gravity of the case. In recent years the microscope had been called to their aid, with the result that it had led to confusion, worse confounded because it had shown the very frequent presence of all sorts of tube casts. Many of these were found too often in persons otherwise healthy to warrant the conclusion that they pointed to serious organic disease. The essential point after all was the manner of life of the person. Great business strain, the abuse of alcohol and tobacco, and the excessive yielding to the animal appetites were important factors.

Dr. S. Oakley Vanderpoel said that in his life insurance work he was confronted daily with this important and puzzling problem. The only way of reaching a satisfactory conclusion seemed to be by determining the percentage of mortality in any given class of cases. In order to arrive at this it had become necessary to divide the cases into groups, *e. g.* all the cases rejected in the past fifteen years because of albuminuria. In this investigation they had been surprised to find the large number of these applicants who were still alive. It was found that classing all albuminurics in one group the percentage mortality was decidedly increased, there being four or five times as many dead per thousand as an equal number of healthy lives. The groups were then subdivided, and it was ascertained that the mortality was less in those cases presenting a simple albuminuria—a temporary albuminuria, for example, at certain hours of the day. In those cases in which the albumin was accompanied by granular casts the mortality was still greater. Given an individual risk with albumin, it was almost impossible to determine which of two men would live the longer, but the mode of life of the applicant would guide one in determining the prognosis in the individual case.

Significance of Nucleoalbumin.—Dr. Brandreth Symonds said that the presence of nucleoalbumin had not been fully appreciated as yet by the profession. This proteid reacted with all the tests containing an organic acid, and would even react with heat when the urine was decidedly acid—in fact, the only test with which confusion did not occur was the old contact test with nitric acid. This test was not very delicate, it was true, but if the specimen and reagent were allowed to stand for about fifteen minutes it became nearly as delicate as the others. For life insurance purposes it was necessary to differentiate this proteid from true albumin. According to his experience nucleoalbumin did not appear to be of any serious import, being usually due to some congestion or subacute inflammation of the genitourinary tract. If occurring in a person otherwise healthy he would say it had no significance. These cases afforded a large field for general clinical investigation. If there were much nucleoalbumin in the urine he would look upon the case with suspicion. All true albuminurics should be looked upon as suspicious, for the condition was not a physiological one, although some writers had applied that term to certain of these cases. Unfortunately there was no means of differentiating these transient cases of true albuminuria from the more serious ones until the disappearance of the albumin. All albuminurics must be looked upon as unsound insurance risks, even though in persons under forty years of age the albuminuria was apt to be transient.

Dr. W. Evelyn Porter expressed the hope that physicians generally would be careful not to make light of the occurrence of albuminuria in their patients, and wrongly advise their patients, but would look upon it as a danger signal, and in this way would co-operate with the life insurance examiners.

Dr. Lambert, in closing, said he thought fifteen or twenty years hence sufficient statistics might have been collected to enable life insurance examiners to come to more definite conclusions regarding the significance of albuminuria.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

SURGICAL ANATOMY AND OPERATIVE SURGERY. By JOHN J. MCGRATH, M.D. Royal octavo, 559 pages. Illustrated. F. A. Davis Co., Philadelphia. Price, cloth, $4.00 net; sheep or half Russia, $5.00 net.

A COMPLETE LIST OF THE OFFICERS AND FELLOWS OF THE AMERICAN SURGICAL ASSOCIATION. 8vo, 71 pages. Wm. J. Dorman, Philadelphia, Pa.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. By RICHARD H. HARTE, M.D. 8vo, 571 pages. Illustrated. Vol. 20th. Wm. J. Dornan, Philadelphia, Pa.

CANCER AND OTHER TUMORS OF THE STOMACH. By SAMUEL FENWICK, M.D. and W. SOLTAU FENWICK, M.D. 8vo, 362 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia. Price, $3.00 net.

SELECTED PAPERS ON OPERATIVE AND CLINICAL SURGERY. By the late WILLIAM STOKES. 8vo, 484 pages. Illustrated. Bailliere, Tindall & Cox, London, England. Price, 10s. net.

A TEXTBOOK OF PHARMACOLOGY AND THERAPEUTICS ON THE ACTION OF DRUGS IN HEALTH AND DISEASE. By ARTHUR R. CUSHNY, M.D. Third edition, 756 pages. Illustrated, 8vo. Lea Brothers & Co., New York.

URICACIDÆMIA; ITS CAUSES, EFFECTS, AND TREATMENT. By PERRY DICKIE, M.D. 16mo, 148 pages. Boericke & Tafel, Philadelphia, Pa. Price, cloth, $1.00.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS, VOL. III—THE EYE, EAR, NOSE, AND THROAT. By DRS. WOOD, ANDREWS, AND HARDIE. 12mo, 321 pages. Illustrated. The Year Book Pub. Co., Chicago. Price, $1.50.

The Use of the Rotary Burr in the Treatment of Chronic Suppuration of the Ear.—Sturm finds that the burr is of service only in those patients with wide and short canals, allowing the use of an instrument with a short shank. His burrs vary from a pyriform to a spherical shape, and have a diameter of two to three millimeters. Their blades have a slightly spiral course, and diminish in size as they approach the pole where they terminate. They have a much slower action at the pole than at the equator. This enables the operator to proceed more cautiously when using the pole, as in the removal of superficial necroses, and to work faster in entering the attic, where the coarser part of the burr comes into play when working laterally. General anæsthesia can usually be dispensed with when the burr is used for the removal of necrotic areas from the labyrinth wall. However, when the attic is to be opened, general anæsthesia is advisable. In this operation the burr readily penetrates the thin skin of the ear canal, making section of this tissue unnecessary. Bleeding is usually not severe, yet it takes frequent mopping to enable the operator to see distinctly. For this purpose gauze saturated in a solution of ferripyrin and cocaine is serviceable. The field of operation should be well illuminated either with electric or reflected light. At the completion of the operation the cavity is irrigated, a tampon of gauze inserted, and a bandage applied. The only ill effect of the operation so far observed has been tinnitus, which usually subsided in several days. The advantages of the burr are (1) that an externally visible wound is unnecessary; and (2) that rapidity of action shortens the period of narcosis. While its employment can never entirely supersede present methods of removing the ossicles, it is of great service in selected cases.—*Archives of Otology.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending February 7, 1903:

	Cases.	Deaths.
Measles	203	10
Diphtheria and croup	369	47
Scarlet fever	278	16
Smallpox	2	..
Varicella	119	..
Tuberculosis	343	174
Typhoid fever	55	12
Cerebrospinal meningitis	..	..

Gastroptosis; a Critical and Clinical Study, with References to 100 Cases.—Albert P. Francine speaks of two sets of factors in the etiology of this condition: (1) The conditions predisposing to enteroptosis. (2) Those directly responsible, or the exciting causes. Under the first set come hereditary predisposition and constitutional weakness. Hemmeter outlines the exciting causes as follows: (1) Relaxation of the abdominal muscles following repeated pregnancies, abdominal tumors, etc. (2) Pressure of badly-fitting clothing, belts, or corsets. (3) Chlorosis, as described by Meinert. (4) Nervous dyspepsia. (5) Displacements of the female genitourinary organs. (6) Curvature of the spine. (7) Enlargement and increase in the weight of the liver by neoplasms, etc. (8) Lastly, traumatism. Gastroptosis is far more common in women than has been generally supposed, and in nearly all women who complain of symptoms of gastric motor insufficiency, the underlying condition is gastroptosis. It is about four or five times more frequent in women than in men. Although it is more common in women who have borne children, and in those with relaxed and pendulous abdominal walls, and in whom diastasis of the recti muscles exists, nevertheless it often occurs in young nulliparous women in whom the recti muscles are closely approximated. It exists at all ages, but is commonest in early adult life. It is, moreover, found in early childhood. Probably enteroptosis and gastroptosis exist more frequently in children than is generally supposed. Indiscretions in diet are a very widespread and important factor in the pathogenesis of gastroptosis. Enteroptosis is generally believed to be the primary factor physiologically, and to precede the gastroptosis. It would seem that the liver is the primary factor in many cases. Runeberg's method of examination—inflation with air through the stomach tube, following lavage—should be employed. Percussion will then outline the organ. The characteristic symptoms of gastroptosis are those of gastric motor insufficiency, plus nervous influences. In the cases in which there is pyloric obstruction, the symptoms are much exaggerated. The writer sums up the indications for treatment as follows: (1) To relieve the stagnation and fermentation, and to increase the motor power or peristaltic activity of the stomach. (2) To furnish support to the stomach and other abdominal viscera, thus relieving local congestion and symptoms of weight. (3) To tone up the general health and mental attitude of the patient. The means at our disposal are hygiene, diet, lavage, and drugs; massage and exercises to strengthen the abdominal muscles; mechanical support, when indicated; and, in bad cases, with exaggerated symptoms, unrelieved by other means, operation.—*University of Pennsylvania Medical Bulletin.*

The Prophylaxis of Certain Diseases Incident to Camps in Time of War.—The three diseases considered by H. G. Geddings are typhoid fever, smallpox, and measles. He says that, to guard against the appearance of typhoid fever in a military command, the following points must be borne in

mind: (1) early recognition and positive diagnosis; (2) absolute disinfection of the discharges of all (hospital) febrile cases; (3) rigid policing and disinfection of all camp latrines; (4) guarding of water supplies from infection, not only by careful prevention of direct contamination, but by foresight in the location of latrines in relation to the sources of water supply; and (5) the employment of every possible means to prevent the multiplication of flies, and the invasion by them of kitchens and messing places. In smallpox the same precautions are necessary, and, in addition, immediate isolation. In large camps or in the field, it may be necessary to burn all articles exposed to contagion. Before returning to duty the patient, after completing the process of cicatrization, should be subjected to an antiseptic bath, particular attention being paid to cleansing the hairy scalp. In camps, measles spreads with the rapidity of a brush fire. Early diagnosis and immediate isolation are called for, as in smallpox. Special hospitals should be used, and the disease treated as a serious malady, for such it is in camp life. Especially is it essential that patients should not be returned to duty too early, or until they have fully recovered their strength, and, in the interest of others, it is urgently recommended that they be not returned to duty until the desquamative process is entirely completed and the patient should be, as in the case of smallpox, subjected to an antiseptic bath, with particular attention to the scalp, beard, and other regions likely to harbor infection.—*Journal of the Association of Military Surgeons.*

Sensations in Drowning.—James A Lowson describes his experience when dragged under water with a foundered ship. He struck out to reach the surface, but only went further down. This exertion was a serious waste of breath, and after what appeared to be ten or fifteen seconds the effort of inspiration could no longer be restrained, and pressure on the chest began to develop. The most striking thing to be remembered was the great pain in the chest, which increased at every effort of expiration and inspiration; it seemed as if he were in a vice which was gradually being screwed up tight, until it felt as if the sternum and spinal column must break. The "gulping" process became more frequent for about ten efforts, and hope was then extinguished. The pressure after these gulps seemed unbearable, but gradually the pain seemed to ease up, as the carbonic acid was accumulating in the blood. At the same time the efforts at inspiration, with their accompanying gulps of water, occurred at longer and longer intervals. The writer's mental condition was then such that he appeared to be in a pleasant dream, but still had enough will power to think of friends at home, etc. Before finally losing consciousness the chest pain had completely disappeared, and sensation was actually pleasant. Consciousness returned, he found himself on the surface of the water (probably from the action of the life-belt), and finally managed to reach shore. His after-experiences are fully described. He hopes that death by drowning will not again be described as a pleasant death.—*Edinburgh Medical Journal.*

Practical Diagnosis of Gastric Ulcer.—A. L. Benedict states that, in cancer of the stomach, we should determine the location, degree of malignancy, tendency to ulceration, scirrhous massing, metastasis to neighboring organs, and the various complications. Among other points in the diagnosis of cancer he gives the following: Chemic changes usually follow cancer, but are not essentially due to it. Hemorrhage is suggestive of gastric ulcer, but of other conditions as well. Urea is diminished in advanced cancers; the red blood cells are reduced to about 2,000,000 per c.mm. The state of the lymphatic system is particularly diagnostic, the nodes about the clavicle and in the axilla being enlarged in fairly advanced cases, and perhaps more especially on the left side. There are two signs which may be considered as fairly pathognomonic. The first is a cadaveric odor (not merely a bad breath) emanating from the stomach. The second is the finding of cancer nests in the stomach contents; but several of these should be found before a positive diagnosis is made.—*Medicine.*

Rheumatoid Arthritis as a Cerebrospinal Toxæmia.—R. Llewellyn Jones says that opinion as to the nature of this disease has for some time past been divided, some ascribing to it a nervous origin, others attributing it to a chronic infection. The author thinks it probable that the whole truth lies in a "combine," allotting causality to the microbe and its toxins, on the one hand, and granting to the nervous system the minor rôle of being the medium through which and by which the clinical phenomena are colored. He describes the researches whose results have convinced him that there is no essential difference between rheumatoid arthritis and Raynaud's disease. Grave's disease is also frequently associated with it. Scleroderma has been noted in association with Raynaud's disease, likewise with Grave's disease, and also with rheumatoid arthritis.—*Edinburgh Medical Journal.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending February 7, 1903:

SMALLPOX—UNITED STATES.

		CASES	DEATHS
California, San Francisco	Jan. 18–25	8	1
Illinois, Chicago	Jan. 24–31	14	3
Indiana, Elwood	Jan. 24–31	2	..
Evansville	Jan. 24–31	4	..
South Bend	Jan. 24–31	1	..
Kentucky, Lexington	Jan. 24–31	12	..
Newport	Jan. 24–31	1	..
Maine, Biddeford	Jan. 24–31	20	..
Maryland, Baltimore	Jan. 24–31	2	..
Massachusetts, Boston	Jan. 24–31	7	1
Haverhill	Jan. 24–31	3	1
Michigan, Grand Rapids	Jan. 24–31	9	..
Nebraska, Omaha	Jan. 24–31	1	..
New Hampshire, Manchester	Jan. 24–31	3	..
New Jersey, Camden	Jan. 24–31	4	..
Hudson County, including Jersey City	Jan. 25–Feb. 1	5	..
Newark	Jan. 24–31	2	1
New York, New York	Jan. 24–31	3	1
Ohio, Cincinnati	Jan. 23–30	12	..
Cleveland	Jan. 24–31	10	3
Dayton	Jan. 24–31	1	..
Pennsylvania, Altoona	Jan. 20–31	6	5 imported from Pittsburg.
Erie	Jan. 24–31	9	..
Johnstown	Jan. 24–31	10	1
McKeesport	Jan. 24–31	3	..
Philadelphia	Jan. 24–31	29	4
Pittsburg	Jan. 24–31	16	6
Pottsville	Jan. 24–31	11	..
South Carolina, Charleston	Jan. 24–31	3	..
Greenville	Jan. 17–24	1	..
Tennessee, Memphis	Jan. 24–31	2	..
Utah, Salt Lake City	Jan. 17–24	16	..
Washington, Tacoma	Jan. 18–25	1	..
Wisconsin, Milwaukee	Jan. 24–31	8	1

SMALLPOX—FOREIGN.

Canada, Hamilton	Jan. 1–31	1	..
Winnipeg	Jan. 17–24	1	..
France, Marseilles	Dec. 1–31	..	37
Great Britain, Birmingham	Jan. 10–17	1	..
Bradford	Jan. 10–17	35	..
Dublin	Jan. 10–17	2	..
Liverpool	Jan. 10–17	42	2
London	Jan 10–17	2	..
Manchester	Jan. 10–17	16	1
Nottingham	Jan. 10–17	13	..
India, Bombay	Dec. 23–Jan. 6	..	18
Italy, Palermo	Dec. 27–Jan. 30	24	1
Mexico, City of Mexico	Jan. 11–18	3	..
Russia, Muscow	Jan. 3–10	3	1
Spain, Malaga	Dec. 1–31	..	10
Straits Settlements, Singapore	Dec. 13–20	..	1

YELLOW FEVER.

Columbia, Panama	Jan. 19–26	4	2
Ecuador, Quayaquil	Jan. 3–17	..	35
Mexico, Vera Cruz	Jan. 19–26	4	..

CHOLERA—INSULAR.

Philippines, Manila	Dec. 7–13	7	5
Provinces	Dec. 7–13	318	207

CHOLERA—FOREIGN.

Malta, Quarantine Island	Jan. 17	7 from Alexandria.	
Egypt Alexandria	Jan. 5–12	1	..
Straits Settlements, Singapore	Dec. 13–20	..	5

PLAGUE—INSULAR.

Hawaii, Honolulu	Jan. 18	..	1

PLAGUE—FOREIGN.

India, Bombay	Dec. 23–Jan. 6	..	341
Karachi	Dec. 21–28	30	20
Mexico, Mazatlan	To Jan. 5	..	60

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Original Articles.

THE TREATMENT AND CARE OF CONSUMPTIVES AT THEIR HOMES, AND THE URGENT NEED OF LOCAL SANATORIA.*

BY S. A. KNOPF, M.D.,
NEW YORK.

THE ideal treatment of the sufferer from pulmonary tuberculosis in nearly all the stages of the disease is the sanatorium or institutional treatment, under such climatic conditions as will permit the patient a well-nigh constant sojourn in the open air, day and night, and at all seasons.

The ideal, however, is not always attainable. For this sanatoria must be situated everywhere. Fortunately, with our modern methods of treatment, admirable results have been obtained in sanatoria situated at relatively moderate altitudes, even at sea level, and under climatic conditions which have formerly been considered almost detrimental to a successful treatment of phthisis pulmonalis.

The number of sanatoria for the treatment of consumptives—rich, poor, and of moderate means—is, as you know, as yet very limited. While I am happy to state that there is an extensive propaganda in favor of them, I desire, right at the beginning, to say that we need a great, great many of such institutions.

Conditions, however, exist and will arise with which the general practitioner is confronted which makes the removal of a patient to a sanatorium impracticable and unwise, and in some instances impossible. First, there are, as has been stated, as yet not enough institutions, and there may be no room in the sanatorium to which the physician desires the patient to be admitted, or the patient may have a personal aversion to institutional life. Again the patient may be too feeble to undertake the journey, or the fear of separating himself from his family may be so intense that the physician, not wishing to add nostalgia to all the other troubles of the invalid, hesitates to have him taken away. Lastly, the patient may be intelligent, obedient, and socially so situated that a veritable sanatorium treatment at home can be inaugurated. Then the family physician can replace the sanatorium physician, and a thorough treatment can be carried on from which the same favorable results may be expected as can be obtained in a sanatorium.

In order to do this we must imitate as far as possible all the educational, hygienic, dietetic, and therapeutic measures in the home of the patient which are in vogue in the best conducted institution or closed establishments exclusively devoted to the treatment of patients suffering from pulmonary tuberculosis. In other words, we must have a sanatorium treatment at home.

Now let us see how this may be accomplished.

The educational measures are, of course, the first to be inaugurated. The patient must know that, though he is at home, he is no longer at liberty to do as he pleases, but that his life is to be regulated by the physician in charge. He must be impressed with the fact that from now on he must labor to get well. While, of course, the greatest kindness and forbearance should be exercised, the patient must understand that carelessness with his expectoration will not be tolerated. He must not expectorate anywhere except in a proper receptacle,

FIG. 1. FIG. 2.

FIG. 1.—Elevated Spittoon, entirely of metal. Closed.
FIG. 2.—The same, when in use.

be this a stationary spittoon (preferably elevated), Figs. 1 and 2; a pocket-flask of metal (Figs. 3, 4, and 5), glass (Fig 6), or pasteboard (Figs. 7 and 8); rags or cheap handkerchiefs, which must be carried in a rubber pouch or a pocket lined with impermeable material. The spittoons should be regularly cleaned

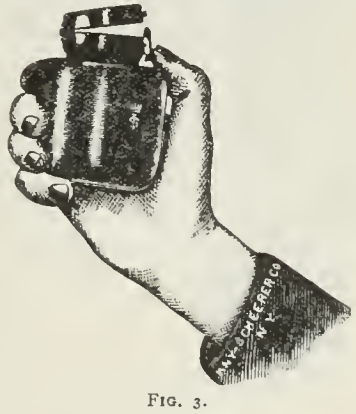

FIG. 3.

FIG. 3.—Nickel-plated, oval-shaped pocket flask. Manageable with one hand.

and disinfected, and the pasteboard receptacles and rags burned after use. If the patient is very much enfeebled, he should have a light mug of aluminum near his bed, to expectorate in, and, if he is helpless, moist rags should be used to receive his expectoration, and the nurse should see to it that

*Read before the New York Academy of Medicine, February 5, 1903.

these rags are burned before they have a chance to dry.

Drop infection should be avoided at home, as it is in sanatoria, and during the so-called dry cough, sneezing, etc., the patient should hold a handkerchief before his mouth. The soiled personal and bed linen of the patient should be handled in the dry state as little as possible, and be boiled before being put with the general laundry. The patient must be so educated as not to cough unless

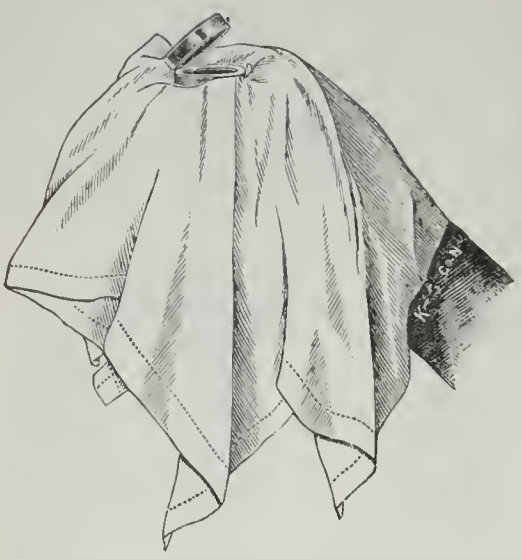

Fig 4.

Fig. 4.—Pocket flask, hidden in the folds of a handkerchief.

he has to expectorate. The yielding to cough because the throat happens to tickle must be considered as impolite at home as it is in a sanatorium, and the patient must learn to discipline himself in this respect. Another point of education I consider warning the patient of the possibility of a hemorrhage. While he should be asked to report any reddish expectoration, or real hemorrhage, he should be taught not to be alarmed at the appearance of a little

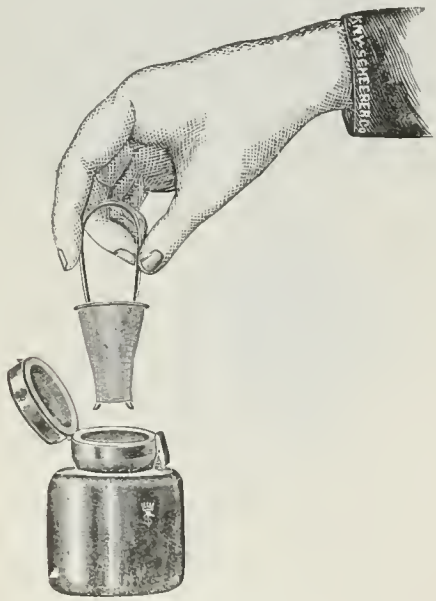

Fig. 5.

Fig. 5.—Method of emptying the flask.

blood, for hemorrhages are a phase of the disease, and do not lessen the chances of cure. Whenever he notices blood in his sputum he should quietly go to bed, take a drink of cold water, or take some cracked ice in his mouth, and send for the physician. Every morning the physician in charge of the patient should make out a schedule of the work the patient has to do during the day: At such an hour he rises, at such time he takes his douche, at such time his meals, at such his walks, at such his breathing exercises, and so on.

Although we should occupy the patient all day with something to get him well, this occupation must be of a nature not to depress him. Thus, for example, I am thoroughly opposed to have the patient take his own temperature every two hours, as is the custom in some institutions. Whenever practical, the temperature should be taken by the nurse or physician. The patient should be kept hopeful and cheerful. Visitors should be allowed to see him, but not too many nor too often. He should be particularly impressed with the rule never to talk to anyone about his disease or symptoms except his physician or nurse, and never to listen to the stories of other patients. The patient should have

Fig. 6.

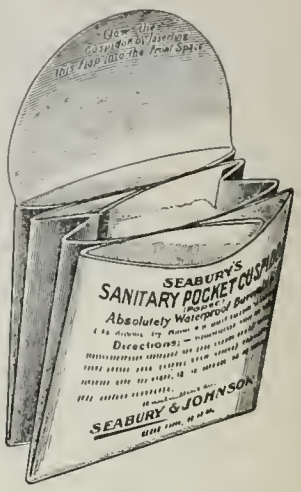

Fig. 7.

Fig. 6.—Blue glass sputum flask. Manageable with one hand.
Fig. 7.—Pocket Sputum purse of pasteboard. Designed by Major Appel, U.S.A.

at least nine hours' sleep, and from half an hour to an hour's absolute rest on the reclining chair before and after his principal meals.

In regard to the personal hygiene of the patient, we must, of course, pay the necessary attention to dress. A consumptive should dress sensibly, comfortably, and according to the season. He should avoid heaping successive layers of clothing

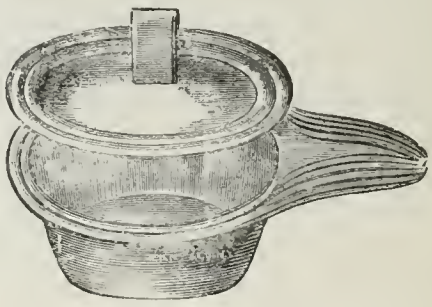

Fig. 8.

Fig. 8.—Pasteboard sputum cup for bedside.

upon himself, especially in the line of so-called chest protectors. These latter, or the numerous woolen undershirts often worn by the pulmonary invalid, are in many cases the very cause of contracting repeated colds by rendering the individual too sensitive. As to what is the most suitable and rational underwear in general, and especially for a consumptive, there is as much difference of opinion among physicians and sanitarians as there is concerning the most disputed points of medicine. To suit the individual case seems to me as essential

here as in other branches of phthisiotherapy. The climate in which the patient lives must be, of course, also taken into consideration. Moderately thick and loosely woven wool of different grades, according to season, has been, perhaps, most frequently recommended for the inhabitants of countries situated in the temperate zone; yet in many portions of Germany, Austria, and Russia sick and well people wear nothing but coarse linen next to their skin. Many people, sick and well, in this country wear cotton, and would not wish to wear anything else; others wear nothing but half cotton and wool; others nothing but silk.

The advocate of any of these systems will be able to say something in favor of his particular one. There seems to be a great deal of truth in what Professor Rubner stated in his article on "Bekleidungsreform und Wollsystem,"* that one can clothe oneself sensibly with other material than wool, if one keeps in view the principles of rational clothing; no overwarm garments and good ventilation of them, homogeneous evenly woven tissues, the layer next to the skin not too thin, and as little difference as possible in conductibility of the tissue in its dry and moist condition. Thus, I believe, so long as our patients do not wear absolutely too warm or too much underwear, we can well afford to let those who are accustomed to wear this or that brand of woolen or half-woolen undergarments abide by it, especially when these patients are in the more advanced stages of the disease. When through a proper course of hydro-, aero-, and heliotherapy the patient has become less susceptible to temperature changes, lighter or different underwear may be thought of. Yet we should be careful in selecting the proper season for such a change, and the most opportune time for a change from heavy to lighter underwear is, of course, when the weather is becoming warmer.

A substance which is not overwarm, as Professor Rubner puts it, and which assures good isolation, would certainly be linen if it could be woven thick and porous enough to meet the other requirements concerning the conductibility in its dry and moist condition, and porosity. Such thickly woven and widely meshed linen underwear has been manufactured in Germany under the direction of that strange genius Father Kneipp, who, in spite of having been an empiric, had certainly some very sound ideas on hygiene. I experimented with Kneipp's underwear on myself some years ago and found that, when one gets accustomed to it, it is, as a rule, warm enough for any season. These garments should be warm enough here, where our houses are nearly always overheated, especially as there are heavier grades made for the winter. When going outdoors, one can protect oneself against the rigorous cold by proper outdoor garments. This linen underwear produces a pleasant constant friction on the cutaneous surface, which counteracts rapidly the first sensation of chilliness which one experiences when the linen touches the skin. As a means of hardening a tuberculous invalid, or as a prophylactic factor in the predisposed individual, I recommend a trial of this or similar kind of linen underwear; but, of course, as I said above, not without having prepared him for the change by cold douches, open-air treatment, etc. Babcock of Chicago, Tilden of Denver, and Ambler of Asheville, have of late become quite enthusiastic advocates of the linen-mesh underwear, which is now manufactured in this country by Dr. Deimel. In a recent paper on the subject, Ambler expresses himself as much pleased with the experience he has had with the linen-mesh underwear with a number of his tuberculous patients.

Consumptives should have warm outer-garments for winter, but not so heavy as to hamper their movements.

Whenever and wherever conventionalism does not reign supreme, the starched linen should be replaced by the light, woolen negligee shirt. It permits better ventilation and freer respiratory movements. Men with a good head of hair need not fear to go uncovered at times, but all, even those with thin hair or bald heads, should not wear too heavy hats or caps, and should always have them well ventilated.

As a matter of personal hygiene, I should, whenever possible, insist that tobacco should not be used in any form whatsoever. There is no doubt in my mind that the congested condition of the mucous membrane of the upper air passages (nose and throat) so frequently found in smokers, is exclusively due to the excessive use of tobacco. Smoking of cigarettes should be considered particularly dangerous for the pulmonary invalid. Patients who are addicted to the use of cigarettes have confessed to me that when smoking they no longer had any desire to breathe deeply. It seems as if the smoke thus inhaled partially paralyzes the respiratory centers.

For women I would recommend the Lady Habberton or Jenness Miller dress-reform. I have described it elsewhere* in full, and only desire here to say that according to the fundamental rule of dress-reform as advocated by the ladies just mentioned, the garments are arranged so that they follow the symmetric lines of the female form, and in all possible cases are made of one piece. All under- and outer-garments are so arranged that the whole weight of them is supported by the shoulders, and no pressure whatsoever brought to bear upon any of the vital organs in either thorax or abdominal cavity.

Tight neckwear should not be allowed to either man or woman. There should be absolute freedom of movement of all portions of the throat and neck.

The hygienic bath, that is to say, a good, hot soap bath once or twice a week, in order to keep the skin in good condition, should be prescribed to the phthisical patient whenever his condition will permit this. In many homes of the poor it will be necessary to content ourselves with the English tub and sponge, instead of the luxurious bathtub.

As to the general hygienic measures which should be practised in the home of the consumptive, much will, of course, depend on the situation of the home and the financial condition of the patient. In the city home of the wealthy a whole floor should be placed at his disposal, and in a country home an extension should be built with an open front to make life in the open air possible day and night. I show you here a picture (Fig. 9) which illustrates the manner in which my friend, Dr. Millett of Brockton, Mass.,** arranges for open-air treatment in a small eastern town. The extension connects with a comfortable, southerly exposed bedroom, and, weather permitting, the bed is rolled outside, so that the patient lives virtually in the open air day and night. Wherever such special arrangements are not possible, at least the

Zeitschrift für Diätetische und Physicalische Therapie, Vol. II, No. 1.

*"Pulmonary Tuberculosis; Its Modern Prophylaxis and the Treatment in Special Institutions and at Home." P. Blakiston's Son & Co., Philadelphia, 1899.

** "The Night-air of New England in the Treatment of Consumption," *Maryland Medical Journal*, January, 1900.

largest, pleasantest, sunniest, best ventilated room should be given up to the patient. Drafts should be avoided as far as possible, but this precaution must not be carried to extreme, so as to make the patient afraid of a breath of fresh air. If the bedroom is too small to make it possible to place the bed so as to avoid the direct draft from the open window, a substantial screen should be used as a protection. The carpet, heavy curtains, and superfluous furniture should be removed without, however, leaving the room cheerless. Small rugs and curtains that can be washed may be retained. There should never be any dusting in the room of the patient; furniture and floors should be wiped off with a moist rag.

The diet of the patient should, of course, be the very best and adapted to his needs. There should not be such a thing as an iron-clad dietary list for a consumptive, and I have long since learned that one has the greatest success by studying the idiosyncrasies of every consumptive, not only in regard to medicinal remedies, but also in regard to diet, and I almost would venture to say that to know what the patient can or cannot digest or assimilate is the keynote to success. My venerable master, Professor Dettweiler, used to say *la cuisine est ma pharmacie* and I think this should be so.

Permit me to read to you the fundamental rules in regard to diet which I give to all my patients: Live on a mixed diet—that is to say, meat, fish, vegetables (especially spinach, lentils, etc.), fresh and cooked fruit, plenty of fresh milk, fresh eggs; all sorts of easily-digested fats (not pork), butter is especially to be recommended. Thick, nourishing soups should be taken with the principal meals. Raw, chopped, or better yet, scraped, beef is especially to be recommended. Whole-wheat bread, being more nourishing than white bread, is to be preferred. Eat slowly, chew your food well, take the milk in small swallows; take but little liquid during and shortly after meals. Never take any alcoholic beverages (wine, beer, or liquor) without special consent and the direction of the physician. Too much sweets (sugar, pies, pastry, etc.) should also be avoided, as well as all kinds of fried food. Take plenty of salt with all your food. Between meals drink plenty of good, pure water. If experience teaches you that any particular kind of food disagrees with you, report it; also report any intercurrent trouble whatever it may be, such as indigestion, diarrhœa, constipation, increased cough, pain, etc. Keep your teeth in good condition by using the toothpick freely and brushing the teeth after each meal.

As it is not the object of this paper to touch on the medicinal treatment of tuberculosis, which certainly can be the same, whether in a sanatorium or at home, I will refrain from mentioning any purely medicinal adjuvants in the dietetic treatment of the consumptive. There is, however, one mechanical means to improve the often-impaired digestion and facilitate natural assimilation, and that is a regular, carefully-applied massage.

To the physician who has tried to practise massage himself it will be known that the bed is the most inconvenient place to perform this operation. To improvise the massage table in a private home, all that is necessary is to place a large board, about five feet long and two feet wide, on the bed and cover it with a moderately-soft mattress and a sheet. You will thus have a good resisting plane on which to place your patient. In view of the fact that we try to overfeed our patient, giving him more to eat than he can assimilate under ordinary circumstances, I look upon massage as a most valuable adjuvant in phthisiotherapeutics.

How can we install a proper aerotherapy at home? I have already spoken of the extension in a country house and the situation and furnishing of the room in the city. But in order to make the rest-cure and the constant life in the open air or in front of the open window endurable, we must seek to make the life of the patient as interesting as possible. The place to put the reclining-chair on which the patient has to remain for hours at a time, should, whenever possible, be so located that the eye looks on something pleasing. A pleasant view, southern exposure, protected against wind, and a dust-free atmosphere is often not easy to obtain, so that the ingenuity of the physician may be taxed to the utmost in order to obtain pleasant and suitable environments, when the patient takes his rest-cure. Occasionally I arrange the flat roof of an apartment or tenement-house for that purpose. I know of a *confrère* who utilized the fire-escape of a tenement-house, but since this is contrary to the law, I do not feel that I can recommend this method of giving the open-air treatment. When it is possible to place the reclining-chair in the garden, yard, or other quiet, open place, such places are to be preferred.

Fig. 9.

Fig. 9.—Permanent arrangement for open-air treatment in a country home.

No matter where the patient sits to take his rest-cure, it should be remembered that he must be comfortable and that the chair on which he lies must be so built as to allow a complete relaxation of all the muscles. He must be protected against cold winds, and he should equally be warned not to expose his head to the direct rays of the sun, to avoid headache and dizziness. His whole body may be bathed by sunshine, but his head should be in the shade. There are many reclining-chairs in the market. The typical sanatorium chair, of which I show you a picture (Fig. 10), has a comfortable bend under the knee and the back can be inclined to suit the patient. In the homes of the poor we often must replace the costly reclining-chair by a cheap, not uncomfortable steamer-chair. When in the garden, yard, or on the roof, the patient can be conveniently protected against the wind, sun, and also against the gazes of his neighbors with the help of a beach chair of wicker work, such as are used in fashionable seaside resorts. By taking out the seat and lining the inner walls with

padding, and then placing the reclining-chair inside, the patient is completely protected.

Another way of facilitating the outdoor rest-cure is the construction of a sort of half-tent, which I take pleasure in illustrating here (Figs. 11 and 12). As you see, it is composed of a steel frame, which can be folded together when not in use. Over this frame tight woven strong duck is stretched, so as to completely protect the patient against wind and sun. Into this half-tent the reclining-chair is placed in such a manner that the floor bracing, attached to the frame, is held down, and thus there is no danger of it being overturned, even if the wind is relatively strong. This protection can, however, also be procured at a much more reasonable rate by nailing together a few boards imitating the three walls and ceiling of the wicker basket or the half-tent. (In the home where there is ample veranda space such extra appliances become less necessary.)

When resting outdoors the patient should always be comfortably warm, and in winter he should be supplied with furs, and, if necessary, with a hot-water bag at the feet. The patient, when in the afebrile state, should take his regular walking and breathing exercises in the open air; the former, as well as the latter, should be regulated by the physician. They should never be left to the caprice of the patient. When there is fever there should be no exercise, and when the fever is high absolute rest in bed is essential. If moderately high, the patient may be allowed to alternate the rest in bed with the rest on the reclining-chair, but rest in bed as well as

Fig. 10

Fig. 10.—Typical sanatorium chair.

on the reclining-chair should always be in fresh, pure air.

Considering the walking and breathing exercises, I like to impress upon my patients the one fundamental rule, never exercise when tired and never to the extent of getting tired. To determine the distance the patient may walk, the thermometer in the hands of an observing physician is the best guide. Let the temperature be taken before and after the walk, and if experience tells that a half-hour's walk can be taken without a perceptible rise of temperature, but that an hour's walk is always followed by a rise of temperature of a degree or more, the physician will be able to regulate the prescription for walking with an almost absolute safety and certainty.

I consider breathing exercises a most valuable factor in the aerotherapy for phthisical patients. I have repeatedly published* these exercises, and I do not think it necessary to again describe them here in detail. I recommend them with certain modifications to all children and adults who breathe faultily; to the anæmic and those predisposed to consumption, and to the chronic tuberculous patients. As I said above, these exercises are never to be taken when the patient is tired, and I may add to this prescription, never after a hearty meal, never when uncomfortably or tightly dressed, never in an overheated room, or dusty or otherwise vitiated atmosphere. The purpose of these exercises is, of course, above all, to restore the faulty respiratory function, to facilitate hematosis, and indirectly facilitate expectoration and diminish cough.

Let me, however, in connection with breathing exercises, call your attention to the value of massage in developing the thoracic muscles. It is my rule never to inaugurate the breathing exercises with a patient until I have somewhat developed his usually much atrophied pectoral muscles by massage for a number of days.

For ambulant consumptives the pneumatic cabinet will also prove a valuable adjuvant in aerotherapy.*

Before leaving the subject of aerotherapy I feel that I must say a word or two on solartherapy. This adjuvant in the treatment of consumption has, I believe, not received sufficient consideration, and it is regrettable that in many well-equipped sanatoria so little attention is paid to the great advantage of a judicious exposure of the whole body in its nude state to the air and the rays of the sun at the same time. I speak from personal experience when I say I value most highly the carefully conducted solartherapy in the treatment of consumption. I confess that it is not always easy to find a suitable room for that purpose when treating patients in their homes, for neighboring windows are often near, and it will be necessary to use screens and other devices to assure the necessary privacy. In some instances, one may be able to build a special sun-room on top of a city house, in which case the treatment can be carried on with relative ease.

Let me rapidly give you here the directions for solartherapy: In winter the room should be heated to from 70° to 75° F. By and by the patient's skin will be less sensitive to the air, and the temperature of the room can be decreased. The room must always be well ventilated. In summer the upper parts of the windows can be left open.

As to the *modus operandi* of the baths, I recommend the following: The patient undresses entirely, but if he complains of cold feet he can keep his stockings or even his shoes on until he has become warm enough, and desires to take them off. He places first a warmed sheet around his body and then a large blanket; he then lies down on the floor in the sun, his head in the shade and slightly elevated by a cushion. As he begins to feel the warmth of the rays of the sun, he uncovers himself gradually until the whole of his body is exposed to the rays; he exposes his back by turning on his chest. He remains in the sun-room for from half an hour to two hours, according to the direction given him by his physician. He may change the recumbent to the sitting position or walk about. Like all the curative agents in the treatment of phthisis, the carrying out of this solartherapy should never be left to the caprice of the patient. Too much exposure to the hot rays may cause an erythema, an urticaria, or

*Knopf: Article on "Tuberculosis" in "Twentieth Century Practice of Medicine," Vol. 20, and Lecture on "Respiratory Exercises," *Johns Hopkins Hospital Bulletin*, Vol. XII, No. 126.

*Quimby: "The Pneumatic Cabinet in the Treatment of Pulmonary Phthisis, "*International Medical Magazine*, January, 1893.

Knopf: "Pulmonary Tuberculosis; Its Modern Prophylaxis, etc." P. Blakiston's Son & Co., Philadelphia, 1899.

other cutaneous troubles. To prevent these latter, I tell my patients to cover themselves with one or even two layers of the sheet when the sun's rays produce a slightly burning sensation. Should these cutaneous complications occur nevertheless, the sun-baths must be omitted for a time and the skin bathed in tepid water, and friction with lemon-juice applied. Headache, or a feeling of discomfort, is the signal to stop, no matter how short a time the bath has lasted. A high temperature is, of course, a contraindication to sun-baths. Such patients must remain in bed. Slightly feverish patients may be allowed to try solartherapy, but when experience shows that an elevation of temperature follows, the baths must be discontinued. While taking his sun-baths, the patient should perform frequent abdominal and thoracic breathing exercises.

We now come to hydrotherapy, which, to my mind, should play a most important part in home as well as in sanatorium treatment of consumption. Of course, it is essential that the skin and nervous system should be gradually accustomed to the use of cold water. This can be done first by dry friction, then by friction with alcohol, then friction with alcohol and water, and finally with water alone. While, as a rule, effective hydrotherapy can be employed in any home in which there is a bath-room and a faucet to which a hose can be applied, those of us who have experience in the practice among the poor know that in many of our tenement-houses a bath-room is still an unknown luxury. In such cases, as well as in those in which a visit to the bath-room is either inconvenient or not safe, I resort to the following simple method: A wooden chair is placed in a large, circular, English bathtub, and the patient sits astride the chair, holding the back with his hands and bending his head slightly forward. Then two, four, or more pitchers of cold or tempered water are rapidly poured over the shoulders. In cases in which the reaction is feeble the patient is quickly put back into his warm bed, even if not thoroughly dry.

The best time to take the hydrotherapeutic application is in the morning, half an hour or so after a very light breakfast. Patients accustomed to heavy breakfasts should take such after their douche and morning walk, but should take a glass

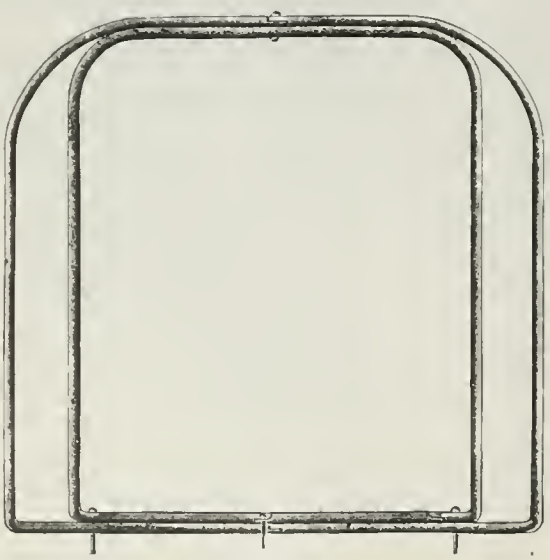

Fig. 12.

Fig. 12.—Steel frame for half-tent folded together.

of milk and a slice of buttered toast before leaving their room. A morning walk should, if possible, always precede the douche; this is for the purpose of creating what French hydrotherapeutists call a preaction.

Every douche or affusion should also be followed by a short walk or return to bed, according to the indication in the case. The cold douche should never last longer than twenty to twenty-five seconds, and one should always begin gradually, not giving

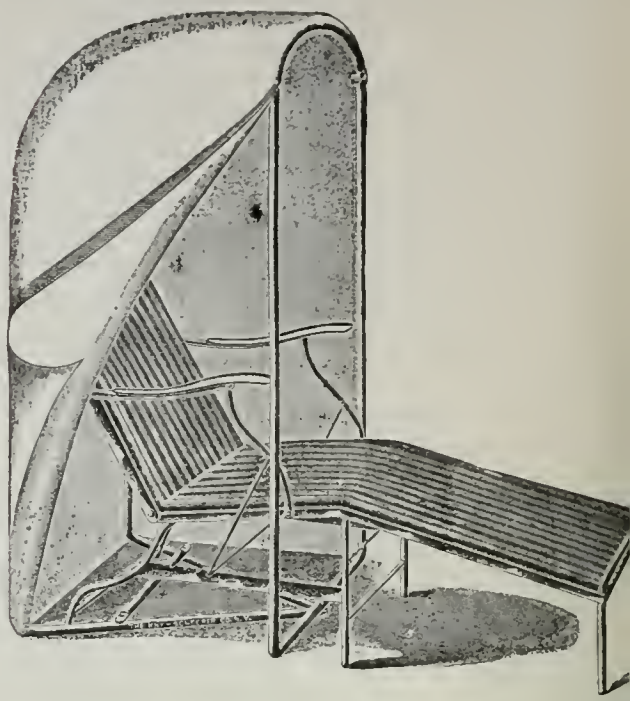

Fig. 11.

Fig. 11.—Half-tent for the rest-cure in the open air.

more than five seconds at first. The temperature may vary from 60° to 40° F. Only in exceptional cases would one need a more precise graduation of the temperature.

In patients above fifty years, it must be remembered that the usual reaction after a cold douche is slow to come, and in such cases it is best not to use the water too cold. A chilly sensation, continuing even after thorough drying and friction, should in all cases be a warning and a guide regarding temperature and duration of the douche. There are idiosyncrasies which must also be considered with some patients in regard to the application of a cold douche.

As stated already, I shall refrain in this paper from discussing in detail the various medicinal remedies used in the symptomatic treatment of phthisis pulmonalis, and I only desire to mention a few of the newer ones which have proved satisfactory in many cases. These are the creosotal—5 to 10 min. in hot milk—and the sodium cacodylate—$\frac{5}{6}$ of a grain—as rectal suppositories, as general tonics, the neutral camphorate of pyramidon—3 to 5 grains—as antipyretic, the agaricin—$\frac{1}{30}$ to $\frac{1}{15}$ of a grain—to control nightsweats, heroin—$\frac{1}{12}$ of a grain—for cough, suprarenal extract—3 to 5 grains—for hemorrhages, trional—5 to 15 grains—as hypnotic, and, lastly, hypodermoclysis, to combat the more serious symptoms arising from the secretions of the tubercle bacilli and their associates in the mixed infection.

I come now to the second portion of my paper. In the first I have endeavored to outline to you the sanatorium treatment at home, and the general practitioner will best know when he will be able to apply it. But I venture to say there is hardly a family practitioner who cannot recall cases in which his endeavors to institute a proper sanatorium treatment at the patient's home proved

utterly futile, and when he sincerely wished he could send his patient to a suitable institution in which he would receive proper care and supervision, and would have the best possible chance of a complete cure. The majority of cases in which the sanatorium treatment at home is impossible are among the poor. Those of us who are familiar with the unhygienic surroundings, the filth and dirt, the lack of light and air in many of the homes of the poor, in city and country, will know the utter hopelessness which confronts one when meeting a consumptive in such a home. In our own great city of New York where there is such an affluence of wealth and luxury you can find hundreds, nay thousands, of cases of consumptives in the various stages of the disease, living in the most densely crowded and unhygienic tenement districts without any medical attendance. I am the last to underestimate the splendid work done by our health department and its distinguished chiefs, Dr. Lederle and Professor Biggs, nor that of the newly-formed Committee for the Prevention of Tuberculosis of the Charity Organization Society, of which I am myself a member, in educating the masses as to the fundamental rules in the prevention of consumption; but the combat of tuberculosis, important as education is, cannot be accomplished by this one factor alone.

To know how to deal with the expectoration so as not to infect his fellowmen is, indeed, essential for every consumptive, but when handing to the consumptive a circular on the prevention of tuberculosis there is always the greatest care taken to inform him at the same time that his disease is curable, and it is but natural that the idea of cure should be as important to him as prevention.

But what chances of cure has he? When his chances are greatest, that is to say, in the early stages, when he is still up and about, attending to his work, he could not think of giving up work, for his family has to live; and should he have been even willing and able to go to an institution where he could pay a moderate price, he would not have found one. The few public and private purely philanthropical and semi-philanthropical hospitals or sanatoria within his reach are constantly filled. Of the 10,000 consumptive poor of this city who need institutional treatment we can hardly accommodate 800. How much longer shall our glorious city and State, known for their great charities toward all other unfortunate sufferers, distinguish themselves so sadly by their indifference toward the consumptive poor? If there is any class of sufferers deserving our greatest sympathy, and which, on account of the very nature of the disease, are often shunned, and because of the chronic character of the disease well-nigh always in financial distress, it is the consumptives.

Private and official phthisiophobia is still flourishing. We hear from California of renewed attempts to exclude consumptives, and daily do we meet with people who have a horror of the presence of a consumptive, no matter how careful he may be with his expectoration. Yet the clean consumptive is as safe an individual to associate with as any other person. In many States of the Union there is now a strong awakening to establish sanatoria, but from the reports which have reached me nearly all have difficulty in finding suitable localities because of the neighbors objecting. I have so often said and demonstrated through reliable statistics that in Goerbersdorf and Falkenstein, where five of the most flourishing sanatoria for consumptives have now been in operation for thirty and forty years respectively, the mortality from tuberculosis among the villagers has actually decreased to one-third of what it was before the establishment of the sanatoria.* This reduction in the mortality from consumption has doubtlessly been due to the sanitary habits which the inmates of the sanatoria practise and the villagers imitate.

There is not the slightest reason why our own and every other city in the United States should not have, after the example of Germany and France, enough sanatorium facilities, at least for its own consumptive poor, where the curable can be cured and the hopelessly ill be made comfortable and prevented from creating foci of infection for their own kin and neighbors. We need local State and municipal sanatoria and sanatoria created and maintained by private charity. What has already been done by States and municipalities we highly appreciate, but it is so little compared with the needs that it resembles a drop of relief in an ocean of woe. My perhaps somewhat extensive experience with the various sanatorium movements in this State and others has taught me the one thing, that whatever relief may come concerning not only the medical but also the social solution of the tuberculosis problem must come from within our own ranks.

I ask you, my fellow practitioners, and particularly those of you who have influence with the rich and mighty, to make your influence felt and appeal to them to do their duty. Describe to them the sufferings of body and soul of the honest consumptive laborer, the woman or child who must suffer and die, not because their disease is incurable, but because there is no place to cure it. Tell your philanthropic friends that, notwithstanding the statement recently made by Professor Robin of Paris that tuberculosis once established is not curable, physicians in his own country and everywhere in the civilized world cure and have cured, and lastingly cured, consumptive patients, though the disease had established itself in their system beyond a shadow of doubt. Tell them that these patients were treated and cured by the very sanatorium method which this French savant so much depreciates.

Convince them that although we have not yet found a specific for the treatment of consumption, vast advances have been made in the preventive and curative treatment of the disease during the last twenty years, and our own country has had its good share in this progress of modern phthisiotherapeutics. The results in the sanatorium treatment, thanks to a more thorough clinical knowledge and better understanding of aero- and hydrotherapy and the dietetic treatment, have shown a steady gain in the percentage of cures.

Thus, if another American philanthropist should wish to donate $7,000,000, like the generous-hearted Mr. Rockefeller, to search for a specific to cure consumption, ask him to be allowed to use the greater portion of these millions for the purchase of the worst tenements in your city and the erection of model homes for the laborer in their stead; for the establishment of a few playgrounds, for public baths, and last but not least for the establishment and maintenance of sanatoria for poor and moderately poor consumptives. You can assume the responsibility of telling the generous wealthy men and women who wish to help their suffering fellowmen the true situation, namely that $7,000,000 rightly used with our present knowledge of the prevention and cure of the disease, we could attain

*S. A. Knopf: "Tuberculosis as a Disease of the Masses and How to Combat It." International Prize Essay. M. Firestack, publisher, 110 West Ninety-sixth street, N. Y.

results to equal those that may be expected from the specific remedy yet to be discovered.

To the statesman say that every life lost from consumption represents an annual economic loss of $850; tell him that every badly ventilated workshop or tenement constitutes a danger to the public health. Ask him to enact such laws whereby ample ventilation and light shall be forever secured in public and private dwellings. There are in Manhattan over 200,000 and in Brooklyn over 125,000 dark, interior rooms without a window of any kind and having no means of light and ventilation. Such attempts as are now before our New York Legislature to cripple the work of the Tenement-house Commission and allow greedy contractors to erect tenements without light and air, veritable breeding places of consumption, should receive the just condemnation of every citizen in the land.

Tell the municipal legislator that every consumptive cured in the early stages (and 75 to 85 per cent. can be cured) will never become a burden to the community, which, when poor, he will invariably become, and that he will then cost a great deal more than six or eight months' sojourn in a sanatorium at a dollar a day. Tell your city fathers, who are always willing to listen to a just cause, that there are in nearly all our large centers of population not only hundreds, and sometimes thousands of poor consumptives without care and treatment in unhygienic homes, but that there are many consumptives without means wandering about these cities who are actually homeless. That I may not appear to you simply an alarmist, let me quote some facts concerning our own metropolis. Through the courtesy of my esteemed teacher and friend, Prof. Hermann M. Biggs, the Health Officer of this city, I have come in possession of the following statistics:

There have been in the Borough of Manhattan during the year 1902:

950 cases of tuberculosis that have died in hospitals and found to be "not known" at address given;
456 cases where no address was given;
275 cases where address given was a lodging-house; and
106 cases where address given was outside Borough of Manhattan.

1,787 cases in all.

Following is a list of hospitals in which these 1,787 homeless tuberculous cases have died:

354 at Metropolitan Hospital.
279 at Bellevue Hospital.
271 at St. Joseph's Hospital.
168 at City Hospital.
143 at Almshouse Hospital.
92 at Manhattan State Hospital.
78 at Seton Hospital.
72 at St. Luke's Hospital.
40 at Loomis Hospital.
35 at Workhouse Hospital.
32 at Lincoln Hospital.
30 at Montefiore Home and Hospital.
23 at Gouverneur Hospital.
17 at St. Vincent's Hospital.
13 at Foundling Hospital.
12 at House of Relief Hospital.
97 at various hospitals where the number of deaths was less than ten.
31 found dead in lodging-houses, hallways and other places.

1,787 cases in all.

Convince those in power that while the consumptive poor without treatment at home constitute a source of infection to their own kin and neighbors, the homeless consumptive, wandering about the city, doing odd jobs here and there, sleeping one night in a lodging-house and the next in a hallway, constitutes a source of infection far greater than a patient confined to one or two rooms. It is the homeless consumptive who spreads the disease everywhere he goes by disseminating his countless bacilli through indiscriminate expectoration.

In view of the facts presented, are you not justified in telling your philanthropic friends that we now have enough libraries, universities, colleges, churches, and even general hospitals, but that there is an urgent and crying need for local sanatoria for the consumptive poor adults, that is to say, institutions situated near our large centers of population. Plead for the establishment and maintenance of such sanatoria with all your eloquence and earnestness. Plead for agricultural colonies where to send the cured consumptive.* Plead also for seaside sanatoria for tuberculous and scrofulous children, and incidentally plead for better, brighter, and healthier homes for the poor. Make your influence felt with the sanitary authorities to improve the hygiene in workshops, factories, stores, etc. With the hygienic improvement of the home and the workshop of the laborer we will strike effectively at one of the principal causes of the spread of consumption. Persuade the people who still believe that climate alone can cure consumption that it is in reality only a secondary factor, and that excellent results can be obtained in well-conducted sanatoria in our own home climates. Tell them that the majority of the consumptive sufferers are among the laboring classes, and that it is a social and economic advantage to cure these people in the same, or nearly the same, climate in which they will have to live and labor after their restoration to health. You can even tell them that such cures obtained in our home climate are, as a rule, even more certain and more lasting than those obtained in more congenial climes.

With a few more gifts such as recently bestowed by Mr. Henry Phipps† and Mr. Charles M. Schwab,†† with ample facilities in all our States and cities for the treatment of the consumptive poor and those of moderate means, a general education as to the means of the prevention of the disease, a better housing of our laboring classes, and a judicious general improvement of their social conditions, there is no reason why our beloved America should not be the first land in the world to eradicate the great white plague forever.

*Knopf, S. A.; "A Plea for Homes for the Convalescent Poor." *New York Medical Journal*, November 1, 1902.

†Mr. Henry Phipps of New York recently gave $1,000,000 to establish in Philadelphia an institution for the study, prevention, and treatment of tuberculosis. The institution, which will be named "The Henry Phipps Institute," will be entirely independent of charity. Dr. Lawrence F. Flick of Philadelphia will be the director.

††Last year Mr. Schwab purchased sixty-five acres of land and lake on the Staten Island shore. This property is being turned into a great park playground for the children of New York. There will be facilities for bathing, nature study, play on the beach, and all sorts of outside sport. The institution is to take one thousand children every day during the summer months to this park. The total cost of the plant will reach nearly $1,000,000 and the operating expenses about $100,000 annually.

16 West Ninety-Fifth Street.

The Homeopathic Medical Society of the State of New York held its annual meeting in Albany last week. The election of officers resulted as follows: *President*, Dr. J. N. Le Seur, Batavia; *first vice-president*, Dr. E. Rodney Fiske, Brooklyn; *second vice-president*, Dr. Joseph T. Cook, Buffalo; *third vice-president*, Dr. C. A. Ward, Binghamton; *secretary*, Dr. D. G. Wilcox, Buffalo; *treasurer*, Dr. Charles F. Haines, Utica.

THE PRESENT STATUS OF SURGERY OF THE GALL-BLADDER AND BILE-DUCTS.*

By WILLIAM J. MAYO, A.M., M.D.,
SURGEON TO ST. MARY'S HOSPITAL OF ROCHESTER, MINN.

THE medical profession has been somewhat slow to accept the modern view of gallstone disease, and, although introduced at about the same time as the "appendicitis problem," it is far from as definite a solution. The reasons for this are apparent, and based upon fairly reliable grounds. The patient is usually along in years, and often, by reason of degenerative lesions or adipose tissue, not a good subject for operation, and, again, death does not often come with that tragic suddenness which ofttimes characterizes appendicitis. But all of these considerations are of minor importance when compared to the major obstacle to a proper understanding of this common malady, which is by no means the innocent disease our predecessors taught us to believe. It is the "slumbering gallstone" which stands in the way. Riedel estimates that 2,000,000 Germans have gallstones, and of these only 100,000 have symptoms. Kehr states that 10 per cent. of adults have gallstones, and only 5 per cent. of these have trouble resulting therefrom. Bevan found that 16 per cent. of the cadavers at the Rush dissecting rooms had gallstones, but he also called attention to the significant fact that the material was drawn from almshouses and charity institutions. Bevan says, "this does not fairly show the true percentage, because, as a class, these cadavers represent the people who have seen the hardest side of life." This comment is just, and applies equally to all of the collected statistics, as, almost without exception, they are drawn from large hospitals and similar institutions. This very fact indicates that the patients must have been in a condition in which the two cardinal factors in gallstone formation were most likely to be present: defective circulation of bile, and that mild infection aptly termed "stone-building catarrh."

It is altogether probable that the accepted percentage, as applied to the public at large, is too high; yet even if 5 per cent. of adults have gallstones and 95 per cent. of these peacefully "slumber," it makes the physician pause before recommending an operation. The chance of picking out the surgical case would be but one in twenty. This is not the fact, for if the calculi are really latent, one does not know of their presence unless discovered during a surgical operation for some other purpose.

The removal of slumbering gallstones under such circumstances can be compared to normal appendectomy. I do not wish to be understood as not advising the removal of latent calculi on such occasions, provided it does not seriously add to the general operative risk, especially as intelligent examination of the patient's history will often develop certain stomach symptoms which were due to this cause, and from which relief is thereby obtained. We have grown so accustomed to looking upon the colic as the one symptom of gallstones that we often, if not usually, overlook its more chronic manifestations.

The proportion of actually "slumbering" gallstones is much less than we have heretofore thought, and in a considerable number of cases the term is a relative one, and means that the disturbance is so slight that the cause is unsuspected.

This brings us to the question—what causes latent calculi to become active? There are two explanations: one that of Kehr, which lays everything to an infection, and the more generally adopted theory of mechanical interference with drainage from the gall-bladder. As a matter of fact both causes are usually present, the one depending upon the other. If the circulation of bile is free, the germs will be mechanically washed away, so that lack of drainage is a most important element. On the other hand, infection acts as an irritant to the gall-bladder, and generally induces the contractions which engage the stone at the entrance of the cystic duct. In other cases the swelling of the gall-bladder and ducts from the infection causes,of itself, mechanical obstruction. The resulting disturbance depends upon the acuteness of the infection, and upon the ability of the organ to distend. The gall-bladder, in this respect, has the advantage over the appendix, as well as a far better blood supply. Rupture and gangrene are therefore rare, and sudden death from fatal perforation does not often occur. The appendix and gall-bladder are both dependent organs with a limited outlet, and liable to stone formation, but the grade of infection in the gall-bladder is usually mild in character, while its distensibility equalizes the tension, which is so fatal a factor in the appendix, containing, as it does, the most virulent of bacteria.

The infection in the gall-bladder may die out, especially colon infections, but this is not to be expected. Normal bile is free from microorganisms, as shown by Netter and Naunyn. Mieczkowski, in fifteen cases, aspirated bile from a normal gall-bladder during laparotomy for other purpose, and all were sterile. Fraenkel, Krause, and others found normal bile to be a poor culture medium, but thick, stagnant bile a fairly good one. Bacteria may remain in an attenuated condition a long time in the gall-bladder, but, as proved by Miquot and Miyoke, capable of return to virulence under favorable circumstances.

The calculus gall-bladder was found by Mikulicz to contain bacteria in eighteen out of twenty-three cases, and numerous observers have confirmed these results. We may take it for granted that all cases of slumbering gallstones contain bacteria encapsulated, perhaps, like in an old osteomyelitis, yet needing but some interference with drainage to start into activity. Or reinfection from the intestine may occur, either directly or by way of the portal circulation and bile itself.

Under favorable circumstances troublesome gallstones may again *rest*, and the various medicinal springs which have obtained a reputation in the treatment of biliary calculus probably act by keeping up that free circulation of bile which is so essential to the well-being of the host. The *active* gallstone, as long as it has periods of latency, is debatable ground, and can be claimed by either the internist or the surgeon. It is the case of chronic and relapsing appendicitis over again. The age and general condition of the patient will, however, be a more dominant factor in this class of cases than in disease of the appendix. The question for consideration is whether, in view of the possibility, nay, probability, of further extention of the trouble, it is not wise to remove *active* gallstones early. The results of early operation for gallstone disease are remarkably good. Up to December 11, 1902, we had about 250 cases of this kind out of a total of 454 operations, with a death rate of less than 1 per cent. Robson, Kehr, Ochsner, Murphy, Richardson, and practically all of large experience give statistics which tell the same story. In over 2,000 operations of this kind, in the hands of six surgeons, there was not a single instance of reformation of the gallstones. In this field of surgery delay breeds misfortune.

Complications are due to changes in the wall of the

*Read by invitation before the Academy of Medicine, New York, December 18, 1902.

gall-bladder or involvement of the bile-ducts, and the calculi may then become but an incident in the pathological process which they initiated. Repeated infections with prolonged interference with drainage cause the walls of the viscus to become infiltrated with inflammatory products, and the connective tissue formed interferes with its elasticity under pressure, and limits its power of contraction. This introduces the element of *tension*, and results in more marked symptoms, as pointed out by Berg. The struggle is now to a finish, and either the obstructing stone is forced through the cystic duct into the common duct, there to remain, or pass out into the intestine, or it may become encysted in a thick-walled pouch composed of the remains of the gall-bladder, causing recurring attacks of inflammation. The variety of changes found in the gall-bladder remind one of a chronic appendicitis, in which deformed and partially obliterated forms with stones encapsulated ofttimes in the surrounding tissues are not uncommon. Adhesions to surrounding viscera may prevent fatal perforation, or divert it into a neighboring viscus with spontaneous discharge of the infected fluid, and, incidentally, of the calculi. Even if all the stones are so discharged, which by no means often happens, the adhesions remaining may be a prolonged source of distress to the patient. An operation in this stage is fraught with some danger, and the gall-bladder can no longer be expected to return to the normal. It may do so, but in a number of cases interference with drainage, due to some permanent change in the cystic duct, gives rise to future colics or pain.

It is in this class of cases that cancer of the gall-bladder is most liable to supervene. In 454 operated cases, we found cancer of the gall-bladder or bile ducts in twenty-one cases (5 per cent.), and in nearly all a distinct history of previous colics was elicited. All of the cases in which the gall-bladder was examined contained stones. The chronic irritation of calculi in a gall-bladder in which inflammatory changes have taken place seems to be the usual precancerous condition. This is certainly a serious factor in deciding as to operation, a one-to-twenty chance is not lightly to be risked.

The possibility that all of the stones may be expelled through the ducts is alluring to both the physician and the patient. This may happen but we have never operated upon a case in which the patient brought us stones detected in the fæces, that the gall-bladder did not contain more.

In forty-nine of our cases stones were found in the common and hepatic ducts with or without jaundice; but in any event necessitating a most serious operation. Robson found stones lodged in the common duct in 20 per cent. of his cases. Evidence that a stone has successfully passed into the intestine does not contraindicate operation; it is altogether probable that more stones remain, and the next *labor* may end prematurely, leaving one or more stones in the duct. Occasionally one finds a case in which such stones have remained for years in the common or hepatic ducts, with comparatively little trouble; but such instances are rare, and the rule is that infection of the liver ducts, and occasionally those of the pancreas, render surgical intervention a necessity, and, with the jaundice which usually coexists, the operation is far from safe.

Infection of the liver ducts introduces an element of uncertainty in the prognosis, and to this cause the majority of deaths after operation may be traced. In these cases the condition described by Eisendrath as "hepatargia," or cessation of liver function from degeneration of the liver parenchyma, may be present. Quincke found that cholangitis, secondary to colon infection of the gall-bladder, was more liable to cause acute liver degeneration than when due to the ordinary pus microorganisms, although this bacillus has a shorter life history. Talma demonstrated that either colon or typhoid bacilli injected into the gall-bladder would not infrequently travel up the hepatic ducts and cause extensive pathological changes in the liver. Lavastine recently reported six autopsies in cases of acute liver insufficiency in which these changes were most marked. In our experience this has been the cause of death in nearly one-half of the cases. The symptoms of this condition are chiefly nervous, and usually sudden in onset and rapid in their course. The only safeguard in operation upon cases with infective cholangitis is free drainage of the bile to the surface.

In 1897 we operated upon two cases in which the diagnosis of gallstones seemed certain, and in neither case were calculi found. The gall-bladder was not opened, although its walls were thickened and lacked that peculiar bluish green color characteristic of it when filled normally with bile. The operation was thought to be a mistake in diagnosis. About this time we had several cases in which we could not be sure whether the unopened gall-bladder contained calculi or not. In two instances it was incised; no stones were found, but thick mucus and bile. They were cured by drainage. During the next two years we had a small number of such cases, and finally reoperated upon the two original patients, in whom the symptoms had been continued, and obtained a cure in each by this means.

In 454 cases we have had twenty-six of this description, evidently a chronic cholecystitis without stones, but with a similar symptomatology; the colics were undoubtedly due to plugging of the bile passages with the tarry material with which the gall-bladder is ordinarily found filled. In nearly all of these cases we have, before opening and draining the gall-bladder, carefully examined the pylorus, the appendix and the right kidney to complete a differential diagnosis. In all of the cases the gall-bladder was evidently the affected organ, its walls being thickened and very often exceedingly adherent to neighboring structures. There was no evidence that stones had ever been present.

I have recently written to each of these patients to find out the present condition, and from the twenty-three letters received nineteen replies; of these fifteen write that they are well, two improved, and two unimproved. Three died as a result of the operation, from hepatargia. This death rate alone demonstrates that the infection is often more active than in gallstone disease.

A few words in regard to the principles underlying operations upon the gall-bladder and bile ducts. The most important question is that of infection, and as to whether it is acute or chronic, and especially whether or not it involves the liver ducts.

Every gall-bladder containing calculi can be looked upon as infected, although, with the free circulation of bile and nearly normal gall-bladder found in slumbering stones, it is slight, and the "ideal" operation—that is, complete closure of the gall-bladder and abdominal incision—may be performed; but it will occasionally, even then, lead to disaster—to say nothing of the danger of overlooking stones—which may and does happen to the most expert. The ideal operation has been performed largely upon these latent cases, found during other operations, and the surgical conclusions drawn cannot be safely applied to gallstones in a state of activity, which o

itself argues an infection of a more acute type. Cholecystotomy and drainage is the operation of choice in these cases. Patients suffering from active gallstones with periods of latency, in a fairly normal gall-bladder with patent ducts, are nearly always cured by this method. Drainage is continued until the bile is normal. This is a very safe operation, and, as the gall-bladder is fastened to the abdominal incision, the fundus is permanently elevated and gravity drainage through the cystic duct is even better than in the normal state. Gall-bladders with thickened walls, and especially if the cystic duct has been obstructed, are liable to give trouble after cholecystotomy, and, if possible, the organ should be removed. If the liver ducts are entirely free from involvement, then, and only then, should the cystic duct be tied and the gall-bladder excised without drainage of the bile from the liver ducts; but if the hepatic ducts are involved, free drainage of the bile to the surface must be provided for by leaving the cystic duct open. Kehr says that the hepatic ducts require drainage in 37 per cent. of cases, and, with increased experience, we believe that this is not too high a percentage.

It was in the management of such cases that we recommended the removal of the mucous membrane, the peritoneal, and as much as may be of the muscular coats being left. The cystic duct is cut across and left open in the bottom of the pouch, the outer margins of which are brought to the surface and drained in the same manner as after cholecystotomy. It gives all the advantage of temporary hepatic drainage with the permanent benefits of cholecystectomy. To cut the gall-bladder away, leaving the cystic duct open, spouting bile into the abdominal cavity, requires a quantity of drainage, and does not compare in ease and safety with the method we have described and practised. The mucous membrane of the fundus of the gall-bladder does not separate easily, but in the vicinity of the cystic duct it can be readily removed. For this reason we usually amputate the fundus and remove the mucous membrane from the lower portion. We can recommend this with much confidence, as in a considerable experience we had no deaths and no relapses. A recent writer in the *Annals of Surgery* condemns the operation on purely theoretical grounds, in which he misses the vital point of drainage from the open cystic duct, and states that I ligate the cystic duct. This is exactly what I do *not* do. In stones in the common duct, drainage of the hepatic duct is essential. This usually has been done by suturing the common duct and draining through the gall-bladder by cholecystotomy.

W. E. B. Davis first recommended leaving the common duct open after removing stones, for drainage of the hepatic ducts, and as these cases are usually jaundiced and bad subjects for operation, this time-saving practice has often proved to be of the greatest value.

In forty-nine choledochotomies we had but two deaths, and the method of Davis, in whole or part, has been the one of choice, the gall-bladder being also drained at the same time. In comparing the surgery of the gall-bladder with that of the appendix, this essential point of difference exists: in removing the appendix, every effort is made to prevent leakage from its attachment to the cæcum, while in the gall-bladder, the necessity of thorough drainage from the liver ducts out of the external incision is, in many cases, necessary to success. Of the 454 cases, up to December 11, 1902, upon which this paper is based, 438 are from the records of St. Mary's Hospital of Rochester, Minn., and sixteen occurred in the Minnesota State Hospitals for the Insane.

The operations were performed by my brother, Dr. Chas. H. Mayo, or myself.

POST-OPERATIVE MALARIA, WITH A REPORT OF TWO CASES.*

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THERE is a common idea among surgeons who live in malarial districts that there is apt to be an outbreak of malarial fever following a severe injury or an operation. Such an idea is so prevalent that oftentimes antimalarial treatment is given as a part of the preparatory treatment.

While these views are no doubt correct, yet they are not founded upon other than clinical observation, for but few observations have been made of a positive character to determine whether these cases had present a malarial infection previous to the operation. Blood examinations are not often made even when there is an elevation of temperature following operative procedures. The rise in temperature is accounted for in various ways as due to the operation, or else quinine is given as a therapeutic test to exclude malaria.

Malarial fever manifests itself in so many ways that it is not an easy matter to make a diagnosis that is at all positive without a careful blood examination by one who has had sufficient training in this character of work to be able to say whether the parasites are present or not. I know of no field where microscopic training is of greater value.

I appreciate that men have treated and diagnosed malarial conditions long before the hæmatozoon was discovered, but alas, how many ailments are unjustly called a "touch of malaria!" The expression is too often used, and many times it only shows that the case has not been diagnosed. I know too, that it is commonly taught that any temperature that resists the action of quinine is not malarial. So great an authority as Osler ("Practice of Medicine," fourth edition) says: "If the practitioner will take to heart the lesson that an intermittent fever which resists quinine is not malarial, he will avoid many errors in diagnosis." In the main this may be correct, but there are many cases to which this cannot apply. Cases vary very much in the time required and the dosage necessary to destroy a sufficient number of the parasites present in order to prevent a rise of the temperature above normal.

Thayer ("Lectures on Malarial Fevers") says of quinine as a therapeutic test: "No malarial fever which we now know resists large doses of quinine for more than three or four days. It is quite safe to say that if the process be malaria the temperature will be quite normal, or at least will have shown a marked break by the fourth day, usually earlier. If quinine fail to influence the fever, we may rest assured that the process is either nonmalarial or else that a complication exists."

This course is probably the best that could be adopted by the doctor who has no other means of excluding malarial fever. We meet cases now and then that resist the action of quinine longer than the above-mentioned period, not showing the least effect of the quinine. I had a case under my care last summer who took from thirty to forty grains of quinine for more than ten days without any appreci-

*Read before the South Texas Medical Association, at Houston, Texas.

able effect upon the temperature or upon the parasites. The quinine was given in solution and was not vomited. Then again, we have a class of cases that have a normal temperature and yet the parasites can be demonstrated in the blood. These cases need to have quinine administered to them to prevent the paroxysms which are almost sure to come unless they receive treatment.

It is to this latter class of cases that I wish especially to direct attention. These cases when operated upon are almost sure to suffer a relapse. It was a common thing during our investigations last summer to find the parasites of æstivo-autumnal fever present in the blood of malarial cases many days after the temperature had reached the normal, and the patient still taking quinine. Now by this therapeutical test one could never say how long to continue the quinine in any case of fever, and consequently oftentimes the quinine would be withheld after the temperature had reached the normal with the parasites still present in the blood in sufficient numbers to cause a relapse as soon as the vitality of the patient is slightly lowered by some injury or by some surgical procedure.

This matter of the latency of malaria in connection with surgical cases is a very interesting and important one. No one would think of operating during a known malarial infection unless in an emergency, yet I do not doubt that operations are done with fatal result in cases that might have been saved, or at least would not have suffered mutilation, had the malarial infection been recognized and thoroughly treated.

Welch, in Loomis and Thompson's "System of Medicine," says that during the first seven years of the Johns Hopkins Hospital not a case of post-operative or postpartum malaria was seen. He does not deny that cases of post-operative malaria do occur, but thinks that most of the cases diagnosed such without the microscope were due to sepsis. He refuses to accept a diagnosis other than by the microscope in these cases.

Case I.—Mrs. W. B. P., aged thirty-four years; came from Rosenberg, Tex., near the Brazos river, and a very malarious locality. She had chills and fever every Fall since living there. She came to Galveston about October 1, 1900. Soon after coming here she consulted me for a severe attack of dysentery. Numerous amœba were found in the stools. No note of a blood examination was made in my history of the case, but as I have been in the habit of making routine blood examinations in such cases, I feel sure that one must have been made. She was treated for this dysentery for about ten days and improved so much that she returned to Rosenberg apparently cured. During November and December she suffered from pains in different parts of the body and felt very nervous.

On January 17, 1901, she had a distinct chill, followed by a fever and sweat. She was given large doses of quinine. Had three more third-day chills, but after this she had no other chills, though she still felt extremely nervous, suffered more or less pain, and had a very poor appetite. Her complexion became exceedingly sallow and she lost considerable weight.

She returned to Galveston on April 7. I was consulted again on April 10. There was no history of chills or fever since January, while at Rosenberg. Said she had tingling sensations in the limbs and was extremely nervous and irritable. She had a poor appetite and complained of loss of energy. Pain in the lower part of abdomen. Menstruation regular, but painful. Was suffering from a slight leucorrhœa.

Examination showed a laceration of the perineum, a double tear of the cervix, and considerable prolapse of the uterus. The uterus was large and tender. The temperature normal. Reflexes normal, except the patellar reflex was slightly increased.

On May 6 chloroform was given, the uterus curetted, and the cervix repaired. Her improvement was very rapid. Three weeks later, under chloroform anæsthesia, the perineum was repaired. She seemed to recover very slowly after this operation. There was no suppuration from any of the stitches, but the temperature refused to go below 99° F.

I removed the stitches on the twelfth day. Temperature was normal. Result of the operation excellent. The nervous trouble she had complained of so much seemed to have entirely disappeared.

On June 30 I was again consulted for a burning sensation of the skin and pain in the joints throughout the body. As these were the symptoms that she complained of previous to the operation, I naturally became fearful that she was not going to be relieved so promptly as at first thought after doing the operations.

On July 3 I found she had a temperature of 101.5° F. She had had no chill or chilliness, and expressed surprise when I told her that she had fever. I made a careful examination, but could find nothing to account for the fever. I decided to make a blood examination, and found two groups of the tertian parasite present. I now gave her full doses of quinine, with complete relief of all the troubles of which she complained.

Her husband writes me that she is now entirely well, and as a further evidence of her good health she has presented her husband with another fine boy. It is now more than a year since she was under treatment and her health is perfect. (August 9, 1902.)

Case II.—Mrs. O. B.,* aged twenty-six years. She was admitted to the John Sealy Hospital under the care of Dr. J. H. Ruhl, September 6, 1901. Has resided in Galveston for six years, except during a part of July, which she spent in Beaumont, Tex., a very malarious district. She had typhoid fever at the age of fourteen. Since this she has been a strong, healthy girl. Menstruation begun at the age of fourteen. Normal. Was married at sixteen. One child at seventeen, and another when twenty years of age. Menstruation has been irregular and painful since the birth of last child. Severe pain in the back and both iliac regions. She has had no chill or fever since the latter part of July, 1901. She has complained of aching all over for more than a month. Her appetite is poor, feels drowsy, and has no energy.

On September 7, Dr. Ruhl, to whom I am indebted for the opportunity to present this case, operated, removing a pus tube and one ovary. Patient did well. The temperature remained normal until about the fifth day after the operation, when a slight rise in the temperature was observed. There was no evidence of suppuration that could be detected.

I made a blood examination on the 15th and found æstivo-autumnal ring forms of the malarial parasite. There was no leucocytosis.

On September 16 I again examined the blood and found many crescents and ring forms of the parasite of malarial fever. No leucocytosis present. Quinine and iron were given, and I am told by Dr. Ruhl that a perfect recovery has resulted.

Russell (*Johns Hopkins Hospital Bulletin*, November-December, 1896) reports four very interesting cases of post-operative malaria, under the title

*This case was referred to in *Journal of Tropical Medicine*, March 15, 1902, "Duration of Latency of Malarial Fever," etc.

"Malarial Infection as a Source of Error in Surgical Diagnosis." Had I the space I would present a synopsis of these cases. They are well worth studying.

Thayer ("Lectures on Malarial Fevers," page 207) reports a case of post-operative malarial fever following the removal of a cancerous tongue. The malaria was of a pernicious type.

Bell and Stewart (*Journal of Tropical Medicine*, September 2, 1901) present their findings in the study of about 400 cases of various diseases that came for treatment. Their observations are most valuable, showing the frequent association of malaria with other diseases.

Of two cases of liver abscess treated, both had malarial parasites in the blood. Two cases of appendicitis were treated, and they both had the parasites present. One of these cases developed appendicitis after the diagnosis of malaria had been made. Four abscess cases all contained the parasites of malaria in their blood. Of nine cases of shock from injury, five showed malaria present.

My studies and reading lead me to make the following observations:

1. A blood examination by the microscope should be made of every case from a malarial locality before operation. All of Texas may be regarded as malaious to a more or less degree. I am convinced by my studies of the latency of malaria that many infections that have lain dormant for weeks, and even for years, may be rekindled, and become not only a complicating factor, but may throw the balance against the patient and result in his death.

I am also of the opinion that many cases are operated on in malarial localities that could have been cured by recognizing the presence of the parasites and giving antimalarial treatment. Russell (*Johns Hopkins Bulletin*, 1896) speaks of an instance of this kind in the following words: "A patient presented herself to a surgeon complaining of pain in the lower abdomen, pelvis, and back, with chills and fever. Upon examination a mild pelvic peritonitis was found. She was advised to have the tubes and ovaries removed, and submitted to the operation. The patient had a severe chill next day, followed by a rise of the temperature to 107° F. and collapse. The blood was examined and found teeming with malarial organisms." The operation was wholly unnecessary.

I feel sure that there have been many instances in which a careful blood examination before an operation would have saved the sacrifice of the pelvic organs of the cases thought to be due entirely to diseases of the uterus, tubes, or ovaries.

2. Malarial fever is often aroused from latency to activity by some injury or surgical operation. It is here that a blood examination will not only enable one to save his patient oftentimes, but it will also relieve the strain of wearing out doubts as to the cause of a chill and high fever without having to make a therapeutical test, which at best is uncertain. Both of the cases here reported are good examples of this group of cases.

In case number one the nervous symptoms were the most prominent, and I thought them due entirely to the lacerated cervix, torn perineum, and endometritis. While all the operations I did were indicated and apparently gave relief, yet when the malarial infection was rekindled they returned and promptly again disappeared under the administration of quinine.

In case number two it would be very interesting to know what the malarial infection had to do with the pus tube; probably nothing, but in cases of this sort I think one endangers the life of the patient materially by operating at a time when the malarial parasite is present. Cases that are malarial that are not too urgent should wait until malarial treatment is given. Although this case had had a normal temperature for ten days previous to the operation, I feel sure that the microscope would have revealed the parasites.

3. Malarial fever, especially the chronic forms, bring about a most unfavorable condition for the healing of wounds and the reaction from the shock of the anæsthesia and operation. This is recognized by both the old and the modern writers on medicine and surgery. Verneuil ("International Encyclopedia of Surgery") emphasizes the above. He says: "It is especially in cases of malarial cachexia that are observed that slowness and insufficiency of repair which terminate in serious diffuse inflammations, or even in gangrene, and which are not always subdued by antiperiodic remedies."

Osler reports a case of multiple gangrene due to malaria (*Johns Hopkins Bulletin*, February, 1900).

McElroy also reports a case of malarial gangrene (*Journal of the American Medical Association*, September 14, 1901).

Marchiafava and Bignami ("Twentieth Century Practice of Medicine") say: "Chronic malaria may react upon the wound, causing difficulty in the process of cicatrization, and facilitating the pyogenous infection."

Is it not reasonable to suppose that some of the fatal cases of operation are due to the presence of the malarial parasite?

I wish to say, in conclusion, that those of us living in malarial districts have a rare opportunity for settling many of these problems by making careful and systematic blood examinations of all of our cases before and after operation.

TRACHOMA IN THE PUBLIC SCHOOLS OF NEW YORK.*

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Most of you are aware, no doubt, of the enormous increase in the number of cases of trachoma which have presented themselves for treatment at the various eye clinics in this city during the past few months, and probably you have read in the daily papers of the prevalence of this disease in the public schools of the city.

On account of the widespread interest in this condition of affairs, not only to the profession but to the public at large, it seemed a fitting time to bring the subject up for discussion before this society.

In the preceding papers the subject has been presented from a purely scientific point of view. It has been assigned to me to inform you somewhat of the conditions which exist in the public schools of New York; to tell you what has been done, and to suggest for discussion how it would seem best to meet this real evil.

It would seem well, as a preliminary, to recall the condition of affairs that existed some years ago in the various residential institutions in New York, and the great benefits which have been brought about by intelligently dealing with the matter.

As far back as 1885, Dr. Derby, in a paper read before the Academy of Medicine, on the subject of "Contagious Ophthalmia in Asylums and Residential Schools," brought this subject to the notice of the profession and the general public. As a result of this, and chiefly by the personal interest and

*Read before the New York County Medical Society, January 26, 1903.

efforts of Dr. Derby, a committee was appointed by the New York Academy of Medicine, in 1886, to investigate and report on the subject of contagious eye diseases in asylums and residential schools in this city.

This committee, composed of some of the best-known members of the profession, inspected fifty-one institutions, examining a total of 12,684 inmates, and finding 3,862 with some form of contagious eye disease—over 30 per cent.

Subsequently, an act for the better preservation of the health of children in institutions was drawn up and passed by the Legislature in June, 1886. The good effects of this law, and the great diminution in the number of cases of contagious eye diseases in these public institutions, was shown in a paper read by Dr. Derby, the consulting ophthalmologist of the Board of Health, in July of last year, in which he stated that the percentage of cases which had been perfectly enormous in some of these institutions—reaching as high as 50 per cent. of the inmates—had been reduced to from 2 to 7 per cent.

One of the most striking examples of what has been done by intelligent and persistent care and eternal vigilance is shown by the record of the Roman Catholic Protectory. In 1886 Dr. Mittendorf made an inspection of the Protectory, examining 2,137 children, finding 871 cases of contagious eye disease—more than 40 per cent. The percentage at the present time is something over 3 per cent. I can only add my testimony to that of Dr. Derby's as to the good work which Dr. Bradley has done in bringing about such excellent results, and the labor and care which he still exercises in maintaining an equally satisfactory state of affairs.

Many similar institutions, I have no doubt, can show just as good a record, and have had as careful and conscientious care as that given to the inmates of the Protectory by Dr. Bradley. I speak of the Protectory especially, because it is the only one of which I can give any personal testimony, and to show what can be done.

It must be remembered that in all these public institutions, especially in the Protectory, new cases are being constantly admitted. Were it possible to refuse admission to any child showing trachoma, it would, no doubt, be a very much simpler matter to control the disease in such an institution, and probably eliminate it altogether.

While all this good work was being accomplished in the various residential institutions, very little attention was being paid to the condition of the eyes of the children in the public schools. If children complained of their eyes, or if the teacher happened to notice anything the matter with them, they were either sent home to have their eyes treated, or referred to a school inspector. The attention of the Board of Health was called to this matter, both by the paper of Dr. Derby above mentioned and his personally advising with Dr. Lederle, and, in July of last year, a very careful inspection was ordered by the Board of Health, and made by competent men.

Thirty-six public schools were inspected, resulting as follows: Of 57,450 children examined 6,690 were found to have some form of contagious eye disease—over 13 per cent. Of these, 2,328 were severe trachoma, 3,243 were mild trachoma, and 1,099 acute purulent conjunctivitis. The percentage in the different schools varied from 3.2 to 22.2 per cent., the boys showing a larger percentage than the girls—boys, 3.6 to 28 per cent.; girls, 1 to 18 per cent.

The list of schools examined is as follows, those having the largest percentage of contagious eye diseases heading the list:

No. of School.	Location.	Pupils Examined.	Contagious Eye diseases.	Per-centage.
40	East 23d st.	1,005	224	22.7
34	Broome st.	2,550	560	21.9
7	Chrystie and Hester sts.	2,409	476	19.7
106	Mott st.	753	143	19
1	Henry st.	1,045	201	19.2
13	East Houston st.	2,211	389	17.5
15	5th st., near Ave. C.	1,659	282	17
71	76th st., near Ave. B.	1,839	293	15.9
75	East 63d, nr. 2d Ave.	736	114	15.5
96	81st st. and Ave. A.	2,537	377	14.8
37	113 East 87th st	1,581	214	13.5
2	Henry and Pike sts.	2,701	360	13.2
14	225 East 27th st	2,004	256	12.7
4	Rivington st.	1,580	195	12.3
29	Wash'ton and Albany	537	64	11.9
88	Rivington st.	2,272	260	11.4
30	East 88th st.	1,700	176	10.3
132	182d st.	108	11	10
19	344 East 14th st.	2,720	263	9.6
35	160 Chrystie st.	1,439	137	9.5
127	515 West 37th st.	785	73	9.3
70	207 East 75th st.	1,713	159	9.2
50	211 East 20th st.	994	92	9.2
21	Marion st.	917	82	8.9
49	237 East 37th st.	1,780	155	8.7
108	Mott st.	666	57	8.5
23	Mulberry and Bayard.	1,605	132	8.2
41	Greenwich ave.	916	70	7.6
20	Chrystie st.	3,073	220	7.1
33	418 West 28th st.	2,261	157	6.9
25	5th st., near 1st ave.	2,928	194	6.6
32	357 West 35th st.	1,768	104	5.8
137	Grand and Essex sts.	1,372	69	5
169	168th st.	862	44	5.1
53	207 East 79th st.	1,525	58	3.8
117	170 East 77th st.	899	29	3.2

These schools are mostly in the rather crowded districts, where we would expect to find the greatest number of cases. It is, however, rather remarkable that some of the schools in the most crowded districts do not show as large as percentage as some of the others in what might be considered a little better neighborhood. For example, the school showing the largest percentage is that in East Twenty-third street, being 22.7 per cent; whereas, some of the schools in the lower East Side show as low as 5 per cent.

From the statistics of the Board of Health I find that from the period of September 1, 1901, to January 1, 1902, 1,003 children were excluded from the public schools on account of some form of contagious eye disease.

From January 1, 1902, to June 1, 1902, 1,701 children were excluded—more for the half year than for the previous entire school year.

Since the school year was resumed in September, 1902, a systematic inspection of all the pupils was instituted by the Board of Health, with a result that from that time to the 1st of January, 1903, 20,316 children were excluded from attendance at school on account of some form of contagious eye disease.

Every precaution was taken by the authorities of the Board of Health to avoid mistakes of diagnosis on the part of the inspectors, all of whom were not familiar with eye diseases, by daily having at the Health Department a member of their staff who was perfectly familiar with eye diseases, and competent to make a correct diagnosis, to whom doubtful cases could be referred.

That many cases were unnecessarily excluded, all of us who are working in the various eye clinics of this city are aware. That the vast majority, however, were cases which required special treatment there can be little doubt; and, inasmuch as out of 6,690 children that were excluded for contagious eye diseases by the careful inspection made in July, 5,571 were found to have trachoma,

and from the following records showing the great increase of trachoma cases treated in the special hospitals, it is fair to say that a very large proportion of the 20,316 children excluded had trachoma.

The reports of the following institutions for the past three years show cases of trachoma as follows:

New York Eye and Ear Infirmary for 1900 shows 1,519 cases; for 1901, 1,211 cases; for 1902, 1,760 cases; and from October 1 to January 1, 1903, 2,323 cases—420 calls operated upon.

The Manhattan Eye and Ear Hospital for 1900 shows 592 cases; for 1901, 566 cases; for 1902, 823 cases; and from October 1, 1902, to January 1, 1903, 796 cases—296 cases operated upon.

The New Amsterdam Eye and Ear Hospital for 1900 shows 70 cases; for 1901, 91 cases; for 1902, 110 cases; and from October 1, 1902, to January 1, 1903, 488 cases—328 cases operated upon.

The Ophthalmic and Aural Institute for 1900 shows 297 cases; for 1901, 336 cases; for 1902, 355 cases; and from October 1, 1902, to January 1, 1903, 650 cases—350 cases operated upon.

From the above figures it is easy to see that from October 1, 1902,to January 1, 1903, which was the time during which this careful inspection of the public schools was being so assiduously carried out, there had been an enormous increase in the number of cases of trachoma treated at the four special hospitals above mentioned, and, of course, these figures by no means represent all the cases of trachoma which had been excluded from the schools, as many of them found their way to the various dispensaries and general hospitals. In fact, so overwhelmed were some of the special hospitals with trachoma cases sent from the schools and requiring operation, that it was impossible to deal with them.

This condition of affairs was brought to the attention of the Board of Health, and it was urged by Dr. Derby that the city make some provision to treat these cases. On the 17th of December, what is known as the Health Department Eye Hospital and Dispensary was opened at Gouverneur Hospital, and the surplus from the various hospitals, and the children excluded from school subsequent to that time, were directed there for treatment. From the opening of the hospital up to January 20, 3,591 new cases were treated—402 operated upon.

While there is a great difference of opinion as to what is and what is not trachoma, or whether it is contagious or non-contagious—all of which I trust will be settled, if not by the subsequent discussion, by the investigations and study which the interest in this subject has already suggested; for I may say here that the pathological department of the Board of Health has already seriously taken up the matter of investigating this side of it—and while it is not possible to say how many of the 20,316 children of the schools had trachoma, or any other disease of the eye endangering their own eyes or their fellow pupils, there can be no doubt, from the records of the hospitals above quoted, of the enormous number of cases of trachoma among the school children; and from that we can only surmise how much more there must be among the families of these same children in the densely populated sections of the East side.

The question, therefore, naturally suggests itself, how best to meet this evil. We have had demonstrated what can be done in the residential institutions by the inspection of all children for admission, isolation, and proper treatment, and after their admission to the main building the regular monthly inspection, treatment, and isolation whenever the slightest indication of a return shows itself; and, above all, the abolishing of all basins, bathtubs, and roller towels, and the instituting in their stead the shower bath, individual towel, and individual jet of water for washing purposes.

Were it possible in these various institutions to refuse admission to any applicant showing trachoma, or an active contagious inflammation of the eye, it would be a very simple matter to control the disease; and, as a remedy, it has been suggested that certain institutions be set apart for the care of all children who have trachoma or any contagious eye disease. This, of course, would seem an ideal solution of the difficulty in these particular institutions, but it seems hardly practical, and with the modern appliances for washing, isolation, and regular inspection, certainly a very excellent condition of affairs—as is shown in the Catholic Protectory—can be maintained.

The problem as regards the public schools, which are non-residential, is naturally a very different one, and I don't know that any better plan than that which is now being carried out by the Board of Health is feasible, which, in short, is the careful and constant examination of the eyes of the children, by the inspectors of the Board of Health, and by insisting that these children shall not be allowed to resume their places in the class-room until their eyes have been cured.

In addition to this the Board of Health has established a corps of trained nurses, who visit the homes of the children excluded from the schools, who explain to the parents the seriousness of the condition, direct them where to take the children for treatment, giving them some instruction as to the care of the eyes, the danger of contagion by the use of a common basin, towel, and so on. They also investigate, as far as they can, the condition of the eyes of the other members of the family. This, I think, is a most valuable adjunct to the school inspection. The number of nurses so employed is at present much too small; I trust it may soon be increased.

What seems to be most necessary in New York City, and which has been repeatedly recommended before, is a special hospital for the treatment of all contagious eye diseases. The energetic and expeditious way in which this need was met by the Board of Health, by temporarily establishing the Eye Department in Gouverneur Hospital, is a move in the right direction; and the good work which has been done there since it was started, and the practical needs demonstrated thereby, will hasten the establishment of a permanent institution of this kind.

Not only would an institution of this kind be a great benefit in taking care of trachoma cases, but it would be particularly useful in caring for cases of acute purulent conjunctivitis, so many of which we see at the clinics—especially during the summer—and are unable to take care of all of them as should be done in the hospital, for lack of accommodation.

One important point which I think should be considered, in examining the eyes of the school children, is that the inspectors should be men familiar with eye diseases, and perfectly competent to evert the upper lid, in order to examine thoroughly the upper cul-de-sac. I know that most of the inspectors do this, I also think that some do not, and, therefore, many cases which should be treated might very easily escape their observation.

The difficulties in providing men especially skilled in this work, by the restrictions of the civil-service law, I am perfectly well aware of, and I think too much credit cannot be given to Dr. Lederle and his able assistants for the excellent way in which they have met these unusual conditions and so success-

fully coped with this epidemic; especially in regard to the establishment of the Eye Department in Gouverneur Hospital, and the admirable way in which the work is being conducted there.

I wish here to extend my thanks to Dr. Lederle and to Drs. Bensel, Dillingham, Cronin, and Lyons of the Health Department, for the assistance I have had from them in obtaining the above statistics.

8 West Thirty-fifth Street.

A Case of Dysentery Due to Double Infection with the Uncinaria Duodenalis and the Amœba Coli.—Samuel B. Ward reports the case of a physician suffering from dysentery contracted in the Philippine Islands. On admission to the hospital he was having ten or twelve movements in twenty-four hours, with much griping and tenesmus. At this time, and subsequently, the stools were examined by Dr. George Blumer, director of the Bender Laboratory, with the result of finding both the ova of the uncinaria and the amœba coli. The patient was given a solution of thymol in alcohol, diluted with water to a strength of 1 in 2,500, with instructions to drink it instead of plain water. High rectal injections of the bisulphate of quinine, 20 grains in water, were given twice a day for six days, with some improvement, but without entire relief. The patient then fasted absolutely for forty-eight hours, and was then given the oleoresin of filix mas, one drachm in capsules every two hours and a half for three doses. followed four hours after the last dose by a saline cathartic, which produced six watery stools. Two days later neither the amœbæ nor ova of the uncinaria were found in the stools, but there was some pus. Recovery is satisfactory, although the patient has to be careful of his diet, and is somewhat easily tired.—*Albany Medical Annals.*

Report of a Case of Aortic Regurgitation and Stenosis and Mitral Regurgitation with Capillary Pulse.—Willard H. Sweet describes a case presenting the above-mentioned conditions. There was no obvious cause and no well-marked beginning of the man's valvular diseases. One of the remarkable features about the case is the absence of objective symptoms, which usually accompany such cases. Compensation must be well preserved, and the man's powers in this direction must be well-nigh limitless, for he has been under observation for about nine years, and is apparently as well now as when first seen. His freedom from angina would indicate that the coronaries are unobstructed and are performing their functions well. There seems to be a growing tendency to place less reliance than formerly on the mere existence of a murmur in the diagnosis of valve disease. One author declares that they are notoriously uncertain, especially the systolic murmurs. Some even might regard the stenotic murmur in this case as being due to roughness of the aortic valve or intima of the aorta, but it seems to the author that the very fact of the existence of this man's disease for so many years furnishes evidence of the beneficial effect of a co-existing aortic obstruction.—*Albany Medical Journal.*

Tuberculous Meningitis in Adults Occurring as a Terminal Event in Chronic Pulmonary Tuberculosis.—S. Vere Pearson, in conclusion of his study, emphasizes the following points: Tuberculous meningitis of this kind does not, as a rule, present clinically the well-marked characteristics of the disease seen in childhood. The duration of symptoms is shorter, the onset may be sudden or insidious, but in either case easily recognizable signs of meningitis are frequently absent, either throughout or until the last few hours. Retention of urine occurring in a patient with chronic pulmonary tuberculosis, when no local cause can be found, should always suggest tuberculous meningitis. So should curious mental or pseudohysterical phenomena, with a raised temperature, whether signs of a chronic tuberculous lesion are found or not. In patients dying of chronic pulmonary tuberculosis who have exhibited slight mental symptoms shortly before death, tuberculous meningitis is sometimes found post mortem when unsuspected, and when no other more definite symptoms of the complication have been present. It is almost invariably associated with general tuberculosis.—*The Clinical Journal.*

A Century of Arm-to-Arm Vaccination.—Eduardo Licéaga describes the method of arm-to-arm vaccination which has been practised for a hundred years in Mexico, the greatest care having been exercised as to the choice of candidates for propagating the virus. As to the results, it has been observed in the first place that persons vaccinated in this way remain immune during their whole lives. When there is a widespread epidemic, it is stopped in no time by at once vaccinating all persons who have not previously been so treated. The immunity which vaccination confers on infants is preserved during the whole of their lives. No Mexican physician has ever died of smallpox, even if he has been in practice for forty years. The same immunity has been observed in male and female nurses who attended smallpox patients. Experiments undertaken by order of the Supreme Board of Health of the City of Mexico show that vaccinations succeeded exceptionally well. Of 1,307 revaccinations only twenty-three were successful.—*Indiana Medical Journal.*

Report of a Case of Bilharzia from the West Indies.—P. Manson says that with the exception of Mesopotamia, Cyprus, and Mauritius bilharzia disease has hitherto been supposed to be peculiar to Africa. The author reports a case which shows that the parasite has a wider range. Personally, until he came across this case, he never encountered the disease in patients from the West Indies, but its occurrence in a white man from that part of the world practically proves that in certain of these islands, if not in all, it must be by no means uncommon amongst the colored population. The patient, an Englishman and a professional man, came to the author as a private case, complaining of vague symptoms, lumbar pain, headache, etc. As he looked anæmic, and came from a place where ankylostomum duodenale is very prevalent, and as the symptoms could not be accounted for, the author made an examination of his fæces for ankylostomiasis, and so discovered the ova of bilharzia. In this case, as so often happens in bilharzia, from the alimentary canal, the spine is placed laterally.—*The Journal of Tropical Medicine.*

Restoration of Sight in a Nearly Blind Cancerous Eye by Cancroin.—Albert Adamkiewicz reports the case of a woman of forty-two years who had previously been operated on twice for cancer of the breast. When seen by the author, there was a cancerous infiltration of the choroid of the left eye, with a partial loosening of the retina. Vision was reduced to the perception of light. Cancroin injections were begun at once. Infiltration of the scar of a former operation, and enlarged clavicular glands were favorably affected within a few days. Vision in the affected eye began at once; seven days after the first injection the patient could recognize the countenance of her husband, and moving objects near a window. Recovery of vision became practically complete, and pains which had existed in the patient's hands and feet disappeared.—*Medicine.*

Coffee-drinking.—Notwithstanding the scare advertisements of health-substitutes for coffee, there is no cause for apprehending danger to the race at large from coffee-drinking. After generations of almost universal coffee-drinkers, our own times see men of gigantic intellect in all realms of activity; our athletes are able to make sudden bursts of effort equal to any in history, and our soldiers acquit themselves manfully in fatiguing campaigns in torrid climes. The life insurance companies, constantly warring against all that lessens longevity or conduces to abnormal organs, nerves, and actions, seem content to accept the use of coffee as one of the ordinary elements of every-day life.—*American Journal of Pharmacy.*

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THE TENEMENT-HOUSE PROBLEM.

THE question of the sanitary housing of the tenement population of New York is of such vast importance to all of the social elements that make up the city, especially in connection with the present discussion of the subject in both houses of the Legislature, that it becomes of immediate and vital interest to the medical profession.

There is no question, in the first place, of the elementary principle that it is desirable that the tenements should be constructed in such a manner as to secure to their inhabitants the largest possible amount of light and air, and, secondly, in such a way as to secure the privacy and the maximum comfort of each family. It would not be difficult to meet all of these requirements in the construction of tenements in this city were such buildings built at the public expense and given to the poor, either without price or at a fixed rental within their means, as is done in respect to our public schools. But this is not, nor will it ever be the condition of tenement occupancy, so that in the construction of sanitary tenement-houses an important and vital limiting factor demands preëminent consideration, and that is, what rent is the tenement dweller able and willing to pay? Tenement-house owners and builders, however well disposed, look upon the matter from an investment standpoint, and while competition may be safely relied upon to limit the profits of tenement investments, on the other hand, all legislation which renders the construction and maintenance of tenement-houses more costly will inevitably increase as a primary effect the rent-paying burden of the tenement dweller. This, the main factor of the tenement-house problem, which *the present tenement-house law does not solve.* In other words, the present tenement-house, constructed in accordance with the tenement-house law, is too expensive for the pockets of the tenement-house dweller. Land for building in the crowded tenement districts of Manhattan Borough, especially in the Tenth, Eleventh, and Seventeenth Wards on the east side, is an extremely expensive commodity. The large light and air shafts, the wide halls, and the open court-yards, while extremely desirable add very largely to the cost of a tenement apartment in these houses. A tenement with four families to the floor, previous to the going into effect of the Act of 1901, could be constructed upon a 25x100 lot, and such tenements when well constructed and in accordance *with the law* which permitted the covering of only 75 per cent. of the lot, were fairly satisfactory structures, especially from a cheap rental standpoint.

Under the Act of 1901 but 70 per cent. of the lot can be built upon, while the light shafts and the increased width of the halls further diminish the available space for apartments, so that it is found in practice that a 40x100 lot is required for a four-family-to-the-floor tenement. This increases the cost of an apartment about 40 per cent. Thus three or four rooms in the old dumb-bell shaped tenement could be hired for an average rental of from ten to fourteen dollars per month in the east side tenement district, while in the buildings constructed under the present law a four-room apartment rents at from eighteen to twenty-two dollars per month. Very few three-room apartments are built, the light shafts not readily admitting of such a division of the floor. Furthermore, in order to increase the renting capacity of the house, builders have added an additional story, so that within the past three years tenements are built seven stories high, while formerly five-story tenements were the rule. As a result of this, myocardial affections and bronchial asthma are becoming frequent conditions amongst the tenement dwellers on the upper stories of these buildings. Several physicians practising in the tenement districts have developed heart affections from excessive stair climbing, and coal and ice dealers who supply these families with their commodities suffer from the same conditions. The suggestion that elevators be placed in such buildings would mean another increase of 30 per cent in the rent of the tenement.

Tenements constructed under the Act of 1901 filled with four to six-room apartments costing from eighteen to thirty-two dollars per month are beyond the means of the tenement dweller. He has therefore filled the old tenements which could be hired for the old prices, so that even undesirable rooms which before the passage of the present act were difficult to rent are now sought for with avidity. There is not enough of these, however, to go around, so that the balance of the tenement dwellers have been compelled to occupy the new houses. The number of these new buildings which have been constructed under the present law have been insufficient to keep pace with the normal annual increase in the tenement population of the city, so that even these buildings have been rented as soon as finished. But in these new buildings the tenement dweller no longer retains the four rooms for his wife and children, but is compelled to take in lodgers, frequently three or four, to help him pay the rent. The privacy of the family life is destroyed. The sanctity of home is broken. Parents, growing daughters, and sons, share the small four-room apartments with male lodgers. All this is the result of the high rents which necessarily result from the otherwise excellent provisions of the Act of 1901, so that this act intended to benefit the poor has its drawbacks from a sanitary, an economic and moral standpoint.

It might be claimed that the tenement dweller under these conditions would find it advisable to move to less thickly inhabited districts where land

and rents are cheaper. Such removal would mean at least three dollars per month for each working member of the family for car fare. It would mean rising an hour earlier in the morning and traveling on crowded cars after a day's work in the evening. It would also mean purchasing his lunch at mid-day or eating cold food which he had brought with him. No, the tenement dweller must account for every penny, and traveling to and from his work is a luxury in which he cannot indulge.

Figures obtained from the Building Department of this city would seem to show that this act is in a fair way to deprive the poor of their tenement homes, the only homes they can afford. The act went into effect in April, 1901.

Tenements built in the Boroughs of Manhattan and The Bronx, including apartment houses of the better class, were:

In 1898, 1,584, of which 166 cost less than $15,000 each; 1899, 2,299, of which 185 cost less than $15,000 each; 1900, 704, of which 47 cost less than $15,000 each; January, February, and March (three months), 1901, 350, of which 14 cost less than $15,000 each; April (one month), 1901, 741, of which 50 cost less than $15,000 each; and under the new law, May to December (eight months), 1901, 76, of which 14 cost less than $15,000 each; 1902, 227, of which 1 cost less than $15,000.

In the year 1900 the Building Department enforced the old law more strictly, hence a falling off in the number of tenements constructed from 2,299 in 1899 to 704. In the first four months of 1901, 1,091 tenements were constructed in order to take advantage of the provisions of the old law before the new law went into effect. In the balance of the year 1901 only seventy-six tenements were erected under the new law. The smallness of this number might be accounted for by activity in building before the new law went into effect. But the whole number for the year 1902 was only 227 tenements as compared with 1898, which was a normal year for our purposes and during which 1,584 tenements were built. And only one tenement built in 1902 cost less than $15,000 as compared with 166 tenements in 1898 at less than $15,000 apiece.

It must, therefore, be assumed from these figures that the construction of tenement-houses in compliance with the provisions of the Act of 1901 is so extremely prohibitive that capitalists and builders, notwithstanding the increased rental upon which they have insisted, and the excessively low rate of interest at which money can be borrowed, have considered the building of tenement-houses an unprofitable investment. Another year or two of so limited an amount of tenement construction will mean suffering to the tenement dweller, both for lack of houses, and even a greater increase in the present unbearable rent tax upon his energies.

We do not consider that the Act of 1901 has solved the question of the housing of the poor. The present tenement-house law urgently demands modification. Tenements must be sanitary, tenements must have plenty of light and air, but, above all, tenements must be constructed within the means (pecuniarily) of those who must hire, pay for and live in them.

CARE OF THE INSANE IN NEW YORK STATE.

The entire annual report of the State of New York Charities Aid Association to the State Commission in Lunacy has just been published. In the Medical Record, January 17, the first half of this report—which was given out some weeks ago—was made the subject of editorial comment, and opinions were expressed with regard to the working of Governor Odell's legislation respecting the management of the institutions for the insane in the State.

In the present article it is proposed to discuss, somewhat briefly, a few points contained in the report which were not touched upon in the former notice. Referring to the care of the consumptive insane, the report draws attention to the fact that there seems to be a large and increasing number of this class of patients. The proportion of deaths due to this cause at the Willard State Hospital during the fiscal year 1901 was 18 per cent.; at the St. Lawrence State Hospital about 25 per cent.; at the Manhattan State Hospital, West, the disease was diagnosed in 103 cases during the year. The facilities for treatment at these State hospitals are inadequate, and most of the other State hospitals have practically no facilities for isolation and proper care. It is suggested in the report that one of two courses in order to bring about improvement should be pursued.

The recommendations are as follows: That each State hospital should be equipped with suitable frame cottages built with reference to securing the greatest amount of light and air and sunshine. These cottages might be so simply and inexpensively built that if they became infected they could be destroyed without any appreciable loss to the State. Another solution of the difficulty would be to transfer all tuberculous patients to the State hospital, where climatic conditions are most favorable for the treatment of such cases. If the State is to establish a new State hospital in the Lake Champlain region it might be well to consider this matter in deciding upon the plans for construction. The new State hospital might include a colony for the insane suffering from phthisis to which patients from all parts of the State could be transferred, to the safety of other patients, to the great relief of the various hospitals, and to the betterment of the physical and mental condition of the patients afflicted.

The successful experiment of Dr. Macdonald at the Manhattan State Hospital, East, in providing camps for the phthisical insane is favorably noticed in the report and the recommendation is made that this example should be followed by other State hospitals which are located favorably. For instance, the Rochester and Buffalo State hospitals might have their comparatively small acreage supplanted by land on the shores of Lakes Ontario and Erie, respectively, where patients might enjoy a delightful and improving vacation. Most of these institutions are so situated that rivers, lakes, or woods are easily accessible, and pleasant camping places would not be difficult to find.

The report severely criticises the policy of the new management in reducing the dietary, and the committee of three State hospital superintendents appointed by the State Commission in Lunacy to

look into the matter made this statement: "We think it is generally recognized that the diet of acute cases must be rich in nutrition and sufficiently varied to produce results. Many of the cases admitted to public institutions for the insane suffer from privation and various other evils that are associated with it. Some of these upon admission are acute and recover largely as a result of watchful care and the absorption of proper nourishment. Other cases are received who are chronic and who need to be built up. Experience teaches that when a sufficient amount of food is not provided for the general average run of patients in an institution, that the patients manifest the evil effects by becoming more restless and disturbed, and hence require greater care, which always involves increased expense. By keeping up the body to as high a physiological standard as possible, we can keep our wards comparatively quiet, and there is, therefore, a practical reason why we should properly nourish even the chronic and disturbed. We believe it is of the utmost importance to provide a nutritious and varied dietary."

Since the views of the committee were made public the dietary has been increased, but in commenting upon this alteration the report says: "Whether the increase allowed is sufficient is a question which depends for its answer upon what standard of living we accept as proper for the insane. If the view of physiologists that a generous diet is desirable be accepted, then the present dietary is not satisfactory. The medical superintendents in their efforts to coöperate with the administration in carrying out a policy of rigid economy, have, perhaps, accepted a lower standard than they would have been inclined to recommend for the best interests of the patients."

The report also passes strictures upon the tendency of the present management to decrease the number of employees at the State hospitals. The State Commission in Lunacy in its report for the fiscal year 1901 deprecated a further decrease in the number of helpers, but the State Charities Association report states there has been during the past year a reduction in wages of employees amounting to $15,343.59.

It would seem that the chief aim of those who are now in control of the State hospitals is to conduct these institutions as cheaply as possible. Undue extravagance in the management of any public establishment ought to be checked, but at the same time, the first and principal object should be the well-being of its inmates, and especially when these inmates are insane. The taxpayer's money is expended to greater advantage in caring for the sick in body or mind than in lavishing it for mere selfish political ends.

EXPERIMENTS WITH FORMALIN.

Drs. W. H. Park and W. A. Payne have been conducting recently a series of experiments for the purpose of testing the efficacy of formalin in septicæmia. The investigations in question were made in the bacteriological laboratory of the Health Department, and it appears that the results obtained have not vindicated the claims advanced by Dr. Barrows, that formalin is a valuable remedy in puerperal sepsis by reason of its antitoxic action. The experiments were performed upon rabbits, and showed that when a formalin solution of the strength used in Dr. Barrows' case was injected into a number of rabbits inoculated previously with a streptococcus germ, the result was that these rabbits did not live so long as an equal number likewise inoculated with a streptococcus germ, but which had not been injected with formalin. With larger injections of formalin, it was found that the formalin lessened the resistance of the body to the invasion of bacteria. Dr. Park concluded, as an outcome of these and other experiments, that the amount of formalin injected by Dr. Barrows had very little effect upon bacteria, retarding for a few hours only the rapidity of the development of the germs.

The formaldehyde combines with the albuminous part of both the bacteria and the blood and is consequently injurious to both. The affected bacteria quickly reproduce, and the formalin, being already consumed by the chemical combination that has taken place, has no further effect. The injury to the blood cells, however, is not healed so quickly. In short, the experiments would seem to show that formalin is of no use in septicæmia, but is a source of some danger.

The fall in temperature produced by the injection of this agent, is not so much owing to its action as to the presence of the solution. The article which appeared in the Medical Record of January 31 gives a clear presentation of the case for and against formalin as a remedy in septicæmia and the investigations made by Drs. Park and Payne tend to confirm the opinions therein expressed.

Sleeping Sickness of Africa.

This mysterious and obscure disease is raging with exceptional virulence in Uganda at the present time, some districts having been entirely depopulated. Dr. Low, who was sent out by the London School of Tropical Medicine to that part of Africa to investigate into the origin, cause and course of the malady, has given a description of the manner in which some thirty thousand persons have been carried off by sleeping sickness.

The London *Hospital*, December 27, has the following account: "The so-called 'sleeping sickness' has been known for many years as an endemic disease of the West Coast of Africa, usually confined to the belt lying between Senegambia on the north of the equator, and Loanda on the south, but extending into the Kongo at least as far as to Stanley Falls, and it was formerly occasionally imported into the West Indies, but has not been seen there since the abolition of the slave trade. Between Uganda and the Kongo there is no trade route, and the precise time and manner of the introduction into Uganda are unknown. Scientific inquiry seems to show that the malady is essentially a chronic form of meningitis, that it is produced by the presence of a germ presumably bacterial, and that it is communicable from person to person through channels which have not as yet been clearly demonstrated, the general fact of infectiveness not being doubtful. It seems to differ widely from the only form of epidemic meningitis known in Europe, the so-called 'cerebrospinal,' in its chronic character, as well as in its almost invariably fatal issue, recovery or cure being practically unknown. The early symptoms are so slight that they would easily escape the notice of the unpractised observer." The disease pursues

its course before reaching a fatal termination in periods of from one to six months, and is, according to Dr. Low, one of the mose fatal diseases known to man, as no treatment appears to exert the slightest influence on the progress of the malady or in staying the termination. Europeans have not thus far fallen victims to sleeping sickness.

Retirement of Dr. Malcom Morris.

Mr. Malcolm Morris, the well-known surgeon, and decidedly one of the best and pungent writers engaged in medical journalism, with the incoming of the new year has retired from the editorship of the London *Practitioner*. Mr. Morris, who conducted the journal in question for eight years, was recognized in England as a medical editor *sui generis*. Referring to his own work in his valedictory remarks in the *Practitioner*, December, Mr. Morris laments that he, in medical journalism, like Lord Rosebery in politics, has ploughed a "lonely furrow." He may, however, console himself with the thought that his labor has not been in vain, nor unappreciated. He was fearless in criticism, and thus could not avoid on occasions giving offense, but his independent and fair attitude on all questions of moment which occurred in the medical world did much good and won him many friends.

It seems to be the impression that wit or humor is altogether out of place in a medical journal, and that unless contributions are solid and grave they are unbefitting the dignity of such a publication. Mr. Morris did not regard the matter in this light, and made his editorial columns bright and enlivening reading. He was the pioneer of special numbers, and some of the issues of the *Practitioner* devoted to a consideration of certain diseases are the best of the kind ever published. It is rumored that the late editor of the *Practitioner* does not intend to retire from journalism, but will write for weekly English journals. It is certain that the medical profession of America, many of whose members know Mr. Morris, will wish him well in whatever he undertakes.

The Milk Question and Mortality Amongst Children Here and in Germany.

Germany has gained the reputation within recent years of having made such strides in all matters relating to public health that she is now conceded to be equal, if not superior, in these respects, to any country of the world. The death rate among children is generally considered a fair criterion of the height to which preventive sanitation has been carried, and the purity of the milk supply is the base upon which the health of the children depends. Such being the case, one would naturally conclude that the mortality among children in the cities of Germany would compare favorably with that of any cities of the world.

According, however, to Emile Berliner, who has been making investigations into the mortality of children in a certain city of Germany, the conditions are worse than in a city of similar size in this country. Hanover and Washington were the places selected for the purpose of comparison. Hanover has long been looked upon as a model German city. Its water supply is beyond reproach, and in addition, it has been for years the seat of a magnificent institute of technology, while its streets have been always kept scrupulously clean, and its gymnasiums and bathing establishments are sources of pride to all its citizens. On the other hand, although Washington is a particularly clean town, and contains a large number of parks and open spaces, its water supply is obviously open to criticism and a third of its population are negroes.

From a consideration of these facts, it might be thought that the death rate of children in Washington would be far greater than in Hanover. The mortality among children in Hanover is 60 per cent. greater than in Washington.

Berliner traces the high mortality among children in Hanover to impure milk, due to faulty inspection, and concludes that most children's diseases are closely connected with the milk supply, and that the city which is most vigilant on the milk question and has a system of inspection covering every stable from which milk is furnished to its citizens, is ahead in civilization of the city where milk laws and dairy inspection do not exist, or are but superficially enforced.

In Hanover they have practically neither milk laws nor inspection of stables. The only punishable offense is the addition of water. In Washington they have pretty good, though not perfect, milk laws, and inspection is all that can be expected under the circumstances.

The statistics of infant mortality in Washington and Hanover would seem to offer convincing proof that pure milk is necessary for the preservation of the health of young children.

The Spitting Nuisance and Dogs.

During the past week this city has passed through a most successful dog show. During the same week many arrests were made for spitting in public places, most of which latter were unprovided with cuspidors, and consequently the prisoners were usually discharged after spending a night in the lockup.

It will be too bad if a really good law gets brought into general disrepute because of absurd practices.

New York requires a new health ordinance, or at least a ladies' society for the encouragement of street-bred dogs.

No prize was given for this class at the kennel show. There were blue and red ribbons for all other kind of dogs, but not even a piece of red tape was offered for the dog that had been taught to go into the gutter in response to nature's call. The defiled condition of the sidewalks in certain parts of this—in many other respects—fair city, is not only a disgrace but, from the health side, it has a very decided importance. Many diseases by this means are transmitted from the dog, as is well known, and the amount of unwholesome material taken into dwellings upon the shoes and trailing skirts for any single day even must be enormous.

The Street Cleaning Department is doing good work cleaning up between the sidewalks after horses, but no one cleans up intentionally after the dogs.

Several ways of combating the evil suggest themselves. Owners who insist upon this unfair use of the sidewalk should have their dog tax doubled and be fined to boot. The funds thus raised could be given to the Street Cleaning Department, whose duties should be made to include sidewalks thus defiled. Until the evil is in a measure decreased all women, especially members of the anti-spitting league, and more particularly those who keep pet dogs and take them for a morning "airing" on Fifth and Madison avenues, should be prohibited from wearing any long garments.

Medical Inspectors Dismissed.—Seven medical school inspectors of the New York City Board of Health have recently been dismissed for falsifying their vaccination reports.

News of the Week.

The New Scarlet-fever Antitoxin.—The cabled dispatches to the *New York Herald* announcing the discovery of a new antitoxin for scarlet fever, endorsed as they are by interviews from Professors Baginsky and Aronson of Berlin, are well calculated to command the respectful attention of the medical profession on this side of the Atlantic. So far the remedy has been employed in one case in this city under the care of Dr. Louis Fischer and with quite satisfactory results. A detailed clinical account of this and probably of other cases will appear in an early issue of the MEDICAL RECORD.

St. Mary's Free Hospital for Children.—On Wednesday of last week additions to this hospital, consisting of two new wards, provided through a bequest of Charles A. Contoit, a new chapel, which is in the same building as the wards, and a new building to be used for domestic purposes, were opened. Beginning thirty-one years ago with a small dwelling-house, which was rented from year to year, this institution has grown until it now has 100 beds and an ideal equipment. The hospital plot abuts on 34th street, 35th street, and Ninth Avenue. In 1900 a model of one of the wards was sent to the Paris Exposition and a gold medal was accorded to it.

The Typhoid Fever Epidemic in Ithaca.—The typhoid situation at Ithaca, N. Y., is reported to be very grave. The inspectors of the Board of Health reported on February 17 that there were then 449 cases of the disease in the city. Nine deaths have occurred among the students at Cornell University. An inspection of the creeks from which the water supply is derived has shown them to be almost indescribably filthy, the water being contaminated everywhere with leakings from pigpens, barnyards, and privies located along the banks of the streams.

A Tuberculosis Camp Suggested.—At a meeting of the New York City Board of Health recently it was decided to recommend to the Mayor and, if he approved, to the Board of Estimate and Apportionment, a plan to establish a tuberculosis camp somewhere outside of the city. The tuberculosis committee of the Charity Organization Society has been advocating the erection of a tuberculosis hospital—something on a very large scale that will cost many thousand dollars. The Board of Health thinks that this is too expensive an experiment, but feels that some institution is very necessary to the city. The plan is to select a piece of ground away from any village, on high land, about fifty miles from the city, and then to set up substantial but comparatively inexpensive tents. Each tent will hold two or three people, and will cost approximately $100.

Consulting Physician to Manhattan State Hospital.—Dr. Carlos F. Macdonald, former President of the State Lunacy Commission, has been appointed by the present State Commission Consulting Physician to the Manhattan State Hospital, a position which his large experience as an alienist eminently entitles him to fill.

Medical Examiners for the Street Cleaning Department.—A bill amending several sections of the law affecting the New York City Street Cleaning Department has been introduced into the legislature at the instance of Dr. Woodbury. Among other changes the bill provides for six medical examiners in the department instead of three as at present, and for six veterinary surgeons instead of five.

Foot-and-Mouth Disease.—It is reported that the epidemic of foot-and-mouth disease in New England, which was supposed to be practically extinct, has begun to increase near Boston, where most of the cases recently had been concentrated, and there is considerable anxiety over a possible spread of the disease.

The Plague in Mazatlan continues, several deaths from the disease being recorded daily. The Mersin serum has been used in a number of cases with apparently excellent results. The disease is smoldering still in San Francisco, but some of the local papers are even yet denying the existence of the disease and berating every one who mentions the subject.

Dr. Thomas D. Coleman of Augusta, Ga., was recently elected president of the Board of Health of that city. He is a graduate of New York University Medical School in the class of 1890, and is professor of medicine in the Medical College of Georgia. He was a member and secretary of the Augusta Board of Health for some time before his election to the presidency.

Amendments to the Public Health Law.—Senator Stewart has introduced a bill into the New York State Legislature amending the present public health law in the following particulars:

(1) In all buildings and institutions, owned, maintained, or controlled by the State, the plans for all water supply, sewerage, sewage disposal, and garbage disposal works shall be subject to the approval of the State Commissioner of Health before being adopted or constructed.

(2) The State Commissioner of Health shall appoint for each municipality (except such municipalities as are now exempt under section 32, article 2, of the Public Health laws, a competent physician not a member of the local board of health to be the health officer of the municipality. This health officer may be removed by the State Commissioner of Health after a hearing. He need not be a resident of the municipality for which he is chosen, but unless he is such resident he must reside in an adjoining town.

(3) Additional compensation is allowed for extra services of health officer, for extra hazardous work by reason of epidemic or otherwise. Any health board may allow traveling expenses for delegates attending the annual sanitary conference of health officers.

(4) Local boards of health shall enforce general vaccination of all persons when required to do so by the State Commissioner of Health, who is hereby authorized to make such a requirement when in his judgment such action is necessary for the protection of the public health.

(5) For removal of nuisances health boards may use any money in the hands of the board or may call on the city council, village trustees, or town board, or may borrow the same on the credit of the municipality, to be returned when collected from the persons responsible.

The Eleventh International Congress of Hygiene and Demography will be held in Brussels from September 2 to 8, 1903. The Secretary-General of the Congress is Dr. F. Putzeys of Brussels.

Smallpox in Pennsylvania.—It is reported by the Secretary of the Pennsylvania State Board of Health that there were reported from that State during the month of January 940 cases of smallpox with fifty-five deaths.

The Typhoid Fever Epidemic in Philadelphia.—For the week ended February 7 there were reported to the Philadelphia Board of Health 329 cases of typhoid fever with twenty-three deaths, as against

325 cases and thirty deaths during the preceding week.

College of Physicians of Philadelphia; Section on General Medicine.—At a stated meeting, held February 9, Dr. Augustus A. Eshner presented a case of cirrhosis of the liver with splenomegaly in a young man. The patient was a laborer in a tannery, nineteen years old, who exhibited jaundice and enlargement of the liver and spleen and gave a history of periodic alcoholic excess. He denied venereal infection, and there was no evidence of ascites or of visceral or glandular disease. There was a moderate degree of anæmia, involving both corpuscular elements and hæmoglobin in like proportion, and the number of leucocytes was diminished. There was a history of chills and fever, with the presence of malarial plasmodia in the blood. The condition was at first thought to be of one of splenic and hepatic enlargement in connection with malarial infection, but it was subsequently decided to be one of hypertrophic cirrhosis of the liver with splenomegaly due to alcoholic excess, perhaps aggravated by malarial infection. The case presented many of the symptoms of so-called splenic anæmia. Dr. Joseph Sailer presented a case of congenital cyanosis occurring in a girl, twelve years old, in whom the condition had been accidentally observed while at school. Cheeks, nose, lips, and tongue, as well as hands and feet, were purple, the fingers and toes being, besides, elongated and thickened at their extremities. The heart was considerably enlarged, but only an uncertain and doubtful murmur was audible at the apex. The number of red blood-corpuscles and the percentage of hæmoglobin were markedly increased above the normal. The lesion was thought to consist in a deficient interventricular cardiac septum. Dr. George William Norris read a paper entitled, "A Contribution to the Study of Human Blood-pressure in Some Pathological Conditions," in which he recorded the results of observations made upon persons in health, cases of typhoid fever, pneumonia, nephritis, lead-poisoning, and other conditions. Dr. Wm. B. Stanton presented a communication entitled, "A Practical Clinical Method for the Determination of Blood-pressure in Man, with Some Remarks on the Methods Hitherto Employed." He pointed out the necessity and the importance of making in reasonably rapid succession determinations of both the systolic and the diastolic pressure, and he demonstrated an apparatus that he has devised for the purpose. He applies to the member selected for observation a rubber tube, flattened to a width of three and one-half inches and surrounded by a covering of inelastic material, to prevent outward distention. This is connected by means of an inelastic tube with a mercurial manometer, and with the aid of a special valve the blood-pressure can be speedily determined under various conditions. Dr. David Riesman read a paper on "Desquamation in Typhoid Fever." He pointed out the rarity of this condition, and reported two cases in which it had come under his observation, during convalescence, independently of previous sudamina or erythema, the exfoliation being in the one case of a branny character and in the other coarsely squamous.

Philadelphia Pediatric Society.—At a stated meeting, held February 10, Dr. M. H. Fussell exhibited "A Patient with Congenital Heart Disease," occurring in a girl, four years old, who presented cyanosis of the lips, tongue, fingers and toes, and also clubbing of the digits, with marked dyspnœa on exertion. The heart was greatly enlarged and a low-pitched systolic murmur was audible, most distinctly at midsternum. The eyegrounds exhibited great enlargement and tortuosity, as well as fulness, of the vessels, and inflammatory alterations. Dr. S. McC. Hamill read the report of "A Case of Congenital Heart Disease with Interesting Eye-findings." This patient was a child of twelve, who, in addition to cyanosis and clubbing of the ends of the fingers, presented enlargement of the heart with a systolic murmur at the third intercostal space on the left close to the sternum, and changes in the eye-grounds similar to those described in the case of Dr. Fussell. Drs. Arthur Van Harlingen and Henry K. Dillard, Jr., read a communication entitled "Some Notes on the Employment of Epicarin in Tinea Tonsurans and Tinea Circinata." They employed a tincture and ointments of varying strength, and the results were on the whole satisfactory. Dr. D. L. Edsall presented a communication entitled "A Preliminary Note on the Nature and Treatment of Recurrent Vomiting in Children." He had observed that in cases of this kind the breath has an odor of acetone, which is present also in the urine, together with diacetic acid and oxybutyric acid. He therefore concludes that a condition of acid intoxication is present, upon which the vomiting is dependent. Accordingly he recommends the administration of alkalies, such as sodium bicarbonate, in as large doses as can be given; for instance ten to thirty grains every hour, as soon as premonition of the attack appears. He has by this means been enabled to abort numerous attacks and to prevent recurrence of the disorder. His own observations have been confirmed and supplemented by those of others. Dr. I. Valentine Levi read the report of "A Case of Cystitis Due to the Colon Bacillus." The patient was a boy of twelve, who, in a spirit of experiment, injected bath-water into the urethra through a soft rubber syringe that had been used for administering enemata. Violent cystitis developed, and in the urine the colon bacillus was found. Dr. Levi cited also cases in two adults in which abscess of the kidney developed, the colon bacillus being found in the urine.

Pathological Society of Philadelphia.—At a stated meeting, held February 13, Dr. Randle C. Rosenberger read a paper entitled "Bacteriological Examinations of the Blood," in which he related observations of his own and cited those of others in which bacteria were found in the circulating blood. Dr. Arthur E. Dare made demonstration of a new alkalimeter, in which the blood is neutralized with tartaric acid, the transition from alkaline to neutral reaction being manifested by disappearance of the lines for oxyhæmoglobin as determined by spectroscopic examination. The apparatus was employed in a large number of observations and showed that, among other things, the alkalinity of the blood was diminished in all cases of typhoid fever in which a positive serum-agglutinating reaction was obtained, but not in such in which the reaction was wanting. Dr. Judson Daland presented a communication entitled "Case of Bubonic Plague, with Microscopic Slides." The case had been seen during a visit to Honolulu and presented characteristic features of the disease. The bacteria were obtained from one of the enlarged glands. Dr. Joseph Walsh read a paper entitled "Tubercle Bacilli in the Urine." He stated that among some sixty specimens of urine from patients suffering from pulmonary tuberculosis tubercle bacilli were found in about forty. Although negative results were obtained from inoculation experiments, the fact that the organisms were not smegma bacilli was shown by the circumstance that they did not

exhibit the staining reaction of the latter, while they were not found in the urine from individuals not suffering from tuberculosis. Dr. Richard M. Pearce presented a specimen of small intestine exhibiting extensive and profound ulceration and also the enlarged spleen from a fatal case of typhoid fever in a child two years old.

Philadelphia County Medical Society.—At a stated meeting held February 11, Dr. J. Norman Henry read "A Report of Nephropexy in a Case of Chronic Nephritis." The operation was performed on both kidneys, the capsules being detached and the organs placed in proper position. Symptoms of uremia developed, however, in a short time and death resulted. Dr. Orville Horwitz read a paper entitled "An Inquiry into the Value of the Irrigation Method as a Means of Aborting and Treating Acute Specific Urethritis." The results of this study showed that while, under certain conditions, the treatment of gonorrhœa by means of irrigation with hydrostatic pressure is indicated, in general the method is not to be commended, as it fails, as a rule, to abort the disease and it is often attended with undesirable sequelæ. Dr. Alfred Gordon read a paper entitled "Trunecek's Serum and Its Value in Disturbed Cerebral Functions Caused by Circulatory Changes, with a Report of Twelve Cases." The serum consists of sodium chloride .92 grams, sodium sulphate 0.44, sodium phosphate and potassium sulphate each 0.40, sodium carbonate, 0.21, and distilled water sufficient to make 100 grams. This is injected subcutaneously. The following modification has been recommended for internal administration: Sodium chloride 10 grams, sodium sulphate 1, calcium phosphate and magnesium phosphate each 0.75, sodium carbonate 0.4, sodium phosphate 0.3. This mixture is to be divided into thirteen capsules or cachets, and one administered from three to six times daily. The results in most of the cases were satisfactory.

Abolition of the Office of Coroner.—A bill to abolish the present system of coroners in the city of New York has been introduced into the State Senate. The bill, introduced by Mr. Elsberg and now in Committee on Cities, provides abolition of coroners and substitution of medical examiners—six for Manhattan, four for Brooklyn, two for Queens, two for the Bronx, and one for Richmond. Change commences September 1, 1903. Medical examiner must be "learned in pathology," and must have been a licensed practitioner of medicine in New York City for five years preceding appointment. Examiners shall be appointed from present coroners' physicians or from an eligible list prepared by the Civil Service Commission after special examination therefor. Salary $3,500 per year. Board of Health may appoint clerks, stenographers, etc., and adopt rules prescribing the duties of the medical examiners and aids. The medical examiners shall have the powers and perform the duties of coroners in so far as they are specified for the determination of sudden or suspicious deaths. Reports of such deaths shall be made to the Department of Health, one of the medical examiners, or a police officer. The medical examiner must proceed to where the body lies and take possession and exclusive charge of the same; he is also made the temporary custodian of all letters and articles found on the body, and must, after sealing them, turn them over to the district attorney or to the court. Autopsy, if found necessary, must be made in the presence of a district attorney's representative and a police officer. Full written report of findings must be forthwith filed by the medical examiner in the Department of Health. Inquiry heretofore made by coroner is to be made by city magistrate. The city chamberlain is to exercise all functions of the former coroner when not otherwise specified in this bill. One section refers to the chamberlain's duties in connection with the property of one so deceased which has been turned over to him by the medical examiner. The use of the term "medical examiner" is unfortunate, inasmuch as each one of the members of a State board of medical examiners is a medical examiner, and this duplication of the term may lead to confusion.

A Baby Hospital for Harvard.—In addition to the infirmary recently presented by Mr. Stillman, Harvard University is to have a hospital for the accommodation of fifty babies. The hospital, for which plans have been drawn up, is to be built in connection with the proposed new Harvard Medical School near the Fenway. It will cost about $140,000, and when finished will be the most complete and perfect of its kind in the world. The hospital will be a gift of the Class of 1901 in memory of Thomas Morgan Roth. A memorial laboratory is contained in the gift.

A New Eye and Ear Hospital for the Bronx.—A new hospital and dispensary, to be called the Bronx Eye and Ear Infirmary, was incorporated recently at Albany under a permit from the State Board of Charities. The incorporators were Drs. Charles H. McIlwaine and Everett M. Raynor and Messrs. Christopher H. Roberts, James C. Mackenzie, and James Dalton. The dispensary, which is open daily, except Sunday, from 2 to 4 P.M., is located at 660 East One Hundred and Forty-seventh street.

Obituary Notes.—Dr. Caleb W. Hornor died at Bryn Mawr, Pa., on February 8 at the age of seventy-four years. He was graduated from Jefferson Medical College in 1849, and he served as surgeon in the United States Army during the Civil War.

Dr. John Homans died at his home in Boston on February 7. He was a graduate of the Harvard Medical School in the class of 1862. After graduation he served as an assistant surgeon in the navy during the Civil War, and later was surgeon-in-chief of the First Division, Nineteenth Army Corps. He was one of the attending surgeons to the Massachusetts General Hospital, and was a member of the Massachusetts State Medical Society.

Dr. John J. Conway died of pneumonia at his home in Brooklyn on February 13, at the age of forty-four years. He was a graduate of the Long Island College Hospital in the class of 1880.

Dr. George Harris died at Bridgeton, N. J., on February 9. He was a veteran of the Civil War.

Dr. Gertrude H. Woodworth, a homeopathic physician of Chicago, died on February 9, at the age of sixty-five years. She was a graduate of the Hahnemann Medical College, Chicago, in 1897.

Dr. Chas. B. Leavitt died at Trenton, N. J., on February 9. He was a graduate of the University of Pennsylvania in the class of 1882.

Dr. Walter Pardee, one of the oldest homœopathic physicians in this city, died on February 11. He was born in Sharon, Conn., in 1822, but later removed to Rochester, N. Y. He was graduated from the Cleveland Medical College in 1860, coming to New York immediately afterward. He had a large practice, and for forty years lived in West Thirty-fourth street. He retired in 1882, and had since then been an invalid. He died at the home of his son, Dr. Ensign B. Pardee.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

CORONERS AND DOCTORS—FIRE AT A LUNATIC ASYLUM—LIVERPOOL TROPICAL SCHOOL—MR. SUTTON TIMMIS'S ENDOWMENT OF A CANCER RESEARCH—PROF. RONALD ROSS—DR. MANSON—OBITUARY NOTES.

LONDON, January 30, 1903.

IT is not often that a considerable proportion of the medical men in any locality can be got together to maintain their rights. Lately, however, about eighty residing in the southwest of the metropolis held a meeting to protest against the action of the coroner for the district in giving all autopsies to a single person. It seems, however, that the County Council is responsible for this. The Local Government Act of 1888 transferred to the county councils the right of appointing coroners. The London Council, which delights to have "a finger in every pie," has lately exacted from candidates for the appointments promises as to their future conduct—a course which has been pronounced by counsel illegal, as the rights transferred could not exceed those which previously existed. Among the promises extorted is one to entrust the post-mortem examinations to a skilled pathologist, except when satisfied that the medical man connected with the case is competent to make a trustworthy post mortem. This slur on the general practitioner is unworthy of a public body, to say nothing of the illegality of making such a condition.

In July, 1902, Mr. Troutbeck was appointed coroner for the southwest district, and has carried out the direction of the council with such persistence, and so little discretion, that an appeal is being made by a deputation of the local medical society to the council, and if that fails the matter will be brought before the Lord Chancellor.

Mr. Troutbeck "as wished by the council," has given nearly all post mortems to one Dr. Freyberger—a gentleman recommended and paid by the council. The fee for each post mortem is therefore diverted from the attendant practitioner, who must know most about the case. Dr. Freyberger's position is not easy to define. He appears at inquests as pathologist to the County Council, and describes himself as such in the Medical Directory, and yet the chairman of the council, challenged on the point, has publicly denied that any such appointment has been made. What then? Surely he would not admit that some "hole and corner" action had been taken by his fellow councillors without his cognizance. Whatever may be the explanation of these contradictions, some things come out clearly from the confusion. The council desired, by illegal pressure on coroners, to foist a public pathologist on the public, and in some mysterious method intimated to the coroners that Dr. Freyberger was their choice. I do not know much about his qualifications for the office, but everyone knows that this is not the way in which such an official should be appointed. The council in other cases has proceeded regularly, and I hear that in this instance some of the councillors feel aggrieved at the blunder which has been committed.

At the meeting of the Southwest Medical Society it was repeated again and again that the help of a pathologist would be welcomed in cases of difficulty, as much as that of the toxicologist or analyst is in cases of poisoning. But to allege that the general practitioner is not competent to make an ordinary post mortem and give evidence as to the cause of death is an insult to the mass of the profession.

But this does not seem to trouble Mr. Coroner Troutbeck, who is carrying out the council's behest with a high hand. In one case I am told he ordered a second examination by Dr. Freyberger after the pathologist of the hospital where the patient died had made an autopsy. In another case the practitioner who had been called in by the police and kept up artificial respiration for a long time was ignored, and Dr. Freyberger summoned to give evidence. Now, what help could he give to determine the cause of death, still less as to the circumstances attending the death, into both of which points it is the duty of the coroner to inquire?

Neither Mr. Troutbeck nor the council have occasion to be surprised that indignation should be produced by such a proceeding. But Mr. Troutbeck goes on his way disregarding opinions outside the council. Indeed, he seems specially deficient in tact. On Saturday he displayed considerable irritation at the result of one of his own actions. He told his jury he had written to the attendant doctor that he might come to the inquest as a witness, but had given the post mortem to Dr. Freyberger, and the doctor had replied in "a very impertinent letter protesting it was not the first time a doctor had been impertinent, but he was not going to call in gentlemen who had a prejudice to be judges in their own cases." Then he went on to instruct his jury that the feeding of the child was improper, and that he did not blame the parents. So the jury censured the doctor!

A coroner is in the position of a judge, and considers himself one. It is a pity, therefore, when such an official does not preserve the dignity and impartiality of a judicial functionary. Mr. Troutbeck's display of ill-temper seems likely to reawaken the contempt for "Crowner's 'quest law'" and procedure which was poured upon it by the great writer who flung at it that scornful phrase.

There is one thing which, perhaps, in fairness, should be stated: The performance of an autopsy is apt to interfere a good deal with a general practitioner's work, and a busy man is, therefore, often anxious to escape the duty. In a very serious case the demand on his time and attention may be unlimited. In a very simple case he may be tempted to carry it out in a perfunctory manner. But this, if an argument for the appointment of a special pathologist, is no excuse for shirking a duty when once it is undertaken.

Two or three times last year I mentioned incidents which were warnings of the ever-present danger of fire in hospitals. An awful object-lesson on this danger occurred early on Tuesday morning, when an annex of the Colney Hatch Lunatic Asylum was consumed in about half an hour, and fifty-two female patients perished in the flames. Such a catastrophe will, no doubt, have been cabled to your papers with many details. The disaster is without parallel in London. Its origin is at present unknown, but, perhaps, some light may be shed on it at the inquest, opened this afternoon.

The Colney Hatch asylum is under the control of the London County Council. The annex was built seven years ago by the Works Department, and cost £23,428, although the estimate was only £17,500. It was built of timber on brick foundations, lined inside with match-board and felt, outside with corrugated iron. How such materials could be permitted in view of the possibility of fire is asked on every side. Connected by a corridor there were five wards, each arranged for sixty patients. With nurses there were about 330 persons in the annex when the alarm was given, and it was not yet light. The difficulty of getting such a number of lunatics out of the building into a safe place is obvious; but it was met with British pluck and determination. The staff displayed the greatest energy and heroism. From the medical superintendent downward every doctor, nurse, attendant, and servant seemed to turn out on the sound of the alarm, and some of them suffered severe burns in their efforts. Even the firemen were loud in their praise of the gallant efforts of the staff.

This building was a "temporary" one, and was licensed as such in 1895 for five years; at the end of that period the license was renewed for another five years. Wanted—a definition of a temporary erection intended for the accommodation of closely-packed patients. The County Council for some time past has been compelling theaters to have the most elaborate precautions against the risk of fire. While so much in earnest for the protection of the public spending an evening in amusement, have councillors been equally anxious as to the building for helpless lunatics committed to their care for the whole day and night?

Kings College Hospital is expected to benefit under the will of the late Mr. Storks by an amount of about £60,000, and there is some talk of removing the hospital to another locality. It has for some time been remarked that too many of our hospitals are gathered together in the middle districts, and it is urged by many reformers that a better distribution over the metropolis is most desirable. This point is also urged in reference to Bart's, the committee on which was settled yesterday, and, I am glad to see, includes Sir Wm. Church, Prest., R.C.P., and Dr. Pye-Smith.

Liverpool is fortunate in her generous wealthy citizens. Mr. Sutton Timmis, who lately gave £10,000 to start a fund for cancer research there, responded to the appeal for the Children's Infirmary there, on the 22d, with a donation of £2,000. Dr. A. S. F. Grünbaum is to be the director of the research, and Sir W. Church said they could not have a better one. Last Saturday the dinner to Major Ronald Ross, F.R.S., was given by the Liverpool University College Association. The chairman, Sir Alfred Jones, said they might well be proud of what Professor Ross had done, and of their Tropical School, for the world was now copying Liverpool. Dr. Manson was present and congratulated the city on their wise activity, and wished all the kingdom would follow the example. He added that he was much impressed by the splendid buildings they had erected for research, though it was not so much buildings which were wanted, as men of ability and industry. The

best of Professor's Ross's work was done in a hut with a microscope, two needles, and a match-box.

Smallpox is still extending in the Midlands, chiefly among casuals in the work-houses.

Dr. Alex. Thomson, Consulting Surgeon to the Dumfries Infirmary, died on the 18th inst., aged seventy years, of acute pleurisy. He had not long recovered from an attack of influenza.

Dr. R. A. Campbell of Newcastle-on-Tyne died on the 21st inst., aged fifty-one years. He was one of the founders of the Newcastle Clinical Society, and was at one time on the staff of the Children's Hospital. But literature and art divided his love with medicine. He suffered from cardiac disease, and later from bronchitis

The will of Dr. David Little of Manchester has been proved for £99,711; Dr. S. Fenwick's will at £26,006.

LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

A GENERAL HOSPITAL FOR MANILA—A SANATORIUM AT BANGUED—EFFECTS OF THE CLIMATE UPON AMERICANS—CHOLERA—PLAGUE—SANITARY PROBLEMS—NEED OF DISPENSARIES AND HOSPITALS IN THE LARGER CITIES—NEW CHIEF OF THE GOVERNMENT LABORATORIES—MOSQUITOS OF THE PHILIPPINES.

MANILA, January 8, 1903.

A PETITION has just been presented to the Commission for the Philippines for the early establishment of a general hospital in Manila, an institution which is sorely needed at the present time. The petition was signed by about 3,000 of the most prominent Americans, Europeans, Filipinos, and Chinese in Manila, and was presented by the bishop of the Episcopal Church for the Philippines. The hospitals existing in Manila at present are totally insufficient as to number, capacity, and equipment. The new hospital is to have a capacity of 200 beds, and be built on the pavilion plan of light frame material. For the commencement of the work an appropriation of $65,000 is asked. The "Women's Hospital," established for the benefit of the white women in the islands, has lately been discontinued because of lack of funds. The construction of a large general hospital was begun some time since, but was discontinued because a clear title to the site occupied could not be secured. The skeleton framework of the hospital, on one of the best streets in Manila, is costly evidence of the lack of foresight of somebody in authority. There are several small private hospitals in Manila, but they, like the larger public Spanish hospitals, are not properly constructed and equipped, and can largely be disregarded in the consideration of the hospital needs of the city. The large army hospital, the First Reserve, with its 500 or more beds, is equipped in a thoroughly modern and complete way, and is administered by a large staff of surgeons, hospital corps men, and female nurses. Unfortunately for the large and increasing civilian element, the benefits of this hospital are reserved for those in the military service.

An excellent work is being done at Bangued, in the mountainous district of Northern Luzon, in the construction of a sanitarium to be used for the recuperation of Americans broken down by overwork and the depressing influences of the Manila climate. The work is being done under authority of the Civil Government, which has appropriated $200,000 for the construction of a road to make the sanitarium accessible, and open up commercially the Province of Bangued. Shortly before the cession of the Philippines to the United States, the Spanish had decided upon a sanitarium at this point, and had already constructed a large, substantial building for this purpose, which is now employed for administration purposes for the present hospital. No acute cases will be received at the new sanitarium, which will be kept more as a health resort for the broken-down than as a hospital, and which, it is hoped, will be to the Philippine Islands what Simla and the hill stations are to India, or Newcastle to the English in Jamaica. At present, a drawback to the Bangued sanitarium is its inaccessibility, it being forty miles from the nearest seaport, and reached only on horseback or by litters or sedan chairs carried by Igorrote carriers, who usually make the distance in about three days. Later, with the proposed extension of the Manila and Dagupan railway, Bangued will be reached from Manila by rail, with a much shorter distance over which ponies or carriers must be used than is at present required. The altitude of Bangued is about 6,000 feet, and the temperature is very equable the year round. The days are warm but never hot, while at night the thermometer always goes to 48°–50° F., and often lower, making warm wraps and open fires desirable. Pine trees predominate, and the usual tropical vegetation is left behind at a lower level. It is believed that nearly all the fruits and vegetables of the temperate zone can be readily raised at Bangued. The days are bright and clear until about four o'clock in the afternoon, when a heavy fog comes in from the sea, which renders the locality too damp for the best treatment of pulmonary tuberculosis. The night dews are very heavy. Water is abundant, pure, clear, and cold. There are excellent roads in the vicinity, and driving, riding, golf, tennis, and shooting will afford diversion. There is much game, such as deer, wild hogs, and wild chickens, in the neighborhood. The natives of the vicinity are Igorrotes, who are heathen, go about almost naked, and practise head hunting among themselves. They never responded to the civilizing influences of the Spaniards, and still remain savages of a most pronounced type.

It is expected that the new sanitarium will prove of great benefit to the white population of the Philippines, who now nearly all find it necessary to the maintenance of their health to visit the United States, Japan, or Europe every year or so. With the new sanitarium made accessible, it is thought that a sojourn of a month or so there will answer every purpose of a voyage to a colder climate, and will cost infinitely less in time and money expended. For white women and children, who especially do not well bear the hot and depressing climate of Manila and the seacoast, the opening up of the Bangued sanitarium will prove a great blessing and save the present necessity of seeking a frequent refuge in Japan.

There is no doubt but that American women and children, on the whole, do not do well, at least in Manila and the low-lying towns on the seacoast. It is true that there are occasional exceptions, but these emphasize the truth of the general rule. Particularly in the rainy season are the depressing influences of the climate manifested most rapidly, and it takes but a few months to convert a rosy, vivacious young woman into a pallid creature, lacking spirits and energy. It is almost possible to base a fair estimate of the length of an American woman's stay in the islands by her appearance. Menstrual disorders are the general rule. In most cases the periods are much lengthened, and there may be almost continuous flowing, causing such a drain on the system as to make the transfer of the woman to a cooler climate a necessity. Others have a partial or complete cessation of the menses, and drift into a nervous, irritable condition, trying to the sufferer and those around her. The latter class of cases is especially liable to be affected with partial loss of memory, a condition so common among the whites in the islands, both men and women, as to have its existence fully recognized, under the name of "Philippinitis," by the American colony. On the whole, men stand the climate far better than women, perhaps through the fact that duties call the former out of doors, and force them to take a certain amount of exercise. The women, however, usually stay in the house during the day *en deshabillé* and make their first public appearance in time for a drive on the Luneta about sunset, to return indoors for dinner and the social gayeties of the evening. It is no wonder that they soon look as pale and bleached as vegetation grown in the absence of sunlight. The men, on their part, drink too much, and the bad effects of too much alcohol are sooner manifested here than in more temperate climates. There is but little to amuse after business hours, and there is an ever-present desire for a long, cold, and wet drink of some kind or another—and, unfortunately, only few limit themselves to lemonade or carbonated waters. So far as the men are concerned, drinking seems to produce more bad results than the climate itself. Children at the breast stand the climate well; but if a child cannot be nursed by its mother, its condition is precarious, for fresh cow's milk of good quality is absolutely unattainable, and the Filipino woman does not seem to take very kindly to the position of wet nurse. Children from three to six or seven years old do well, provided they are carefully watched, and sterilized water and proper food are given. After about seven years old, ample experience shows that the child should be sent away until well after puberty, for girls begin to menstruate unduly early, with serious effect upon their health, development, and nervous tone, while both boys and girls constantly have sexual matters brought to their attention by the natives, who have neither modesty of language or person, and whose absolute lack of morals favors sexual precocity. For all these reasons, continued residence in the Philippines by Americans, with maintenance of health, is most difficult of accomplishment. In India it is said that the English race would die out in three generations were it not for the precautions taken and the constant infusion of fresh blood into the stock by immigration from England; and this rule can be laid down for the tropics, to which the Philippines are no exception. Even the Spaniards have never been able to colonize these islands successfully to the extent of performing manual work,

and it may be accepted that the white American is an exotic in the tropics, can only with difficulty maintain an existence therein, and that not for too long a time. This is a factor to which our legislators should give serious consideration, for it will seriously interfere with the Americanization of the Philippine Islands. We are too prone to forget this fact, and also to belittle the precautions which must be constantly observed in the maintenance of vital energy. Quite recently a battalion of our soldiers in Mindanao, operating against the Moros, was broken down by sickness as a result of the heavy labor which superior authority directed them to perform in the building of a military road. The British, in India, have learned the lesson of the conservation of vital energy, and go so far as to provide every cavalry soldier with a native helper to assist him in caring for his horse and equipment. It is folly to break down a costly soldier and ruin him for the purpose for which he was enlisted, by making him do manual labor in the tropics, which a native could be hired to do for a few cents a day.

The official figures for the cholera situation in the Philippine Islands, on January 5, 1903, gave a total of cases reported of 122,102, of deaths 77,323, and a mortality of 63 per cent. For the city of Manila the mortality has been reported as 75 per cent. The number of cases and deaths during the present epidemic having been distributed as follows:

	CASES.	DEATHS.
Filipinos	3,941	3,107
Chinese	340	179
Americans	150	76
Europeans	61	38
Others	36	19
TOTAL	4,548	3,419

These figures are correct as far as they go, but they do not go far enough. That is to say, that while the above figures are undoubtedly correct as representing cases of sickness and death from cholera, they by no means include all such cases which have occurred. The officials of the Sanitary Department are well aware of this fact, and do not hesitate to say that the gravity of the epidemic, except for the city of Manila, is by no means expressed in the returns received by them. The most conservative estimates of those best qualified to judge place the true number of cases of cholera at twice those actually reported, and the true number of deaths at about 80 per cent. more than appear in the official statistics. This raises the probable cholera mortality for the islands, from the inception of the present epidemic to January 5, 1903, to a total of 139,190 deaths, and the total number of cases to 244,204. Certainly the estimates should not be placed lower than this. Obviously, in the absence of reliable statistical data, it will be impossible to draw accurate scientific deductions from the history of the present cholera epidemic when it shall have been written.

One feature of the outbreak of cholera in the southern islands of the Philippines is the recrudescence of the old idea concerning the poisoning of wells in epidemics of this sort. This belief is firmly held by many Filipinos, who are convinced that the poisoning has been done by the Americans to bring about the extermination of the natives. In severe instances, American civil officials have been attacked for this reason by the ignorant natives of outlying villages, and sanitary work has been interfered with. The use of disinfectants, to which they are unaccustomed, is probably the reason for the present origination of this idea. That Kipling's description of the Oriental as "half devil and half child" is most applicable to the low-class Filipino, is almost daily demonstrated by such instances.

The Santiago Cholera Hospital, at Manila, was discontinued on January 1, after having been in existence since March 27, 1902, as the convent in which it was located will soon be reoccupied by the French Catholic sisters to whom it belongs. During the Filipino insurrection this convent was occupied by the military authorities for use as an army hospital. Since it became a cholera hospital, under the Civil Government, 1,268 cases of cholera have been treated therein, with an average mortality of 65.28 per cent. This number included 146 cases occurring in Americans, of which number 32.87 per cent. proved fatal. In the future all cholera cases outside those occurring in the military service will be treated in a Nipa hospital, of 200 beds' capacity, which has been erected on the grounds adjoining the San Lazaro leper and venereal hospital. The army maintains a separate cholera hospital for cases among soldiers. At present it contains no cases under treatment, but is kept in readiness for emergency.

Since the middle of December there have been no cases of cholera among the troops near Manila, and only a few cases among those in the southern islands, where the disease is now prevailing extensively. At the present writing, nine cases, with six deaths, are reported as having occurred in twenty-four hours in the garrison of a small one-company post on the island of Leyte. Such instances as this, however, are the rare exceptions which prove the thorough efficiency of the preventive measures generally employed by the army surgeons against cholera, and outbreaks of this sort can almost invariably be traced to disobedience of sanitary orders by soldiers. Example after example might be given where military garrisons escaped absolutely unscathed, while the pestilence was destroying 10 or 20 per cent. of the native population living around them and in close proximity. Cholera is readily amenable to control if proper sanitary regulations can be carried out; but, unfortunately, they cannot be properly carried out with the fatalistic Filipino.

Several cases of plague have recently appeared in Manila, apparently originating from a previously latent infection remaining after the outbreaks of the past two years. The cases all occurred in natives, and appeared in the districts largely populated by Chinese. Among all the cases which have occurred in the past, only one or two have occurred in Americans, and the great majority among Filipinos rather than Chinese. Nearly all have proved rapidly fatal. Although the highly insanitary habits and surroundings of the Chinese appear greatly to favor the continued existence of the infection, the fact that they wear much better protections for the feet and legs than do the Filipinos probably renders them much less liable to the occurrence of abrasions, through which the plague bacillus present in infected soil can gain entrance to the organism. This fact, and also the avoidance by them of the infected districts, can also explain the relative infrequency of the disease among the Americans. So far, plague seems to have manifested no special tendency to spread from Manila to the outlying towns or provinces, and to have been kept under by the efforts of the Manila health authorities, which have, however, been unable to eradicate the infection. The destruction of rats is being carried on by rat-catching crews of six Filipinos attached to every station of the Manila Board of Health, and is encouraged generally among the natives, although the bounty on rats was withdrawn during the temporary disappearance of plague during the past few months. Every effort is being made to improve the sanitary condition of the buildings in the infected districts, which are confined to the poorer quarters of Manila. As in Canton and other Chinese towns, the disease appears to have become endemic, and not readily to be stamped out, though its eradication from Hong Kong and Honolulu show what has been done under conditions which, while insanitary, were yet more favorable than those which exist in Manila at present.

As cholera seems to have escaped so wholly from control, the special efforts of the Manila health authorities seem to be now directed against the plague infection. The latter, however, appears to be very insidious and resistant, and will not soon be entirely destroyed without the use of the most stringent and expensive measures, which the health authorities are scarcely in a position, politically and financially, to apply at the present time. In fact, the question of ways and means is a most potent factor in the consideration of all sanitary problems in the Philippines, and often interferes to block sanitary progress.

Much laxity of method, and considerable dishonesty on the part of some of the officials, has been revealed by a recent investigation of the lately appointed Commissioner of Health into the affairs of his office. Financial matters have been found to be very much involved. The disbursing officer of the health service has been tried, convicted, and sentenced to twelve years in Bilibid Prison for embezzlement of funds, and several sanitary inspectors have been discharged for cause. It seems to be clear that many bribes have been taken from merchants, Chinese and others, though these facts have been so well concealed as to be difficult of legal proof. The power of discharge has, however, been unsparingly employed. It is very unfortunate that such malfeasance of office should have occurred, as this, while common enough under the Spanish administration of affairs, was not expected under American control. The fault seems to lie in the relatively untrustworthy and undesirable class of men who are now attracted by the small emoluments offered for service in the Board of Health. The remedy is a higher scale of pay and a corresponding elevation in the standard of morals and professional efficiency required. Medical men connected with the sanitary service should be well paid for their important work, and should not be permitted to engage in outside practice, which almost invariably results to the greater or less neglect of official duties. Examinations, under the Civil Service Commission, have been held in the United States for appointment as municipal and provincial health officers in the Philippines, and the names

of more than one hundred approved candidates are now on the waiting list available for appointment. The pay of such positions is to be $1,800 and $2,000 per annum, and the opportunity for outside practice figures among the inducements offered. This pay, however, is insufficient to secure the high class of medical men sorely needed by the health authorities, who are unwilling to undergo the discomforts and isolation incident to Philippine service for the sum offered. It would seem to be more advantageous to increase the above pay by 50 or even 100 per cent., and to reduce correspondingly the number of medical men employed. What is wanted by the health authorities is not a large number of general practitioners of medicine of mediocre ability, but a sufficiency of experts in sanitary matters, who are qualified to plan intelligently and supervise efficiently the execution of measures intimately connected with sanitary and financial welfare of large cities and whole provinces, counting their population by the hundred thousand. It would seem to the qualified observer that the Civil Government makes a serious mistake in placing quantity ahead of quality. General medical practitioners are settling in the islands in increasing numbers because of the opportunities for practice offered by the increasing American population in the large cities, but the sanitary experts of which there is most urgent need will never come to the Philippines except as Government officials and under a higher scale of pay than that now authorized.

An urgent need of the Philippine Islands at the present time also has to do with the establishment of dispensaries and hospitals in the larger cities at which indigent natives can receive free medical treatment of good character, also the districting of the provinces under qualified medical men, who should be required to treat gratuitously all patients not able to pay for treatment and living in their district. Of course, the hospitals and dispensaries would have to be supported, and the district physicians salaried, by the Civil Government. This system is employed by the British in many of their colonies, and works very successfully. At present the "rice-paddy" Filipino of the country is born, lives, and dies without ever receiving treatment by a qualified physician. He is too indolent to work, and, consequently, is unable to pay for the services of a medical man, who would not be able to exist in a small town, of even a couple of thousand inhabitants, without the aid of a salary from the Government. Where the average Filipino of the country earns and supports his family on about six dollars, United States currency, per month, it is idle to talk of his being able to pay living fees for medical attendance. As a result, large towns and provinces have not a single physician within their limits, and many deaths and disabilities occur which could readily be avoided by proper medical attention. Thus, on the island of Mindoro, a hundred miles long and fifty miles wide, only twelve hours' sail from Manila, there is not a single physician or drug store. A certain rude medical practice is attempted here and there by native "practicantes," but their knowledge is small, their practice empirical, and it is doubtful if their ministrations are not productive of more harm than good. Heroic doses of nauseous medicines of illy-understood effect are prescribed, and the application of blisters, as something which can be seen, felt, and appreciated by even the most ignorant "hombre" is a favorite method of treatment for any and every disease. Without even the most elementary knowledge of anatomy, surgery in any of its branches is quite beyond them, and, except in the treatment of fractures, is never attempted. Wounds received almost invariably go on to suppuration and are always serious—this probably explaining the disinclination of Filipinos to submit to any cutting operation. Antisepsis is not understood, and wounds are unhesitatingly infected by dirty fingers. Dressings carefully put on the wounds of natives by army surgeons are usually removed by "practicantes" subsequently having charge of the cases, and the wounds covered with dirty rags dipped in solutions of their own compounding. Operative midwifery is unknown, but, fortunately, the native women are blessed with easy deliveries as a general rule; when a serious complication occurs, they suffer and die without interference. This dearth of competent medical attendance, and its results, can scarcely be understood in the United States, when every little town or country crossroads has its doctor. There is no question but that the provision of hospitals, dispensaries, and government physicians is a most important part of the "white man's burden," which we have assumed in relation to the Philippines.

The resignation of Dr. Richard P. Strong, of his commission, as assistant surgeon, U. S. Army, has just been announced, he having accepted a place under the Civil Commission for the Philippine Islands as Chief of the new Government laboratories of Manila. With the resignation of Dr. Strong, the army loses one of its best young men, while the Civil Government could find no one better qualified to perform the duties of the place to which he has been appointed. Dr. Strong is a graduate of Yale and Johns Hopkins Universities, and of Johns Hopkins Hospital. He has been on duty in Manila for about three years, a large part of the time as the head of the Army Pathological Laboratory. He has carried on most valuable scientific work during his service, publishing exhaustive reports on the animal parasites of the Philippines and the etiology of the dysentery common in the islands. His serum for rinderpest is most successful in the immunization of animals against this disease, and is now being supplied gratuitously to all applicants by the Civil Government.

A careful study of the mosquitos to be found in the Philippine Archipelago is being made by the Army Medical Department. Surgeons at the various military stations are required to collect specimens of the various mosquitos found in the vicinity of their posts, and to forward them to the U. S. Army General Hospital at San Francisco, where they are examined and identified. Although to a certain extent entomological, it is thought that this work should have a close relation to the distribution and prevalence of certain diseases in the Philippine Islands. Already a new variety of Anopheles, probably malaria-bearing, has been identified as occurring among the mountainous region of Northern Luzon, while the mosquito most common in Manila and on the low-lying coast lands has been demonstrated to be the true Stegomyia, the intermediate host of the yellow-fever infection. Should the latter ever be carried to the Philippines; as may very likely occur after the completion of the Panama Canal, there is no question but that the disease would be spread rapidly, and prove most difficult, if not impossible, of control. Many of the medical men in the islands are also inclined to believe that some variety of mosquito serves as the transmitting agent of dengue fever, though this has not as yet been demonstrated.

In the present work of mosquito identification, collections are made at least monthly, and of as many varieties as are obtainable, so as to permit of a determination of the period of flight of each species at each collecting station, its relation to the seasons and to the prevalence of various fevers. It is thought that the data so secured will be suggestive of the species likely to give positive results for pathological study, and of the best methods and times for their destruction when this is practicable. Such identification and classification would also prevent the possible loss of time in looking for species, which, though known to be pathological, may not be present in the Philippines. By the systematic co-operation of the army surgeons, it is expected that reliable results can be obtained in a year or so, which, under ordinary conditions of mosquito collection and observation, would take many years to secure.

This is but one of the many tasks to which the Army Medical Department has set itself in the interests of medical progress, and the elevation of the sanitary condition of troops on duty in the tropics. The thoroughness with which it is being carried out augurs well for its success. That the army surgeons are making such good use of their unequaled opportunities for investigation into tropical diseases should be a cause for gratification and pride to the general medical profession of the country.

Two Cases of Suture of the Left Ventricle for Punctured and Incised Wounds.—Errico Giordano reports two cases of this operation. The first, a youth of twenty-three years, had received a dagger wound which penetrated into the myocardium. After suture the cardiac beats became stronger and more rhythmical, but the patient had lost so much blood that it was impossible to save his life, and he died of profound anæmia. The second patient was twenty-six years old, and in an attempt at suicide gave himself three knife wounds in the chest. One of the wounds had penetrated the myocardium of the left ventricle, where, from an incision two centimeters long, a gush of blood made its exit with every systole. Two stitches were introduced by means of a Madelung needle, the pericardium was sutured and the cutaneous wound closed with the exception of about one-fifth of its extent, in which a gauze was left for drainage. On the fourth day after the operation the temperature rose, and examination showed that one of the wounds had not healed, but that there was a focus of pus. This was emptied and drained, and the temperature in two days fell to normal. The deeper part of the wound united, but a portion of the superficial wound showed no tendency to cicatrization, and at one extremity became necrotic; the author therefore scraped the granulating surfaces and removed the necrosed portions. A complete recovery followed.—*Giornale Internazionale delle Scienze Mediche*, January 15, 1903.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Feb. 12, 1903.

A Form of Pressure Anæmia of the Uvula Which May Be Mistaken for Membrane.—W. P. Coues says that this condition of the uvula has come to his notice in several cases of severe throat infection when the tonsils have become greatly swollen, so that one or both impinge on the side of the uvula, almost blocking up the throat. On gently separating the tonsil from the uvula a white spot is seen, which may, in a hasty examination, particularly if diphtheria is suspected, be mistaken for membrane. Continued pressure of the tonsil on this spot may even cut off the circulation of that part of the uvula and lead to a superficial necrosis. On more careful examination it will be seen that the white spot is formed at exactly the point of impact of the tonsil and uvula, that it is not raised above the surface, and that it does not bleed when touched. This condition, the author believes, occurs usually in streptococcus infection of the throat, when a non-diphtheritic membrane is perfectly possible.

A Report of a Case of Multiple Neuritis of Questionable Origin.—Arthur W. Marsh and George C. Smith report the case of a patient who was suffering from a slight attack of pharyngitis. This was followed by a period of about two weeks of general weakness with freedom from pain, during which time there was also great nervousness. Then came seven weeks of pain, with swelling and tenderness in all four extremities. During this time hallucinations of sight, sound, location, and fright were present. This period was followed by a month of freedom from pain, but by steadily increasing cloudiness of the mental faculties. Finally a period of four to five days of very high fever, terminating in death. It was evident that the patient had a multiple neuritis, and that it was merely an expression of, or sequel to, an acute infection of some kind which had existed some time before peripheral neuritis manifested itself. Other causes being excluded, the two acute infections which suggested themselves as the most probable were influenza and tuberculosis. The authors give the various arguments in favor of and against each of these conditions and leave the question of etiology undecided.

Journal of the American Medical Association, Feb. 14, 1903.

A Study of the Contents of the Vesicles and Pustules of Smallpox.—J. F. Schamberg has studied cultures from eighty-two lesions in fifty-one different patients He concludes that the pustulation in smallpox is not due to secondary infection with any of the ordinary pyogenic germs, but is the result, in all probability, of the action of the microorganism which produces the disease. Streptococci and other adventitious bacteria may be present in the late pustules, but occur only exceptionally in the early lesions. It is probable that the streptococcus plays an important part in the development of impetigo, boils, abscesses, erysipelas, and gangrene which so commonly complicate smallpox.

Sanitation and Politics.—Walter Wyman says that it would make an interesting chapter to detail the interference of faulty politics with sanitary affairs. Everyone will recall instances of the shameful sacrifice of sanitary and health matters to the selfish and unrighteous interests of unworthy politicians, but the simple inveighing against unprincipled politicians and impure politics has no corrective tendency. A more effective way is by substitution, by forcing to the front worthy issues on which the best citizens and worthy politicians may unite, and it has frequently occurred to me that such issues may be found in sanitary and hygienic policies. Thus can politics be made to aid us in hygienic and sanitary reforms and in the attainment of that sanitary welfare of communities and nations which means fresh air and sunlight, pure water and house drainage, sewerage and good paving, for the enjoyment of all. These the rich already possess, but the poor do not. But the rich cannot reap the full benefits of these possessions until they are shared in by the poor, for the diseases incident to the overcrowding and bad sanitation of the homes of the poor find their way into the homes of the wealthy.

Medical News February 14, 1903.

Postdiphtheritic Paralysis Affecting the Ear and Throat.—Carle Lee Felt states that the most frequent site of the paralysis is the pharynx. The ear may suffer and deafness result. The duration of these palsies may be from a few days to weeks or months, and, rarely, may never be recovered from. The restoration of function depends first upon the nature and extent of damage done, and, when the damage is reparable, upon the treatment and care of the case. It is generally conceded that antitoxin prevents and never causes paralysis. Rest in bed, nutritious and easily assimilable diet, the perfect action of skin, kidneys, and bowels, are all adjuvants in lessening the severity of the paralysis. Strychnine is the most useful drug to restore impaired function. Electricity, tonic baths, and general massage are all beneficial.

Postdiphtheritic Paralysis Affecting the General Nervous System.—Luther C. Peter believes that the frequency of paralysis is in direct proportion to the severity of the general infection, although a severe form of palsy may follow a mild type of diphtheritic intoxication. Diphtheria of the posterior nares predisposes especially to both local and widespread palsy. The most generally accepted view of the pathology of this affection is that the entire neuron, either motor or sensory, may be the seat of pathological changes, the peripheral neuritis predominating and often existing without demonstrable change in the cord. The most characteristic symptoms of onset are irregular heart action, bradycardia, tachycardia, a lowering of temperature and vomiting. Diagnosis offers little difficulty. The prognosis in general is good. The use of antitoxin is a valuable prophylactic against paralysis. Absolute rest is imperative even for several days after the external evidences of the disease have disappeared. Iron and strychnine in liberal doses are probably the most satisfactory drugs.

Postdiphtheritic Ocular Paralysis.—P. N. K. Schwenk declares that of all acute infectious diseases, diphtheria is the most common cause of ocular paralysis. This paralysis is an essential part of the disease, probably due to its toxins. Generally the paralysis appears first in the fauces, affecting deglutition and then involving successively the muscles of accommodation and those of the extremities. Two striking points are: Only a comparatively small number of muscles are usually affected at the same time; the sphincter muscles are seldom or almost never involved in the paresis. The ciliary muscles are more often involved as a sequence of diphtheria than any other part of the muscular system, excepting the velum palati. Diphtheritic paralysis is generally bilateral. The paralysis of accommodation shows itself in from two to six weeks after an attack of diphtheria, and generally passes off in about the same time. Recovery is more rapid in the young than in the old. The affection is noted in convalescence in the inability to see near objects acutely. Diplopia is observed when one or more of the extrinsic muscles are affected. The affection of the external muscles is generally of short duration, except when the two internal recti muscles are involved. The peripheral theory alone will account for the generally active pupils, the frequency of paresis rather than paralysis, and the bilateral character of the lesions.

New York Medical Journal, February 14, 1903.

Residual Urine.—H. E. Hale says that one cause of residual urine may be the hypertrophied middle lobe of the prostate, behind the internal orifice of the urethra. Thus the internal aspect of the base of the bladder is divided by a transverse dam into an anterior and posterior pocket. The former is drained by the urethra, while the latter is not so drained in the upright position. When such a condition is found the patient is directed to void his urine twice daily while in the knee-elbow position. Patients in whom the bladder wall has lost its tonicity are not benefited by this method of urinating; its sphere of usefulness is limited to the earlier stages of disease.

The Etiological Significance of Heberden's Nodes.—Under this title E. M. Merrins refers to the little hard knobs about the size of a pea frequenty seen upon the fingers, particularly a little below the top, near the point. They are due to an osteophytic enlargement of the tubercles of bone normally present on the bases of the phalanges, the second row sometimes being affected as well as the third; the morbid changes in the adjacent joint structures are indistinguishable from those of osteoarthritis, and the cystic swellings often seen upon the summit of the nodes are protrusions of the synovial membrane. Peculiar sensations, such as numbness and pricking, often accompany their development, and in some cases there is pain, though this is seldom severe. They may exist as isolated phenomena, but are generally associated with affections of other joints. These nodules have been variously interpreted as characteristic of gout, cancer, autointoxication, senility, rheumatoid arthritis, wear and tear of various occupations, and certain cases of Raynaud's disease. In nearly all of these there is some mechanical, chemical, or toxic irritant in the system. Vitality is impaired, and finally we know that any abnormity of the circulation due to vasomotor disturbance, arteriosclerosis, or other cause, interferes with the nutrition of the tissues, and this bears most heavily upon the extremities, because they are peripheral and so at a dis-

advantage as regards the influence of cold and their supply of blood. Heberden's nodes, then, are simply evidences of structural degeneration dependent upon one or more of the factors above mentioned, and may occur in any condition in which such factors are present; but they are most likely to occur in those chronic diseases in which morbid bony changes form the principal feature of the disease, as in gout and the osteoarthritic variety of rheumatoid disease.

American Medicine, February 14, 1903.

The Nervous Cardiac Symptoms Due to High Altitudes.—F. Savary Pearce considers first the effect of altitude upon the heart in normal people. When not made suddenly, and to a height not greater than 5,280 feet, changes of altitudes in healthful countries will not cause the least disturbance. Increasing altitude tends to produce a more easily excitable heart in normal persons, due partly to the increased peripheral circulation through the lessened vis-a-fronte. If this is continued through several generations, dwarfism may result as in the men of Thibet. Next is considered the effect of altitude upon the heart in functional nervous disease. The "nervous heart" is entirely dependent upon the nervous system. The rapid, irritable heart is frequent in neurasthenics. It is well-known that an altitude of over 2,000 feet is contra-indicated for the neurasthenic or convalescent. Neither should he be exposed to high winds or frequent fogs. A sea voyage is generally beneficial. If it is not stormy it is soothing, both physically and psychically. In case of organic disease of the nervous system any change of altitude should be considered very carefully in relation to the rhythm of the heart, absence of cardiac disease, etc. The writer believes that altitude will have a favorable effect on the heart in cases of hypertrophy when due to resistance in the course of the circulation peripheral to the capillaries, as in Raynaud's disease and angioneurotic œdema. Moderate altitude is demanded in disease of the endocardium. In cases of loss of compensation, an altitude of 2,500 feet or more in a dry climate will be beneficial in most cases. Emphysema, especially if associated with asthma, will often be benefited by a high dry altitude.

The Significance of the Presence of Streptococci in Market Milk.—Raymond Clinton Reed states that their is great confusion in the study of streptococci. Their classification is still unsettled. The common prevalence of mammitis in the cow constitutes an important source of streptococci in market milk. The insidious onset of the disease is responsible to some degree for the marketing of infected milk by dealers with innocent intentions. The milk, directly after drawing, is usually strained into a forty-quart can, or even larger receptacle. The existence of udder inflammation is frequently first brought to notice by curd-like masses lodged on the strainer after the infected milk has been mixed with the wholesome milk. The ignorance or greed of the milker, or both, may prevent the rejection of the infected lot. From the references available to us, it is evident that the medical profession regards the presence of streptococci in market milk as dangerous to public health. The transition from the condition in which a few streptococci remain after a mild attack of mammitis to one in which streptococci are found in a healthy udder is a slight one. The writer adds that he has been unable to discover characters by which the streptococci found in the healthy udder can be differentiated from those associated with active inflammation of that gland. Recent investigations indicate that streptococci are found in the healthy udder more frequently than was formerly believed to be the case. In order to understand the conditions under which these streptococci harbored in the healthy udder may become virulent will require a further study of the pathology of mammitis.

Philadelphia Medical Journal, February 7, 1903.

A Study of Fifty-five Fatal Cases of Pertussis.—Marion McH. Hull concludes his paper as follows: The indications are plainly to support the patient, to establish an equilibrium in the nerve centers, and to prevent the further absorption of toxins by destroying the microorganism producing them. The first indication is best met by plenty of fresh air and digestible, nourishing food; by stimulants carefully used; by iron in a form that will not derange the digestion, and by quinine, given with the same precaution. No drug should be used that interferes with the processes of digestion and assimilation in a disease that calls for so much of the patient's vital force. The second indication is best met by the measures just mentioned, and by nerve sedatives. The third indication is best met by antiseptic sprays, difficult as they are to use with the class of sufferers under consideration. The writer believes that the characteristic lesion of the disease is a bronchial catarrh, caused by the specific microorganism, the toxin of which acts principally on the nerve centers, lowering their resistance to afferent impulses of all kinds: those centers controlling the respiratory tract, and especially that of the superior laryngeal nerve, being more affected than the others.

The Elevation of the Stomach in Gastroptosis by the Surgical Plication of the Gastrohepatic and Gastrophrenic Ligaments; an Original Operation.—Henry D. Beyea describes his operation: The abdomen is opened midway between the xiphoid cartilage and umbilicus. The tissues are separated and the peritoneal cavity opened, exposing a small portion of the lesser curvature and cardiac end of the stomach, the gastrohepatic ligament or omentum, gostrophrenic ligament and the lower portion of the left lobe of the liver. The table is elevated to the Trendelenburg position, and the stomach displaced still further downward and out of the wound by means of gauze sponges. This slightly stretches and separates from the underlying structures, the gastrohepatic and gastrophrenic ligaments, which permits an accurate determination of their length, and facilitates operation. The principle of this operation is that, by placing three rows of interrrupted silk sutures from above downward and from right to left through the gastrophrenic and gastrohepatic ligaments, a broad transverse fold or plication is formed in shortening these ligamentary supports and elevating the stomach to normal position. The normal ligaments are shortened and the stomach elevated to position without disturbing the physiological mobility or functions of the organ. The suturing is strictly confined to the normal ligamentary supports, and the distance between the rows from left to right is increased with the length of the ligaments, being greater toward the right. The sutures are secured, and the stomach, particularly the pyloric end, is elevated to a little above the normal position. The results of this operation have been wonderfully encouraging.

Philadelphia Medical Journal, February 14, 1903.

The Röntgen Treatment of Malignant Disease.—Charles Lester Leonard says that the best method of treatment seems to be the combination of early radical surgical operation and the Röntgen treatment. The curative power of the Röntgen treatment is not uniform. Its action appears to be both stimulant and alterative. The dosage or amount of alterative agent best adapted to different varieties of tumors has not been determined. This agent has an alterative and destructive action upon malignant tissue, producing retrograde changes that vary in their degree and intensity. When the dosage shall be determined, this agent will undoubtedly prove to be one of the most potent. As a primary method of treatment it has no place, except when operation is contraindicated or when more cosmetic results can be produced, in cases which life is not threatened by delay or in which the disease is already inoperable. This agent must be employed with great care.

Immunization against Tuberculosis.—Simon Flexner reviews the work done on this subject. He states that perhaps the most conclusive experiments have been made by Pearson and Gilliland. These workers, by using suspensions of cultures of human bacilli for inoculation of healthy cattle, have succeeded in affording a protection almost absolute for bovine bacilli, otherwise virulent for these animals. After repeated intravenous injections of cultures of tubercle bacilli from human sputum, the resistance of young cattle to virulent tubercle bacilli of bovine origin may be increased to such an extent that they are not injured by inoculations with quantities of the latter bacilli sufficient to cause extensive tuberculous disease, or to produce death in animals not so protected. It is an unprofitable attitude to assume longer any generic distinction between bovine and human bacilli. The successful attempts to produce immunity from bovine tuberculosis do not stand out as isolated performances, but are merely the ultimata of many unsuccessful and some partly successful experiments which have gone before. Theobald Smith demonstrated the differences between bovine and human tubercle bacilli. Trudeau protected rabbits and guinea-pigs from certain tuberculous infections by previous inoculation with tubercle bacilli of diminished virulence. It is a matter of national pride that both of these investigators are Americans.

Tropical Diseases.—Charles F. Kieffer discusses four diseases very closely allied to dysentery: epidemic gangrenous rectitis; chronic rectitis; hill diarrhœa; sprue psilosis or atrophic enteritis. Epidemic gangrenous rectitis begins with local symptoms referred to the anus and lower rectum. There is burning and intolerable itching, followed by severe dysenteric symptoms. The etiology is quite obscure. This disease is an expression

of a localized dysenteric process rather than a separate morbid entity. Treatment consists in antisepsis of the rectum with creolin or hydrogen peroxide, adding opium to the local treatment for the relief of pain. In prolapse of the rectum it should be covered with freshly ignited charcoal. The disease is very fatal. Chronic rectitis is a slow inflammatory process in the rectum which seems to follow dysentery, but may occur without it. The sphincter should be widely divulsed and a tube wrapped with iodoform gauze inserted and retained several days. In hill diarrhœa the dyspeptic symptoms are quite pronounced. Little is known of the pathology of this peculiar condition. The diarrhœa comes on generally in the early morning, continues during the forenoon and ceases about midday. Treatment is directed to the restoration of intestinal digestion and the maintenance of a relative degree of rest to the tract by liquid or milk diet. Sprue is not a distinct morbid entity. Clinically, it presents three cardinal symptoms: sore mouth, flatulency, and diarrhœa. Its course is very slow and chronic. If treatment is begun before the atrophy of the bowel is too far advanced, cure is the rule. There should be an absolute milk diet, which should be taken slowly. The quantity is gradually increased till the patient can take a gallon of milk a day. This must be continued for from four to six weeks, and then, very gradually, soft diet is resumed and in the course of months, with extreme care, mixed diet may be assimilated.

The Lancet, January 31, 1903.

Suppression of Urine in a Case of Ovarian Tumor and Pregnancy; Removal of Tumor and Uterus; Recovery.—B. Pitts gives in detail the history of a case of the nature suggested by the title. He notes that the anuria of pregnancy practically occurs only under two conditions: (1) when pregnancy is associated with definite acute nephritis and (2) in eclampsia arising from definite renal lesions. In both of these we look for general œdema, headache, vomiting, tremors, and general convulsions (the symptom complex present in his own case). Pressure, as of a tumor on the sympathetic flexus, does not explain anuria. Traumatism by its influence through the sympathetic system may produce oliguria or anuria, but it is hardly conceivable that a steadily-increasing pressure on the sympathetic should produce so serious an effect on the action of the kidneys without the addition of some additional factor as catheterization or the movement of a calculus.

Sunstroke.—After describing a fatal case, J. G. Duncanson says that the solar rays act, in the first place, directly by causing a disturbance in those vasomotor centers which are situated in the medulla, affecting the proper discharge of their functions, and specially interfering with the action of the sympathetic system. The blood vessels of the brain are enormously dilated, also those of the cord and the thoracic and abdominal organs; but those throughout the voluntary muscular system do not appear to be affected. The contracted pupils, absence of sweat, Cheyne-Stokes' respiration, and hyperpyrexia, all primary symptoms, point to this conclusion. It is not possible that a microbic influence is at work, and the early appearance of leptomeningitis would tend to give support to this theory. For treatment Duncanson advocates the usual cold baths, calomel purgation, and the frequent use of combination of spirit of Minderérus, bromide of potassium, and sweet spirit of niter. Digitalis and stimulants are called for by a flagging circulation. Strychnine is not indicated.

The Meaning of Uric Acid and the Urates.—Woods-Hutchinson says: (1) There is no connection whatever between the production of urea and of uric acid, hence interdiction and marked limitation of animal or of nitrogenous foods, as such, in gout is irrational. (2) The uric acid produced in health comes exclusively from two sources, the larger moiety, or *exogenous* uric acid of Chittenden, from the nucleins and purin bases of the food, the smaller, or *endogenous* moiety, from the destructive metabolism of the nucleins of the body tissues. (3) It is the *endogenous moiety alone* which is increased in gout and lithæmia. (4) Gout and lithæmia are mere symptom names for a miscellaneous group of chronic toxæmic processes of widely varied origin, characterized by the production of uric acid and the urates. (5) By "gouty diathesis" we mean the possession of a sufficient degree of resisting power on the part of the protective cells of the body to oppose the entrance of any poison, whatever its character or source, with consequent destructive metabolism and production of uric acid, but not adequate to neutralize or successfully to prevent its absorption. (6) The uric acid of gout, like the phosphoric acid which invariably accompanies it, is merely a result and measure of the destructive metabolism of the nucleins of the body cells, chiefly probably of the leucocytes, in response to the invasion of poisons or toxins, either organic or inorganic (lead, phosphorus, alcohol, acetone). (7) Hence the use of lithia or other "solvent" agents is irrational, and any benefits resulting are to be explained on other grounds. (8) As most of the toxins setting up this destructive metabolism and consequent uric acid production are of intestinal origin or entry, *diet in gout should be regulated solely with regard to the diminution of intestinal fermentation and putrefaction.* (9) As animal foods, from their much more appetizing and attractive flavors, are more apt to be indulged in in excess of the oxidative powers of the body, their limitation may be found to be more frequently necessary than that of vegetable foods, but sugars and starches are also very often at fault. (10) As uric acid and the alloxur group are not toxic, or at best feebly so, and are not the cause of gout, the prohibition of even foods rich in nucleins and purin bases, such as red meats, roe, and sweetbreads, has no rational basis, and is clinically of doubtful utility, except by diminishing the attractiveness of the dietary. (11) The rôle of the liver in gout is a negative one, being inability to perform its chief normal function as a "poison filter," and to absorb or to transform into harmless excretory substances the excess of toxins brought to it by the portal vein. (12) The drugs found of value in gout owe their efficacy chiefly to their power of checking intestinal putrefaction or of preventing the absorption or promoting the elimination of its products.

The Lancet, February 7, 1903.

A Case of Spurious Labor.—The patient of J. A. A. Pereiva was a woman of twenty-four years. Exactly nine months after her marriage he was sent for, the message stating that the patient was in labor. On his arrival at the house, he found labor apparently in full progress; the patient in bed with her face in the pillow and pulling vigorously at a jack-towel tied to the foot of the bed. Examination, however, revealed a flat abdomen and a hard conical cervix. The patient belonged to a very neurotic family.

The Infective Nature and Etiology of Pernicious Anæmia.—W. Hunter regards this disease as identical with the "idiopathic anæmia" of Addison. Of twenty-five cases observed by him during three years the age varied from thirty-two to seventy-two years; nineteen were men and six were women; seventeen were private and eight were hospital patients. A history of antecedent gastric or intestinal disturbance was found in every case, but in none were the disturbance sufficient to account for the profound anæmia. In all the foregoing and in the cases (seven in number) in which autopsies were made, there were invariably present infective lesions in the mouth, tongue, stomach, or intestine, either singly or associated with each other. These were of two classes: (1) A special form of glossitis (in every case); (2) septic lesions—viz., (*a*) a preceding or existing "oral sepsis" (twenty-four cases); (*b*) "septic gastritis," the condition previously described, as a common result of long-continued oral sepsis, causing finally gastric atrophy (more or less in every case and most intense in three cases); and (*c*) "septic enteritis," *e. g.* a croupous enteritis, patches of congestion and catarrh, follicular enlargement, and patchy colitis (three cases). Yet none of these were, in the author's opinion, the true cause of the condition. From all these facts Hunter concludes that the malady is due to some special etiology—general etiology will not account for it. The two classes of lesions he considers of importance are a special hæmolysis and a glossitis. The former is characterized by an excess of iron in the liver, spleen, and kidneys. Hence there are two sets of infective factors: (1) A specific hæmolytic infection, whose site and lesions are as above noted, and (2) a septic infection arising from some portion of the gastroenteric tract and probably in the tongue.

British Medical Journal, January 31, 1903.

On a Case Illustrating the Value of Physiological Rest.—W. M. Willis reports the case of a man seventy-two years old who suffered from pain in the rectum and the passage of large quantities of pus and blood. A large ulcerating surface was found on the posterior wall of the rectum, and extending around the greater part of the circumference of the bowel and reaching down to about two inches from the anus. Malignant disease was excluded from the fact that there was an absence of extreme induration of the edges of the ulcer. His age, and the acuteness of the trouble, rendered tubercle improbable. His sex and the characters of the ulcer were not in favor of syphilis. It was inflammatory in nature, but the cause was not apparent. The virulence of the inflammation, as shown by a large slough, suggested an acute septic process. Colotomy was performed in two stages. For about a

week after the colon was opened, the rectum was washed through once daily, and on several occasions one ounce of iodoform emulsion was thrown into it after the irrigation. In less than a month all the ulceration was healed. Later the colotomy wound was closed. The disease was cured solely by the application of "physiological rest" to the part.

Case of Puerperal Hyperpyrexia of Malarial Origin.—Thomas William Clay reports the case of a primipara of twenty-eight years whom he delivered. On the seventh day the patient was taken with a severe chill, after which her temperature rose to 102.4° F. An enema was given and a large motion passed. Three hours from the onset of the first rigor a second severe chill came on. The temperature then rose to 107.8° F. Ice was applied to the head and rubbed on the skin of the abdomen and thorax. The temperature began to fall. Quinine was given, and the temperature became normal in four days. About one and a half years later the patient gave birth to a second child, and again on the twelfth day she had an attack resembling that after the first confinement. Quinine was administered and the temperature was normal in twenty-four hours. The main points in diagnosis of malarial puerperal fever from puerperal septicæmia as seen in this case are: The onset of fever did not take place until after the fifth day, probably always before this in septicæmia. The well-marked rigors and intermission of temperature were far more pronounced than in septicæmia. The duration of the symptoms was short.

British Medical Journal, February 7, 1903.

The Effects of Vaccinating During a Menstrual Period.—H. E. Rumley Dawson describes this unusual case. The patient, a woman of twenty-nine years, was vaccinated on the second day of her menstrual period. She fainted at the operation. The flow stopped completely and did not return. Her ordinary period was six days. The vaccination locally was a success. There was practical cessation of menstruation with symptoms of a premature menopause. Five months after the vaccination she vomited two full pints of very dark-looking blood, and gastric ulcer was diagnosed. That day the menstrual flow came on profusely, and lasted for six days. The diagnosis of gastric ulcer was later questioned, for she has been in good health since this period, with regular menstruation, and just after the attack of vomiting she journeyed to her home and stood the trip well. The hæmatemesis was then looked upon as due not to an ulcer, but as symptomatic of incipient menstruation. The case certainly indicates that it is not advisable to vaccinate at or during a menstrual period except under circumstances of great emergency.

On the Bilberry (Vaccinium Myrtillus) as a Remedy in Typhoid Fever and Other Infectious Diseases of the Intestine.—Max M. Bernstein has made a series of laboratory tests which show that the typhoid bacillus, Gaertner's bacillus, the cholera vibrio, and one kind of the pathogenic species of the bacillus coli communis were killed by the neutralized decoction of bilberry within twenty-four hours, whilst another kind of pathogenic bacillus coli was inhibited in its growth for twenty-four hours, and only the laboratory type (probably non-pathogenic) retained its vitality unimpaired. Stronger preparations would, of course, have a still prompter action. The strength need not be limited, as the berries are not poisonous. The infusion on the jam has a pleasant, fragrant, and refreshing taste. It can be taken hot or cold, and it can be easily mixed with mineral waters, tea, milk, etc. Neither the acid juice of the stomach nor the alkaline contents of the bowels will interfere with the action of the drug which reaches down to the correct part of the bowel. In enteric fever, V. myrtillus can claim to keep the intestine aseptic as far as bacillus typhosus is concerned, to prevent reabsorption and reinfection, and so prevent and cut short the duration of the infection. Its astringent and antibacillary effects act in a soothing, cleansing, and healing manner. The writer also believes that the antifermentative action of myrtillus will be of great use in avoiding perforation by preventing flatulence, which raises the intestinal pressure.

A Clinical Lecture on Astereognosis in Tabes Dorsalis.—George E. Renne declares that to arrive at an accurate judgment, or, in other words, for the complete normality of the stereognostic sense, it is clear that the cerebral cortical center or centers, the conducting paths, and the peripheral receptive sensory mechanisms must be intact. Disturbance of either of these parts of the nervous system may lead to the manifestation of "astereognosis." By clinical investigation it has been proved pretty conclusively that astereognosis may be present in a complete form in disease of the superior parietal lobe of the brain. Thus it may be assumed that this part of the cerebral cortex is concerned in the coördination or elaboration of the special sensations received from the periphery. The special sensations concerned in the recognition of the physical characters of objects felt with the eyes closed are as follows: The spacing sense; the localizing sense; the muscular sense, and sense of posture; pressure sense; temperature sense; pain sense. The loss of one or more of these different "senses" may determine an error of judgment, or an entire loss of this faculty. The writer reports two cases of tabes with the loss of the stereognostic sense. There is not the smallest evidence of any cerebral cortical disease such as would lead to the defective coördination of sensory impressions received from the periphery; thus it must be that the dissociation takes place either in the spinal cord from defective conduction, or in the peripheral sensory receptive mechanism. When astereognosis occurs in tabes, it is a manifestation of dissociation of these special sensory perceptions, which normally are all coördinated in the higher sensory centers in the brain. It does not occur in every case of tabes, which also goes to show the random action of the toxin, which, while it affects the afferent sensory neuron as a whole, in different cases, appears to affect more particularly different peripheral sensory structures or afferent nerve fibers.

Münchener medicinische Wochenschrift, January 20, 1903.

Trachoma.—A. Peters emphasizes the fact that trachoma is not to be diagnosed solely by the presence of the granules. There is no doubt but that many cases of true trachoma never show any granules. The observation of several epidemics have conclusively proven this. Frequently cases have been observed which cannot be differentiated on symptoms from ordinary chronic conjunctivitis. These cases, however, are contagious, and the contagium may give rise to the formation of true granules in other persons. In the prophylaxis of the disease these cases deserve most careful consideration, since their causative relation to the spread of the disease has been amply proven.

The Employment of Boracic Acid in Internal Medicine.—G. Merkel shows that the internal administration of boracic acid is injurious, in that it attacks the mucous membrane of the intestinal tract and thus gives rise to pronounced disturbances of the same. Eleven persons suffering from different diseases were given boracic acid by the stomach. The usual dose was 2 g. per day in watery solution. The longest period of administration was eight and the shortest two days. In all but four of these persons disturbances of the intestinal tract appeared shortly after beginning the treatment. The chief symptoms were gas formation in the stomach or intestines, marked pains in the same and diarrhœa. The author has had no experience with the administration of this drug to healthy persons, but does not regard this as essential to an opinion, since all of the above eleven persons showed no intestinal or gastric symptoms before taking the boracic acid. It seems certain that this substance causes gastrointestinal disturbances when employed internally, in the majority of cases, and should, if given at all, be used with great caution. It should never be used as a preservative for the various canned foods. Foods prepared with it should never be given to sick persons, nor even to those who are healthy, in any considerable quantity.

Deutsche medicinische Wochenschrift, January 22, 1903.

Differentiation of Human from Animal Bones by Wassermann's Method.—Albert Schütze has investigated, experimentally, this method. The principal of the method consists in the precipitation of human albuminoids by a specific antiserum—that is, a serum obtained from animals which have been subjected to consecutive inoculations of human albuminoids will precipitate such albuminoids in given dilution, but will have no such action against albuminoids of animal derivation. Schütze shows that the success of the method largely depends upon the nature and condition of the bones to be differentiated; thus fresh bones, rich in albuminous matter, are easily identified, while much more difficulty is experienced with bones which are dried or are poor in albuminoids. All in all, it may be said that under proper limitations the method is of value, and may be regarded as of a certain definite value in forensic medicine.

Free Receptors of Typhoid and Dysentery Bacilli and Dysentery Toxin.—M. Neisser and K. Shiga show, by a series of experiments, that certain receptors of typhoid and dysentery bacilli are free and easily pass into solutions which contain such organisms. Such receptors may be found in a mixture obtained as follows: a 24-hr. agar culture of one of the organisms is emulsified in 10 c.c. of sterile physiological saline solution and heated for 1 hr. at 60° C. It is then incubated for two days at 37° C, and filtered

through a porcelain filter. This fluid markedly accelerates the action of its corresponding immune serum, and when inoculated into rabbits gives rise to an agglutinating and bactericidal serum of very high power. If the above mixture is prepared with dysentery bacilli it contains a powerful toxin identical with that first described by Conradi. If 5 c.c. or 2 c.c. of the mixture is inoculated intravenously into rabbits they die within forty-eight hours and show the characteristic autopsy findings of dysentery. The action of this toxin is greatly weakened if in its preparation 75° C. instead of 60° C. is employed. It is precipitated by alcohol or ether, but is not deteriorated thereby.

Causation of Carcinoma.—L. Feinberg defends his recently described organism against the attacks of Hertwig, Lubarsch, and others. The chief facts which show that these bodies are parasites and not degenerative or other products of carcinomatus tissue relate to their histological structure. It is a well-known fact that the composite cells of animals or plants show a well-defined nuclear structure and one or more nucleoli, while single-celled microorganisms show neither of these. These latter, however, possess a nuclear substance, but this is present in the shape of a smaller or larger compact chromatin body, which stains intensely, and by most staining methods is surrounded by a narrow unstained zone. By the special staining method which Feinberg used he was enabled to stain this zone, and thus demonstrate that it is in no sense a vacuole. The bodies which Feinberg has described as microorganisms in carcinomatous tissue correspond entirely to the above histological requirements of single-cell organisms, and must be considered as such unless the established facts of histology are to be thrown aside. The demonstration of their presence is, of course, only the first step in the solution of the etiology of carcinoma, but their presence in such tissue is not to be doubted. The author has simply shown their presence in large numbers in fresh carcinomatous tissue, and pointed out that they very probably hold an etiological relation to this disease.

Berliner klinische Wochenschrift, January 26, 1903.

Etiology of Osteoarthropathic Lesions.—Walter Berent reports a case which shows the intimate relations which exist between nerve lesions and osteoarthropathic changes. So far as the latter were concerned, the case corresponded closely to one of "osteoarthropathie hypertrophiante pneumique," as described by Pierre Marie. The left upper extremity alone was involved. Examination revealed the presence of an aneurysm of the left subclavian artery, which was of long standing and exerted marked pressure upon the brachial plexus, causing thickening and pain in the larger nerves which supply the left upper extremity, together with secondary degenerations in the peripheral branches of the same. Other authors have regarded osteoarthropathic lesions as dependent upon nerve changes. The present case beautifully illustrates the connection between these and adds increased weight to the opinion that the bone changes are primarily due to nerve degenerations.

French and Italian Journals.

Condition of the Pelvis in Women Who Have Undergone Several Symphyseotomies.—Poirier speaks of a rachitic patient who has had nine children and has submitted to three symphyseotomies. As a result of these operations, there is a disjunction of the pubic bones which are separated by an interval of from 2 to 2½ cm. Into this breach the little finger can be inserted. A fibrous band connects the two parts in the form of a membranous bridge. But the great disadvantage to the patient is that on account of the mobility of the two parts of the pelvis, there is marked limping and discomfort in walking.—*La Presse Médicale*, January 24, 1903.

Sarcoma of the Superior Maxilla.—Derocque operated on a woman, forty-two years of age, suffering from sarcoma of the superior maxilla. She insisted that the operation leave as slight a trace as possible. After incision, as for total resection of the maxilla, section of the anterior wall of the sinus was performed with the scissors. After the ablation of this, it could be seen that the tumor, which was encapsulated, filled up almost the whole of the sinus. The alveolar border was almost entirely involved. Ablation of the maxilla was accomplished, the floor of the orbit being left. There was no deformity of the face. In tumors well limited, it is most useful to preserve the orbital floor, as this prevents the slipping of the ocular globe and holds out the cheek sufficiently to avoid deformity.—*La Revue Médicale, de Normandie*, January 25, 1903.

The General Pathology of Peripheral Neuritis.—S. Bianchini concludes from his experimental researches that many of the sensory lesions which accompany neuritis, whether they be irritative or degenerative, are referable to a primary local alteration of some portion of the peripheral fibers, more especially perhaps in the neurilemma. Moreover, these peripheral lesions react upon the medullary centers and the ganglia, and constitute a predisposition to toxic influences. The application of these conclusions may throw light on certain forms of neuritis in which there is apparently an ascending process, especially in some cases of Landry's paralysis in which the profound and irreparable lesions of the medullary and bulbar centers follow an initial peripher lesion.—*Rivista Critica di Clinica Medica*, January 17, 1903.

A Case of Multiple Cicatricial Cheloids.—Luigi Trabucchi reports the case of a young man who was affected with cheloids which extended from the upper margin of the third rib down to the left hypochondrium, and from the hemiscapular line posteriorly to the parasternal anteriorly. The growths varied in size from a pin head to a pigeon's egg, the largest being near the middle axillary line. The patient gave a history of pleuritis two years previously; treatment consisted of the application of tincture of iodine, followed by an unguent composed of antimony and potassium tartrate and croton oil. The use of this ointment was followed by a pustular eruption, which healed somewhat rapidly under treatment with some application of whose composition the patient was ignorant, but the more severe lesions left cicatrices which hypertrophied and assumed the dimensions above stated. There were about eighty of these cheloid growths.—*Gazzetta Medica Lombarda*, January 25, 1903.

Neurasthenia and Its Treatment.—C. N. de Blois gives as some of the causes of this affection: Late hours, excessive manual labor, mental work, emotion, grief, and severe traumatism, as railroad accidents. There is also a nervous heredity which creates false neurasthenia. The stigmata are of two kinds: Objective and subjective. Sometimes the patients look perfectly well. The subjective symptoms are generally on the psychical order. Insomnia is one of the most important and frequent symptoms. Of the gastrointestinal phenomena, the most predominant is difficulty and slowness of digestion. The mental condition varies greatly. There is no special diet for the neurasthenic. The ordinary mixed diet suitable in the majority of cases of gastrointestinal atony, is indicated. In the larger number of cases, short journeys, especially during convalescence, are indicated. They are one of the best means of obtaining distraction without effort. A friend should always accompany the patient.—*Le Bulletin Médical de Québec*, January, 1903.

Fibroma of the Thyroid Gland.—Vassile Ourmanoff, in his recent thesis, discusses this interesting subject. The fibroma of the thyroid is an interesting tumor on account of its extreme rarity and on account of the difficulty in its diagnosis. The writer has gathered together five authentic cases. The symptomatology is analogous to that of carcinoma, and the course, to that of a sarcoma of rapid growth. Minute study is necessary to differentiate it; often, indeed, the anatomo-pathological examination alone, after operation, permits the establishment of the nature of this affection. The etiology is as unknown as that of other thyroid tumors. The pathological anatomy has been carefully studied; macroscopically, it can best be compared with a typical uterine fibroma; microscopically, it is constituted a pure fibrous tissue. An important characteristic is the encapsulation of the neoplasm. The only treatment consists of total extirpation, it may be *en mass*, it may be piece-meal. The operative prognosis seems good. The five cases operated on have been successful.—*Lyon Médical*, January 25, 1903.

The Mimicry of Gastric Troubles by Spinal Disease.—Sir Frederick Treves says that a very short experience in the out-patient department of a large hospital will reveal the person of a child who is reputed to be suffering from some gastric trouble, but who is, in reality, the subject of caries of the spine. Such a child will complain of little more than an abiding pain in the stomach. The pain will probably be about the umbilical region, in the area supplied by the eighth, ninth, and tenth dorsal nerves. The pain is due to the fact that there is an unsuspected caries of the dorsal spine, and the nerve or nerves in question are pressed upon or are in some other way disturbed. The pain survives the administration of rhubarb or castor oil or other aperient; it is upon the surface, encircles the body, and abates when the patient lies down. The tongue is clean and there is no nausea or vomiting. These examples of mimicry when they occur in adults are apt to be even more deceptive. The moral to be derived is, that suspicion should be aroused as to the genuineness of gastric trouble when pain is the all-predominating symptom, when it is intense and persisting, and when vomiting is at the same time either absent or insignificant.—*The Practitioner.*

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held February 5, 1903.

ANDREW H. SMITH, M.D., PRESIDENT.

Symposium on Tuberculosis.—This was the special subject for the evening, and the meeting was in charge of the Section on Medicine.

The Practical Recognition of the Tubercle Bacillus in Sputum.—Dr. CHARLES B. FITZPATRICK of the Bacteriological Division of the New York City Board of Health read this paper. He said that, according to the usual method of procedure, the tubercle bacilli were stained red and the balance of the field blue. His own method was as follows: A moderately thin layer of sputum should be spread upon a cover glass, selecting the cheesy portion of the sputum. The smear is allowed to dry in the air, or in an oven having a temperature of 50 to 60° C. After drying, it is passed three times through the flame. The preparation is next placed in a fresh solution of Ehrlich's anilin fuchsin. If the smear has been made upon a cover glass, a watch crystal full of anilin fuchsin solution is employed, and the preparation floated upon it with the smeared face downward. The watch glass is then seized with forceps and held over a small flame until the fluid in the watch glass begins to bubble. It is then removed from the flame and allowed to stand for one minute. The smear is next removed and washed, after which it is placed in a decolorizing solution. This is composed of three parts of hydrochloric acid and ninety-seven parts of 70-per-cent. alcohol. The smear should be gently moved from side to side in the solution until it becomes almost colorless. This usually requires about one minute. The next step is to wash off the decolorizing solution with running water, to remove the acid. The smear is then covered with Loeffler's alkalin solution of methylene blue. This contrast stain is allowed to remain on the smear one or two minutes, or until the preparation becomes of a distinct blue. This is then washed off, and the smear is allowed to dry in the air, or is dried with filter paper. It is next passed rapidly through the flame several times. The cover glass is finally mounted in xylol balsam. If the preparation be examined with a one-twelfth oil immersion homogeneous lens and a No. 3 ocular, the tubercle bacillus will appear as a minute red or pink rod, and the other parts of the preparation will be stained blue. Sometimes there are minute bodies like beads observed, which are composed largely of fat. When this beaded appearance of the bacillus is observed, the following modification of the method should be adopted: The smear should be thoroughly dried at room temperature and without passing it through the flame. It is placed in the Ehrlich anilin fuchsin solution for from four to twenty-four or forty-eight hours. It is then washed, decolorized, and stained with the contrast stain as already described. Instead of being passed through the flame as a final step, it is dried with filter paper and is then allowed to dry in the air of the room. Ehrlich's anilin fuchsin solution is made by mixing 4 c.c. of anilin oil with 100 c.c. of water and shaking thoroughly. Filter the solution through a wet filter and add 11 c.c. of a concentrated alcoholic solution of fuchsin and shake thoroughly. This solution should be made fresh every third day in order to secure the best results.

The speaker said that strong decolorizing agents gave unreliable results. A 20 per cent. nitric acid decolorizing solution, for example, would often decolorize the tubercle bacillus, and then the contrast stain would color the bacillus blue. He had succeeded in decolorizing some tubercle bacilli with this strong decolorizing solution in one or two minutes. The Loeffler alkaline solution of methylene blue was composed of 30 c.c. of a concentrated alcoholic solution of methylene blue and 100 c.c. of a 1-to-1,000 solution of caustic potash. There were different varieties of the tubercle bacillus, but the typical organisms, according to his experience, could always be stained by the method just outlined, so that it could be identified. This method had been used in the examination of about 30,000 specimens of sputa.

The Sanatorium Treatment of Tuberculosis.—Dr. HERBERT M. KING of the Loomis Sanatorium, Liberty, N. Y., was the author of this paper, but on account of its length he only read portions of it. He said that the sanatorium for tuberculosis should be located at an elevation of about 2,000 feet whenever possible, and in a region having pure and stimulating air. In the matter of exercise and feeding there were no hard and fast rules applicable to all cases. Each individual was a law unto himself and should demand treatment irrespective of the class to which he belonged. The laboratory should be equipped not only for the ordinary clinical work, but for research as well. He suggested further study into the problems of metabolism, and into the effects of sera and the various states of the blood found in tuberculosis. From the statistics of Trudeau, it might be said that the minimum term of residence for a simple and uncomplicated case should not be less than three months, whereas for the moderately advanced incipient cases the minimum should be six months. After "an economic cure" it was often practicable to allow the patient to return to his home, if the latter were amid healthful surroundings. It had been his experience, and that of other sanatorium physicians, that the patients did not find the discipline of such institutions irksome. At the Loomis Sanatorium the newly-admitted patient was sent to the infirmary for examination and observation, and was usually placed in bed. The history was taken in accordance with a printed chart, so as to secure uniformity and thoroughness of record. Dr. Trudeau divided his cases into incipient, moderately advanced, and far advanced; the speaker preferred to subdivide each of these groups, so that early cases were grouped into those showing mild and those showing acute symptoms; the advanced cases were divided into those with favorable and those with unfavorable symptoms, and the long-standing cases into those in which fibrosis predominated and those in which ulceration was the prominent feature. The newly-admitted patients were compelled to rest for the first few weeks, using a reclining chair on the veranda for from six to ten hours a day, the amount of outdoor exposure being regulated in accordance with the weather. During the night the patient slept in a room with the windows wide open, and in the early morning a nurse closed the windows and warmed the room before the patient got out of bed.

Exercise.—With regard to exercise after this period of enforced rest, it should be said that an average pulse rate of 100 or more while the patient was at rest contraindicated exercise, as did also a rectal temperature in the morning of 99° F., or an afternoon rise to above 100° F. The failure to increase in weight was also looked upon as a contraindication. The first exercise should be in the nature of an experiment, and should not be more than a quiet walk for a few hundred yards. After this some slight and simple chest exercises might be employed, and then, still later, hill climbing could be cautiously tried. It should be the rule to insist upon rest before and after meals for those patients who exercise.

With the ordinary patient, unless the weight were far below normal, three hearty meals a day should be given if the patient were out in the open air. Forcing the diet beyond the point of comfort was, according to his experience, an unwarranted practice, and was sure to be followed by indigestion. There was this advantage in forced feeding, that the stomach which had rebelled against any food became accustomed to a fair quantity of food, and the patient was soon able to take a fair quantity of food in the usual way. It had been proved very conclusively that

tubbing for the reduction of temperature in septic cases of tuberculosis was not only of little avail, but was actually harmful. On the other hand, tepid sponging, or the employment of the wet pack in such cases was to be recommended, and had proved very valuable in controlling the fever. The refinements of hydrotherapeutics were useful when elimination was deficient and appetite and digestion imperfect. In the summer no difficulty was experienced in selecting suitable recreation. Golf was healthful amusement, but only short plays should be allowed, except for those whose condition was exceptionally good.

The Treatment and Care of Consumptives at Their Homes and the Urgent Need of Local Sanatoria.—Dr. S. A. Knopf read this paper. (See page 281.)

Dr. E. G. Janeway opened the general discussion. He said that undoubtedly the State of New York had been most reprehensible in its attitude toward the State Sanatorium for Consumptives, for, after three years, only the cellar had been built. The city of New York wanted not only a local sanatorium for its consumptive poor, but a place in which to educate the masses on this subject. It was largely because of the enormous number of consumptives that needed sanatorium treatment that the municipality and the State were so reluctant about venturing upon this great task. At present there was a proposed reform of the tenement-house law, a reform which would help the pockets of the builders and the tenement-house owners, and those who loaned money for these enterprises. The Academy of Medicine should urgently protest against any change in the tenement-house law.

Dr. S. A. Knopf then introduced the following resolution, which was laid over under the rule:

Whereas, Strenuous efforts are being made to induce the Legislature to utterly undo the great advances made in recent years in tenement-house reform and sanitation, and to prevent the permanent carrying into effect of the great improvements in the construction and management of tenement-houses in New York and Buffalo, which have been made possible by the recent Tenement-house Law; and

Whereas, Pulmonary tuberculosis is extremely prevalent in the City of New York, there being eight thousand deaths and twenty thousand cases annually; and

Whereas, The lack of air and light in the rooms of the great masses of the people is one of the most potent causes in increasing the prevalence of this and other communicable diseases, and constitute serious menaces to health and morality, be it

Resolved, That the New York Academy of Medicine deplores any weakening of the present tenement-house laws, and urgently requests the Legislature to permit no changes to be made that will in any way decrease the amount of light and air available for the people living in such houses, or in any way take a backward step in regard to their sanitary condition.

Dr. S. S. Burt spoke briefly in favor of the movement to increase the number of sanatoria for tuberculosis.

Dr. Beverly Robinson heartily endorsed all that Dr. Knopf had said, but felt that some of the money which it was proposed to spend for private sanatoria could be more wisely used to send competent and sympathetic teachers among the poor to show them how they could best take care of themselves and battle with disease. Some of the good ladies of the city were spending much time and energy in promoting the work of a sanatorium in the woods for consumptives, and yet these same estimable women not infrequently were guilty of sweeping our dirty streets with their long dresses and scattering disease germs broadcast.

Value of the Clinical Thermometer in Tuberculosis.—Dr. Henry P. Loomis spoke of the very great importance of using the clinical thermometer as a guide to both the diagnosis and management of pulmonary tuberculosis. It had been his habit for the last few years to provide the patient with a thermometer and have the temperature taken regularly, so that he could be kept informed regarding the temperature range between his visits. This plan was of great service, and the only valid objection to it was that it might make the patient unduly apprehensive. Such a record would often give the attending physician an entirely different notion of the type of disease he was treating. Many persons had expressed doubt as to whether persons in an early stage of the disease could be persuaded to give up their occupation and seek treatment in a sanatorium, but the education of the people had been going on constantly, and he believed that even now many persons with the disease in its incipiency would be willing to seek such care. The trouble was that these sanatoria should be absolutely free, for, many of those most needing such care were unable to pay even five dollars a week. The practical difficulty came in here, for those who had not made a special study of the subject had no conception of the great expense involved in conducting such sanatoria.

Fire Escapes for the Treatment of Consumptives in the City.—Dr. Alfred Meyer said that such discussions as these impressed him deeply with the fact that the medical profession was working cheerfully and earnestly against its own financial interests, and that their efforts were directed toward far higher ideals than mere money-getting. The Academy of Medicine had not been backward in this work, and the municipality had been urged to do what private philanthropy had been unable to cope with. We all knew that, so far as New York was concerned, there was a continual reduction in the mortality from this disease, and, from inference, we could say in the morbidity as well. He understood that there had been a decrease of 10 per cent. in the past year over the preceding year despite the increase in the population of the city. The speaker went on to say that he would plead guilty to the indictment of having used the fire escapes for the treatment of pulmonary invalids. He knew there was an ordinance prohibiting the obstruction of fire escapes, but he felt justified in this infraction of the law, and even in urging his colleagues to adopt the same plan, and he felt sure public opinion would not tolerate any interference with this life-saving procedure.

Health Department Statistics.—Dr. Herman M. Biggs said that the crusade of the Health Department against tuberculosis had been going on since 1887, and he was glad to see that the attitude of the Academy of Medicine, and of the local profession generally, had changed with reference to this subject. During the last five years a semi-annual census had been made of the tuberculous patients under treatment in all of the city institutions, and this census had shown almost uniformly that there were from 800 to 1,000 such patients under institution care. Of the total number of deaths occurring in the city each year, about 40 per cent. were in institutions; hence in the 1,000 beds available for consumptives in New York City, about 2,000 deaths occurred each year, or about two deaths for each bed. These beds were really for hopeless, helpless, and, usually, homeless consumptives. Of the 2,000 dying in institutions each year, nearly one-half were without friends, home, or money. During the past year there had been reported to the health department in the Borough of Manhattan about 9,000 cases of tuberculosis. The deaths during this same period had been about half of this number. All of these reported cases, except those under the care of private physicians, were visited by the inspectors of the Health Department. Two difficulties were met with in the removal of these patients from their surroundings. Very few of these persons were willing to enter any of the few available institutions as long as they were able to obtain a livelihood in any way outside. Much had been said about needing *more* sanatoria, but, as a matter of fact, we had *no* sanatoria except it might be the one at Bedford Station. On an average, the inspectors visited 100 such

patients a week, and almost all of these unfortunate persons had no proper place to go to. A recent letter from the Chief of Staff of St. Joseph's Hospital informed him that there had been about 300 deaths in that institution during the past year and that this number would probably be much larger next year because seventy-five more beds had been set aside for dying consumptives. He did not think there would be any great difficulty in inducing tuberculous patients to go into sanatoria provided a reasonable hope of benefit could be held out to them. The Seton Hospital was now largely devoted to the care of consumptives under a special appropriation from the city, and the same persons who would flatly refuse to go to the ordinary city hospitals were glad to avail themselves of the privileges of the Seton Hospital. About 80 per cent. of the cases of tuberculosis were now reported to the Health Department before death, and from this it was estimated that at least 16,000 cases were present in the Borough of Manhattan in a stage in which the disease could be recognized, and that at least two-thirds of these were in the tenement-houses.

Tuberculosis Decreasing.—The statement had been frequently made that tuberculosis was increasing, but this was far from the truth. It was, on the contrary, rapidly decreasing in this city. Since 1886 there had been a decrease in the death rate from all tuberculous diseases in the boroughs of Manhattan and the Bronx, the old city, of 40 per cent., the death rate in 1886 having been 4.5 per thousand of the population, whereas in the past year the death rate was 2.68. There was but little question that with greatly increased hospital facilities for advanced cases, and with large sanatorial facilities for incipient cases, and with an extension of the educational work now being done, the death rate from tuberculosis would decrease as rapidly in the future as it had done in the past, and that in another fifteen years the death rate would not be over 1.5 or 1.7 per thousand of the population.

Tuberculin.—Dr. C. B. Fitzpatrick said that nothing had been said about tuberculin, yet he thought the use of this agent in early and doubtful cases promised to yield good results.

Dr. H. M. King said that post-mortem study showed that the healed tuberculous lesions found in the autopsy room were invariably those of the very early stages; in other words, before softening had occurred. If such early cases came under sanatorium treatment, he felt sure that 60 per cent. would be cured.

Dr. Knopf said that he fully appreciated the importance of keeping a record of the temperature, but as tuberculous patients were, as a class, very nervous, he found that if they were allowed to take their own temperature they were apt to become so wrought up about it as to cause an increased elevation of temperature. It was much better, therefore, to have the physician or nurse, or in lieu of these, some other member of the patient's family, take the temperature, and the result of the reading of the thermometer should be kept from the patient.

Prehistoric Pygmies.—A German anthropologist, Herr Thilenius, has recently shown that pygmies—now only found in the interior of Africa—were, during prehistoric times, spread over parts of Europe. Numerous skeletons found in Silesia show that the stature of the men they represent was not much above 4½ feet. There were pygmies in Switzerland and in Alsace also. These dwarf races were in no wise degenerates. They appear to have persisted up to comparatively recent times. The pygmies of Silesia, for instance, were contemporary with the Romans and they continued up to the tenth century. At present there is no vestige of such a race, but their skeletons remain to prove their existence.—*New York Sun.*

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, Held January 26, 1903.

Charles N. Dowd, M.D., President.

Trachoma; Clinical History and Treatment.—Dr. Frank Van Fleet presented this paper. He said that trachoma was a contagious disease affecting primarily, not the eye itself, but the conjunctiva. Its onset was often insidious, and he believed in some instances it passed through its various stages without seriously inconveniencing the victim. The disease was of mild type in this country as compared with that observed in Egypt and in some other lands in which the poor people were badly housed and were more ignorant of what constituted sanitary living. The positive differentiation of trachoma and follicular conjunctivitis must continue to be more or less a matter of opinion. The first symptom of trachoma was a feeling of irritation of the eyelids, most noticeable after much use of the eyes. Sometimes the use of glasses, by correcting the refractive errors, might, for a time, relieve trachoma. The irritation referred to was manifested by an itching and burning of the eyes and a blurring of fine print when reading. On awakening in the morning the white of the eye was reddish, and there was a little hardened secretion in the corner of the eye. The speaker said that he had seen a great many cases of chronic trachoma, occurring in children, excluded from school by the health inspectors, though the symptoms were no more marked than this. As the disease progressed the eyelids became altered in contour because of the increase in size of trachoma follicles. The ocular conjunctiva became thickened and œdematous, and the small rounded elevation at the inner angle, the caruncle, became larger, and of an angry appearance. The peculiar succulent look of the lid at this time was very characteristic of trachoma. At this stage the eyelids were apt to be glued together on awakening in the morning. On everting the eyelids one would see a thickened, reddened surface, studded with more or less numerous enlarged follicles, with enlarged blood vessels running across it. As a rule, the eye itself was not involved in this stage, and in the American-born children of our schools the disease did not usually progress farther. In the chronic form the eye itself was affected by reason of the increase in size of the follicles, and the coincident induration. On everting the lids, the palpebral conjunctiva presented an appearance not very different from that observed following other inflammatory diseases of the conjunctiva. The latter presented a thick, velvety surface, looking more like the conjunctiva denuded of its natural covering than like the mucous membrane. Sometimes the palpebral conjunctiva presented a granulating sore. Later on, the thickened tissues seemed to undergo contraction, and the eye itself became involved by the thickened and roughened conjunctiva rubbing over the cornea. Ulceration and perforation of the cornea seldom occurred in trachoma. In the cicatricial stage the lids could not be opened widely, and there was a tendency of the tarsal cartilage to curve inward. As a result, first the edges of the lid and then the lashes turned in. It was impossible to make a differential diagnosis of trachoma in all cases. Many cases of blepharitis presented the reddened lids and the succulent appearance, but there would be no follicular involvement. He could see no reason for differentiating trachoma at all, and it was safe to say that the presence of an inflammation of the eyelids associated with the discharge of pus denoted the presence of a contagious disease of the eye. Any attempt to separate the various forms in accordance with the degree of intensity must be fanciful and unproductive of any good result.

Pathology.—Dr. Arnold H. Knapp presented this paper. He said that the enlarged follicles of trachoma were known anatomically as lymph follicles. There was no

difference anatomically between the lymph follicles of follicular conjunctivitis and of trachoma. These follicles were most numerous in the retrotarsal folds, and infiltrated in the direction of the caruncle and of the palpebral conjunctiva. The disappearance of the follicles might leave no visible scars, or only a whitish tendinous transformation of the conjunctiva. Associated with the trachomatous process were hypertrophy and degeneration of the epithelium, but without true ulceration and destruction. Histologically, there was a diffused round cell infiltration and an œdematous swelling; later, new blood vessels were formed. The inflammation of the tarsal portion was secondary. The corneal changes had not been definitely explained. Assuming that trachoma was a process of follicle formation, it was found that it differed from other follicular diseases in the size of the follicles, and in the clinical course. Follicles were met in chronic syphilis and tuberculosis of the conjunctiva, and after the prolonged use of atropine and other eye drops; hence it was evident that the follicle of trachoma was merely a symptom. It was probable that trachoma was due to a microorganism. Acute trachoma was due to a mixed infection, the acute character being the result of a fresh infection with the gonococcus, the Weeks bacillus, or the pneumococcus.

Treatment.—Dr. J. HERBERT CLAIBORNE presented this part of the subject. He divided trachoma into non-inflammatory and inflammatory. The former, he said, was characterized by the existence of sago-like grains on the mucous membrane of the upper and lower lids. Particular stress was laid upon the fact that the granulation must be on both upper and lower lids. The form of trachoma known as follicular was restricted to the lower lid, and was particularly seen toward the outer canthus. The picture presented was so marked that it could hardly fail of recognition. He looked upon this form as contagious. The other form of trachoma was sometimes known as Egyptian or military ophthalmia, though he saw no reason for applying either term. Its onset was characterized by acute inflammation, lachrymation, photophobia, and a great amount of discharge. Subsequently, granulations formed on the upper and lower lids, constituting the secondary form of the disease. The granulations finally coalesced, and pannus and opacity of the cornea occurred. While the cause of trachoma was not known, it was a significant fact that mechanical treatment was the most efficient for a disease which was suspected to be of microbic origin. Many would recall the treatment of trachoma by jequirity, a remedy which produced a violent form of inflammation. It should never be employed except in a few cases presenting pannus—indeed, it was perhaps safer not to use it at all, for the records showed that a number of eyes had been lost under this treatment. Silver nitrate had always been a favorite agent with those who had not met with the severer forms of trachoma. It was of slight value in the treatment of real trachoma. The use of zinc as a palliative and supplement to severer measures was to be recommended. Solutions of bichloride of mercury in various strengths had been used by some. Formalin, in the strength of 1 to 5,000 and 1 to 10,000, had been used lately with benefit by some surgeons. However, the sulphate of copper sticks, ground smooth and in the shape of a parallelogram, so thin that they could be readily introduced under the lid, were preferable. The upper lid having been everted, the stick should be applied delicately and gently underneath the upper lid in the cul-de-sac. Subsequently the cul-de-sac of the lower lid should be gently stroked with the stick. The tears caused a solution of the copper, and this excess should be wiped away. The pain in some cases was considerable, though in the majority of instances it was not so severe as generally supposed, and much depended upon the delicacy of manipulation of the person making the application. He considered it impossible to disinfect camel's-hair brushes, and hence did not advise their use. Of course the sanitary surroundings of the patient should be regarded.

Surgical Treatment.—The surgical treatment depended upon the kind, extent, and stage of the disease, and its intensity. The form presenting the sago-like grains yielded the most brilliant results. Perhaps the oldest mechanical treatment was the brushing or scratching of the granules, a method which had been employed with some success by a number of surgeons in this city at the New York Eye and Ear Infirmary. It had been used both with and without scarification. The after-treatment consisted in the application of astringents and antiseptic washes. This method, however, had been practically eliminated from surgery, and now had chiefly a historical interest. He had used the actual cautery with the platinum probe in a number of cases. Another method of treatment was by curettage under cocaine anæsthesia, but the treatment was needlessly long. The use of scissors for cutting away the follicles was at one time in vogue, but the method fell into disuse because of the destruction of the submucous tissue. The most effective form of treatment was that known as expression. It had first been recommended as long ago as 1873. In 1891 Dr. Prince had invented a ring-shaped forceps, which was one of the best instruments for this purpose, with the exception of the roller forceps more recently devised by Dr. Knapp. The granules were rolled between the cylinders and their contents expressed. This instrument was distinctly one for force, but not for laceration. The rollers were applied to the mucous surface of the lid folded upon itself. When all of the granules had been expressed on the upper lid, the lower lid was treated in such a way as to destroy the granules there. General anæsthesia was needed for this operation, and ether appeared to be the best agent, though, perhaps, a better plan was to give ethyl chloride for two or three minutes and then push the ether. After the operation many surgeons rubbed into the conjunctiva strong bichloride solutions, while others used the solid stick of sulphate of copper. Dr. Claiborne preferred to direct that the eyes be kept clean for a day or two, and then use zinc or boric acid solution until the post-operative membrane had disappeared, and then use for a few days a one-per-cent. solution of nitrate of silver, and after this the stick of sulphate of copper. He saw no reason whatever for keeping these patients in the hospital ward over night. In the treatment of the severe form of trachoma it was his rule to resort to expression so long as granules could be seen; after that, medicinal treatment, the use of copper sulphate, was indicated. It was the custom of some ophthalmologists to use atropine whenever there was pannus on the supposition that iritis was always present, but he was convinced that iritis was not always so associated, and as under other conditions atropine, being an irritant, was contraindicated, he rarely made use of it in these cases.

Present Conditions in This City.—Dr. WALTER EYRE LAMBERT presented the subject from the point of view of public health (see page 293).

Prophylaxis.—Dr. A. E. DAVIS said that under the ruling of the United States Treasury Department in 1897 it became possible to exclude all immigrants affected with trachoma. The first year one case of trachoma to every thousand immigrants was reported; in the second year this proportion was one to 1,500, and in the third year, one to every 2,100 immigrants. This showed a marked decrease in the number of immigrants of this class. It was not, however, until 1901 that the inspection at our ports was at all thorough. It was then found that the steamship companies were booking all these immigrants via Canada, and that coming in by that route was one case of trachoma for every 130 immigrants. Canada was now co-operating with us, so that this had

been stopped. The speaker said that in 1891 he had gathered the statistics of about half a million cases of ocular disease, and had found that of this number trachoma represented 4.525 per cent. From the same sources he found in 1901 that this percentage had been reduced to 2.75. It had been shown that in the asylums for the blind in this city 4.2 per cent. of the cases were due to trachoma, and that in Chicago the percentage was 9.9. This showed the great importance of this subject to the community.

Dr. Thomas R. Pooley thought there was a great deal of confusion concerning the form of the disease present in this city. The form of trachoma existing in this city to-day was, in his opinion, the non-inflammatory one. He had described this in a paper read before the Section on Ophthalmology of the New York Academy of Medicine in 1900. The differentiation appeared to be unimportant; the great point to remember was that trachoma presented itself in the form which, if left to itself, would probably do much damage to these eyes. So far as he knew, no specific microorganism had been discovered for this disease; hence the microscopic findings were the same whether the disease was called follicular conjunctivitis, follicular trachoma, or simple trachoma. It would be instructive to treat a series of cases by expression, and another series of cases by mild remedies, and note the results. This seemed to be the only way of settling the question of the best mode of treatment. Whether the disease was considered as follicular disease or as true trachoma it had become very common in institutions in which many children were congregated together. This statement was equally true of follicular conjunctivitis and true trachoma, so that here again the disease must be considered contagious. He could not accept Dr. Van Fleet's statement, that the proper use of eyeglasses might avert the appearance of trachoma, and he deplored the fact that such a statement had been made. In his experience, it was the rarest thing to see a case of acute trachoma; most of the cases met with came on with very few inflammatory or subjective symptoms. The use of jequirity had not entirely gone out of vogue; a number of ophthalmologists had lately returned to it, although they were employing it with much greater caution than before. It was certainly a very dangerous plan of treatment, yet if proper precautions were observed there might be some justification for returning to this treatment. He had yet to see an undoubted case of infection resulting from the use of camel's-hair brushes in the dispensaries, and he believed if these brushes were thoroughly washed this would be enough, although, of course, it was better to make use of antiseptic solutions. To his mind, grattage was one of the most objectionable and abominable and reprehensible modes of treatment ever devised. It produced a number of parallel scarifications of the conjunctiva, and added to this injury the rubbing in of a strong solution of bichloride of mercury. The inevitable result of such treatment was to destroy the conjunctival membrane and substitute therefor connective tissue. It had very justly been abandoned. The expression method of treatment was one of the most useful and important innovations in modern ophthalmology. It was perfectly applicable to the class of cases now generally met with. He believed it would effect a cure in all of these cases if the operative measures were followed up by appropriate treatment. In a previous paper he had discussed the tendency to recurrence of this disease. A carefully-selected series of cases showed a cure in 96 per cent. In these cases the conjunctiva was smooth, and there was a disappearance of all hypertrophy and granulation of the conjunctiva. He was not disposed to lay very much stress upon the special instrument employed for this operation; it was not so much the instrument as the deftness of the operator. The roller forceps was the best instrument yet devised for the purpose, and in careful hands could be used to secure a perfectly smooth condition of the conjunctiva without tearing the latter. These were the two essentials of this treatment. The chief points of the after-treatment were to keep the conjunctiva clean and aseptic, and apply astringents as soon as the operative reaction had disappeared, continuing this treatment for a considerable time. It was utterly unnecessary to keep these patients in a hospital. If the operation had been carefully performed, and the eye was kept thoroughly cleansed thereafter, there was little or no danger of contagion, and hence there was no objection to such patients going home.

Dr. J. E. Weeks said that in 1890 the mechanical treatment of trachoma was but little thought of in this city, and those who had expressed themselves this evening as enthusiastically in favor of it had been very doubtful ten years ago regarding its efficacy. If the treatment were instituted in the first stage of trachoma, or that in which the follicles were discrete, a cure could be effected in from two to four weeks, whereas in the later stages the time of treatment might vary from three months to almost as many years. The post-operative treatment was very important. Allusion had been made to the "post-operative membrane." This "membrane" was a layer of fibrin which united the folds of the conjunctiva, and these must be broken up in order to avoid a permanent union of these two layers. This could only be done by careful after-treatment. If this were done there was nothing else required but the cleansing of the conjunctiva. The bluestone treatment was painful and, in his judgment, was not necessary. He had operated upon many patients during the past eight years, and not one of them had returned with a recurrence. Recurrence should be rare if care were taken to remove all the granules from the conjunctiva.

Dr. D. H. Wiesner said that last June, in company with several other medical gentlemen, he had examined two of the schools of this city. In one of them they found 4.5 per cent. of severe trachoma and 7 per cent. of mild trachoma; in the other, 8 per cent. of the severe form and 5 per cent. of the mild form. One of these schools was far down on the East Side; the other on the same side of the city, but not so far down town. The public baths in the summer constituted a not unimportant source of eye infection. At that season of the year many cases of acute catarrhal conjunctivitis could be traced to these baths, and he was inclined to think that many cases of trachoma arose in this way also. He thought it would be well to have those baths subjected to medical inspection. In the treatment of trachoma he had found the application of the stick of sulphate of copper very painful. On the contrary, he had found tannic acid very useful when applied in the strength of two drachms to one ounce of glycerin. It should be applied to the lids, everting the upper lid. The smarting produced by this application passed off very much more quickly than that caused by the use of the stick of sulphate of copper.

Dr. Wilbur B. Marple said that lately Merck had introduced the active principle of jequirity. Many years ago he had made use of jequirity, but like many other had abandoned it until a short time ago. In the new form of the active principle, jequiritol, it seemed possible to use it with greater safety. He had found that a sublimate solution, 1 to 500, was usually just as efficient as the sulphate of copper, and very much less painful.

Dr. Pooley said with regard to the adhesion of the lids as a result of the fibrinous exudate, that he had never seen such a result, and hence could not appreciate the necessity for the treatment insisted upon by Dr. Weeks. He was also surprised at the statement from the same speaker, that sulphate of copper was of no value. He would meet this with the equally dogmatic statement that this agent was of very great value.

The Disease Mild among Our School Children.—Dr. Charles B. Meding said that in the past four months those who had given personal attention to all applying at

an infirmary must have noticed that while there had been a constant influx from the public schools there had also been the regular run of trachomatous cases. The great difference between the two classes was that the cases belonging to the first class were promptly cured, while the others proved most obstinate. He mentioned this to emphasize the fact that these cases from the schools must be of a different nature from the type of trachoma with which all ophthalmologists were familiar year after year. Perhaps this difference in the class of cases also explained the varying opinions expressed with regard to sulphate of copper, tannin, and other agents. The tractability of the cases found among the school children suggested the advisability of allowing these children to return to the schools under suitable supervision. The importance of this subject might be better appreciated when he said that, in a small infirmary uptown a number of children had lost 1,500 days of schooling, and yet none of them could be said to be a serious menace to the public health.

Dr. Herman Jarecky said that as a rule these children were readmitted to school on the receipt of a letter from a specialist stating that the children had been operated upon or properly treated; hence, there should not be much schooling lost. He had seen tannic acid used quite extensively in these cases with a good deal of benefit, and what was equally important, with less tendency to the formation of scar tissue than when sulphate of copper was used.

Dr. W. E. Lambert thought it was very necessary that trachoma patients who were operated upon should be retained in a hospital at least for the first night. This not only assured proper recovery from the anæsthetic, but made it possible to carry out the after-treatment thoroughly. He thoroughly agreed with the speaker who had pointed out the fact that the public baths were a source of eye infection. He had recently brought this subject again to the notice of the Health Commissioner, and had learned that these baths had been placed under medical inspection. In two or three baths so inspected the proportion of contagious disease was found to be 25 or 30 per cent. He could not understand how anyone familiar with the present condition of the eyes of our school children could speak with regard to the comparatively small matter of the loss of a little schooling. It was true that the inspectors had made some mistakes, but all of these had been on the side of safety. He would again insist upon the importance of these inspectors being skilful and fully competent thoroughly to expose and examine the upper cul-de-sac.

Dr. Meding said that he was fully aware that many of the school children had trachoma, but he was speaking of many specific cases, found not to be contagious, and of many cases so mild that he thought attention should be called to it, and due consideration be given it.

Overcrowding of Street Cars.—Dr. Charles G. Kerley said that, as chairman of the committee appointed to consider this subject, he had attended one meeting of the Merchants' Association, and it had been suggested there that the Medical Society of the County of New York could aid in this work by sending to the New York State Board of Railroad Commissioners a communication dealing specially with the subject from the point of view of public health. Dr. Kerley then presented, as the report of his committee, a communication of the kind that had been suggested. This communication pointed out the opportunity afforded for the transmission of disease by this overcrowding of the cars, the impossibility of securing proper ventilation, and the consequent danger of contracting bronchitis and pneumonia from the opening of the doors. It also called attention to the need for greater cleanliness in the cars and on the stations, and the importance of doing away with matting and other material which might form a nidus for tuberculous sputa.

The society adopted this report.

Book Reviews.

Die rationelle Behandlung der Zuckerkrankheit. Von Dr. A. Lorand, Brunnenarzt in Carlsbad. Berlin: Verlag von August Hirschwald, 1903.

As the author states in his preface, this brochure is intended for a handbook for the practical physician in his treatment of diabetics. The diet and treatment of these patients are considered, and the prophylactic régime of the children of diabetics. A short but valuable bibliography completes this little monograph.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose, and Throat, and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia. Volume III. Twelfth Series. Philadelphia: J. B. Lippincott Company, 1902.

In this issue, besides seven special therapeutic essays and the usual number of representative papers under the headings of Medicine, Surgery, Obstetrics, Gynecology, and Diseases of the Eye, Ear, and Throat, there is a special article by Borrissof on the function of the digestive glands, and a critical study of the theory of inflammation by Hans Schmaus, Cardarelli, Debore, Dieulafoy, Hallopeau, Jardine, Koenig, and Manger were among the foreign contributors, while home talent has not been inactive.

The article on insect pests of human beings, by J. J. Walsh, is noteworthy, while syphilis of the eye has been well presented by Edward Stieren. Taken all in all the volume is well up to the standard, and bespeaks no weakening on the part of the editor.

Syphilis, a Symposium. New York: E. B. Treat & Co., 1902.

This is a little work of not much over a hundred pages, still seventeen well-known names appear upon the title page as special contributors. The Etiology, by Robin; Clinical Characters, by Fournier; Unrecognized Chancre, by Gottheil; Affections of Pleura, etc., by Gwyn; of the Nervous System, by McCarthy, and of the Nose and Throat, by Gleason, are some of the features. Toward the end a series of questions have been answered by Duhring, Morton, Keyes, and others, so that their views on diagnosis, remedies, heredity, etc., can be compared. The fallacy of the advice given by many of these writers to wait for secondary manifestations before beginning treatment is shown by some of these same men who answer one of the questions with the statement that the secondary stage may be entirely skipped.

Human Anatomy, A Complete Systematic Treatise. By Various Authors, Including a Special Section on Surgical and Topographical Anatomy. Edited by Henry Morris, M.A. and M.B., Lond., F.R.C.S. Eng. Third edition, revised and enlarged. Philadelphia: P. Blakiston's Son & Co., 1902.

This complete work, which has been favorably reviewed in these columns, again appears before us. The author states that many articles have been rewritten. A large number of illustrations have been added, and many changed to color. The work is eminently practical. We read with great interest the special section on surgical anatomy. This chapter is of vital importance to the surgeon and those in search of complete knowledge of this subject. No work on anatomy is complete without ample illustrations, and the author has grasped the right spirit by elucidating page after page and chapter after chapter with numerous colored and other pictures. In all 846 illustrations add to the value of the book. To the physician or surgeon desiring to refresh his memory, and to the student learning anatomy, this work can be conscientiously recommended.

A Manual of Medicine. Edited by W. H. Allchin, M.D., Lond., F.R.C.P., F.R.S. Ed., Senior Physician and Lecturer on Clinical Medicine, Westminster Hospital. Late Examiner in Medicine in the University of London, for the Royal College of Physicians of London, and for the British and Indian Army Medical Services. Vol. IV Diseases of the Respiratory and of the Circulatory Systems. New York: The Macmillan Company; London: Macmillan & Co., Ltd., 1902.

Among the contributors to this volume we note, J. Mitchell Bruce, Francis De Haviland Hall, Leonard Hill, Hector Mackenzie, Lewis Smith, and the editor. The introductory chapter deals with the physiology of respiration, and is followed by excellent chapters on the diseases of the upper and lower respiratory tract, and of the pleuræ

and mediastinum. The latter part of the book includes the affections of the heart, the arteries, and the veins, together with an excellent chapter on œdema.

As might be expected from the writers, who are recognized authorities in Great Britain on their respective subjects, the text is thoroughly reliable, and represents the accepted teaching of their country. The book is exceptionally rich in its treatment of the physiology and the general principles which govern the dynamics of respiration and circulation. The methods of treatment are eminently sound and, considering the size of the work, are fairly complete. Quite a number of charts, sphygmographic tracings, pathological plates, and other illustrations, some of them in color, serve to enhance the value of the text. We can congratulate the editor in having issued a compact, reliable, and interesting volume on the diseases of two of the most important systems in the domain of internal medicine.

Die Erkrankungen der Nieren. By Prof. Dr. H. Senator, in Berlin. Second edition. Vienna: Alfred Hölder, 1902.

The second edition of this book appearing so soon after the first is, in itself, its best recommendation. It stands to-day as a monument in German medical literature, and represents the most advanced thought on the pathology and clinical diagnosis upon the subject of diseases of the kidneys.

The text is divided into two parts: (1) General and (2) Special. The first part treats of albuminuria and albumosuria, casts, hæmaturia, hæmoglobinuria, lipuria, chyluria, ascites, uræmia, etc.

The second part treats more especially of anomalies of the kidney, nephralgia, disturbances of the circulation and thrombosis and embolism, and the various inflammatory and degenerative processes occurring in this organ, together with a discussion upon concretions and parasitic diseases.

The articles on hæmaturia and hæmoglobinuria are of special interest, as is also the one upon the subject of ascites, in which the various theories as to its occurrence are discussed at length.

The entire practical value of cystoscopic diagnosis is only in part conceded by the author, who, in a great measure, holds himself down to diagnosis by purely clinical and laboratory methods.

Regional Minor Surgery, Describing the Treatment of Those Conditions Daily Encountered by the General Practitioner. By George G. Van Schaick, M.D., Attending Surgeon to the French Hospital, New York. New York: International Journal of Surgery Co., 1902.

This volume is offered as a guide for the performance of most of the operations of surgery which the average practitioner is called upon to undertake. Many operations are described and many conditions mentioned which cannot be classed strictly as "minor," but which are nevertheless appropriately included in a book of this character. The book is founded largely on personal experience, and almost no references are given. It has a narrow field of usefulness.

Cancers and Other Tumors of the Breast. Researches Showing Their True Seat and Cause. By Charles Creighton, M.D. Sometime Demonstrator of Anatomy, Cambridge University, etc. With 24 Lithographic Plates. London and Oxford: Williams and Norgate, 1902.

This monograph represents the painstaking labors of its writer in a subject of perennial interest to surgeons and pathologists. The author has been impressed with the fact that many so-called mammary tumors are not really new growths originating in the epithelium of the mammary gland, but are rather paramammary growths, whose origin is the epithelium of certain sweat and sebaceous glands in the region in question. This has been generally recognized, though we do not think that any definite conclusion is justifiable as to the exact proportion of such cases, nor do we think that the matter is of more than pathological interest. The present volume contains a chapter on comparative morphology of the mammary glands, and considerable interesting matter are neoplasms in animals, and there is an incidental discussion of many forms of mammary neoplasms other than carcinoma. The microscopic analysis of various mammary tumors is very minute, and results are placed before the reader in a series of very well-executed plates. Some theorizing is indulged in by the writer, but no harm is done to his collation of facts thereby, and we may consider that his work has much valuable material in it, more for the pathologist than for the surgeon. The second part of the title, which refers to the "true seat and cause" is a little misleading, and, perhaps, a little grandiloquent. His use of the word "cancer" includes many malignant and semimalignant growths, which are not actually carcinoma.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending February 14, 1903:

	Cases.	Deaths.
Measles	190	17
Diphtheria and croup	345	45
Scarlet fever	247	23
Smallpox	3	..
Varicella	135	..
Tuberculosis	282	173
Typhoid fever	37	11
Cerebrospinal meningitis	..	3

The Metric System in the United States.—In 1893 the Secretary of the Treasury ordered that the standard yard and pound should be derived from the standard meter and kilogram received from the International Bureau of Weights and Measures in Paris. The Paris standards were the most accurate possible; the ratios between yard and meter and between pound and kilo were known exactly, and it was very practical, therefore, to use the French Standards as a point of departure. The foregoing decision of the Secretary has no bearing on the question of whether French standards should be made obligatory in America. They have been permissive and legal in the United States since 1866 and they are legal in the Philippines and Porto Rico also. Whenever it is to the advantage of our merchants and manufacturers to use them, they are employed. How little real hold they have on the life of the people may be judged by asking one's friends to give the diameter of a nickel five-cent piece in centimeters, or its weight in grams. Yet this diameter was arranged to be exactly two centimeters and this weight to be five grams a considerable number of years ago. The Committee of Congress on Weights, Measures and Coinage has a bill ready that enjoins the adoption of the metric system in the United States. That system is legal now; all who are benefited by it already use it. Why force the rest of us to do what we think to be of no advantage?—*The New York Sun.*

A Curious Case of Emphysema.—G. G. Taylor reports the case of a boy of fifteen years who, while running, fell, striking the frozen ground just above his right eye. There was no sign of external injury; a few minutes later, upon vigorously blowing his nose, the right upper lid immediately bulged out, completely closing the right eye. The entire upper lid was the seat of a tense symmetrical swelling, which crepitated upon pressure. There was no sign of ecchymosis or fluid effusion. The eyeball itself appeared normal; there was no conjunctival or ciliary injection; the pupillary reflex was present and unimpaired. There was in all probability a slight fissured fracture of the antero-inferior osseous wall of the frontal sinus, without external wound. The increased intranasal tension attendant upon the vigorous blowing of the nose forced additional air up through the infundibulum and into the frontal sinus, whence a portion of it at once escaped out through the slight fissured fracture of the antero-inferior wall into the loose connective tissue beneath the skin of the upper lid, thus immediately producing an emphysema of this lid. Warm compresses and a pressure bandage were applied, and assisted in bringing about a speedy restoration, and the patient was dismissed with the injunction to refrain from blowing the nose for a week or two until the slight fissure at the point of fracture should have had opportunity to close.—*The Chicago Medical Recorder.*

Some Remarks on the Results of Tendon Transplantation in Twenty-five Cases of Infantile Paralysis of the Lower Extremity.—W. P. Montgomery concludes that the progress of cases in which the gastrocnemius and soleus

were adapted as dorsi-flexors of the ankle was very slow. Still there is no doubt that the work of re-education goes on surely, and the cases improve steadily. The greater the length of the tendon of a paralyzed muscle to which the acting muscle was applied, the less satisfactory the early result, and the slower the improvement. The results of the passive method, division of the paralyzed tendon and its suture to the intact acting one, were much inferior to those of the active method, in which a slip was taken from the normal tendon. It is better, too, to divide the paralyzed tendon and fix the graft to its cut end rather than merely to button-hole and attach the slip to the tendon in its course. There is no doubt that, at the time of the transplantation, all deformity must be corrected. As regards after-treatment, the ideal method is to begin massage and passive movement after three weeks, and gentle active movements after four. In the hospital class of patients, of course, this cannot be done, and with them it is best to fix the foot in plaster for five or six weeks, and then allow both active and passive exercises.—*The Medical Chronicle.*

A Case of Lymphadenoma Associated with Recurrent Fever.—Henry T. Bewley and J. Alfred Scott report the case of a man who came of a tuberculous family; had had mild syphilis about 1895; was quite strong till November, 1900, when a fever commenced, which lasted over five weeks, and was followed by two relapses of ten days' duration each. He was well for about six weeks, then a condition of high fever came on and lasted six weeks, ending by crisis on April 27. On May 18 pyrexia again came on, lasting till the beginning of July. Then he was well till the beginning of November, when high fever recommenced and lasted four weeks—till his death. During all this time no one could discover any cause whatever for his fever. At autopsy thoracic tumors and growths in the liver and spleen were found, made up of ovoid masses, like large lymphatic glands. Those in the thorax were composed principally of fibrous tissue strands, with a few cells lying between them. The appearances agree with those described by Greenfield as found in some cases of lymphadenoma, and is apparently the same condition called by Virchow lymphosarcoma. No microorganisms were found in any of the sections.—*The Dublin Journal of Medical Science.*

Arthritis Deformans in Children.—I. A. Abt reports a case of a form of this affection which is not frequent in children. Its causation is obscure. The joint affection is multiple, and the trouble is not confined to the smaller joints. In a large number of cases ankylosis develops, and complete disability after a period of months. Pain is a marked symptom and frequently interferes with sleep. The synovial membranes and the cartilage of the joints disappear. The ends of the bones assume ivory-like hardness and present osteophytic growths at their margins. Atrophy of the muscles follows closely upon the joint involvement. One hypothesis held in regard to the etiology of this disease is that it is due to a lesion in the central nervous system, which causes irregularity in bone growth and muscular atrophy. A second theory is the infectious origin of the disease. The treatment which is advised in these cases is that the children should be placed upon iodide, and, when possible, removed to a warmer climate. In any event, the conditions of hygiene should be improved.—*The Wisconsin Medical Journal.*

Aortic Aneurysm Treated by Electrolysis.—H. A. Hare reports a case, and the conclusions which he reaches are as follows: Electrolysis, in properly-selected cases of aneurysm, is a valuable measure, and prolongs life. The operation itself is neither dangerous nor painful. The failure of permanent cure does not depend so much upon the failure of the operation to limit the disease locally as on the fact that the adjacent parts of the blood vessel are weak and, when the most bulging area is solidified by the clot, these lateral areas may later on give way. Even in these cases life is prolonged by the closing of the weakest area, and it is not to be forgotten that in at least one case (Stewart's) life was prolonged three years, death taking place from an alcoholic debauch.—*Proceedings of the Philadelphia County Medical Society.*

A Case Illustrating the Neglected Results of Infantile Paralysis and the Treatment.—S. W. Kelley describes the case of a boy of five years, who had suffered from paralysis when a year old, and had received no treatment for the results. His lower extremities were thin and weak, and unable to support the weight of the body in a normal position. The left thigh could not be more than half extended. Such contraction and deformity would not occur if limbs were placed and held in position to be used as soon as the stress of the attack is over. And if massage, with stimulating oils and lotions, and (when all inflammatory symptoms had subsided) electricity be used, the feeble circulation, the atrophy, and weak contractility of muscles will seldom proceed to an extreme degree. In the case reported, the author released the contracted tendons of the thigh, and also the tendo Achilles by tenotomies, and applied braces, after which active exercise, supplemented by hot bathing and massage for several weeks, began to develop and increase the strength of the limb. The boy can now walk fairly well.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending February 14, 1903:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
Alabama, Mobile	Feb. 6	2	..
California, Los Angeles	Jan. 17–24	4	..
Sacramento	Jan. 24–31	4	..
Stockton	Jan. 1–31	10	..
Colorado, Denver	Jan. 17–24	17	..
Illinois, Chicago	Jan. 31–Feb. 7	16	..
Galesburg	Jan. 24–31	5	..
Indiana, Indianapolis	Jan. 17–24	152	30
Maine, Biddeford	Jan. 31–Feb. 7	16	..
Eastport	Jan. 31	7	..
Maryland, Baltimore	Jan. 31–Feb. 7	4	..
Cumberland	Jan. 24–31	1	..
Massachusetts, Boston	Jan. 31–Feb. 7	0	..
Haverhill	Jan. 31–Feb. 7	1	..
New Bedford	Jan. 31–Feb. 7	1	..
Michigan, Detroit	Jan. 24–31	43	..
Grand Rapids	Jan. 31–Feb. 7	14	..
Missouri, St. Louis	Jan. 24–Feb. 1	26	..
Nebraska, South Omaha	Jan. 1–31	1	..
New Jersey, Camden	Jan. 27–Feb. 3	2	..
Newark	Jan. 31–Feb. 7	2	..
New York, New York	Jan. 31–Feb. 7	2	..
Ohio, Cincinnati	Jan. 30–Feb. 6	11	2
Dayton	Jan. 31–Feb. 7	6	..
East Liverpool	Jan. 1–31	2	..
Hamilton	Jan. 1–31	5	..
Toledo	Jan. 10–31	19	..
Pennsylvania, Altoona	Jan. 31–Feb. 7	1	..
Philadelphia	Jan. 31–Feb. 7	33	2
South Carolina, Greenville	Jan. 24–31	1	..
Utah, Salt Lake City	Jan. 24–31	19	1

SMALLPOX—FOREIGN.

Austria, Prague	Jan. 3–17	14	..
Barbados	Jan. 2–16	4	..
Belgium, Antwerp	Jan. 3–17	10	3
Brazil, Rio de Janeiro	Dec. 27–Jan. 10.	..	9
Canada, Winnipeg	Jan. 1–31	2	..
Canary Islands, Las Palmas	Dec. 27–Jan. 17.	31	1
Germany, Altona	To Jan. 22.	11	1
Great Britain, Birmingham	Jan. 17–24	5	..
Leeds	Jan. 10–24	19	..
Leith	Jan. 10–17	2	..
Liverpool	Jan. 17–24	51	1
Nottingham	Jan. 3–10	1	..
Sheffield	Jan. 10–24	3	..
Mexico, City of Mexico	Jan. 18–25	5	2
Russia, Moscow	Dec. 27–Jan. 3	..	1
Odessa	Jan. 3–17	12	..
St. Petersburg	Jan. 3–10	40	6
Straits Settlements, Singapore	Dec. 20–27	..	3
Turkey, Constantinople	Jan. 4–11	..	3

YELLOW FEVER.

Brazil, Rio de Janeiro	Dec. 27–Jan. 10.	..	56
Mexico, Tampico	Jan. 18–31	..	3
Vera Cruz	Jan. 24–31	6	3

CHOLERA—FOREIGN.

Egypt, Alexandria	Jan. 12–19	4	3

PLAGUE—INSULAR.

Hawaii, Honolulu	Jan. 29	..	1
Honolulu	Jan. 30	..	1

PLAGUE—FOREIGN.

Brazil, Rio de Janeiro	Dec. 27–Jan. 10.	..	6
Mexico, Mazatlan	To Feb. 4.	278	117

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Original Articles.

REMARKS ON ACHYLIA GASTRICA AND PERNICIOUS ANÆMIA.

BY MAX EINHORN, M.D.,
NEW YORK.

PROFESSOR OF MEDICINE AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

THE clinical pictures of achylia gastrica (formerly called atrophy of the stomach) and of pernicious anæmia are of recent origin. Both conditions are frequently found together, and many writers have pointed out not only the intimate connection of both diseases, but have considered both as nearly identical by assuming that the atrophy of the gastric mucous membrane was the cause of the pernicious anæmia.

The final decision on this question has not yet been given; besides, there are a good many other problems in achylia gastrica awaiting solutions. Under these circumstances it seemed to me advisable to touch upon both subjects in one paper and add my mite toward the elucidation of several points.

Achylia Gastrica.—I first desire to relate my experience regarding several new points in achylia gastrica, which have been as yet somewhat uncertain.

Achylia Gastrica with Return to the Normal State of Secretion.—Achylia gastrica is an obstinate affection. Until recently it was not known whether a return to the normal stomach secretion can take place. I myself[1] have published one case, in which a return of the normal secretion occurred. Other authors also have observed similar cases. Such an occurrence, however, is certainly rare. I, therefore, wish to describe three more new cases belonging to this category, in which achylia gastrica returns to normal secretory activity.

CASE I.—January, 1898. Arthur C., twenty-three years old, complains for the last two years of a great deal of belching, poor appetite, constipation, and frequent vertigo. For the latter condition he has been treated by ear- and eye-specialists at various times, but always without success. Physical examination does not reveal anything abnormal in the thoracic organs; the abdominal organs also are negative on palpation. The stomach lies in its normal position, the larger curvature reaching to within two finger's breadth above the navel. Examination of the stomach contents one hour after test-breakfast shows: HCl=O; acidity=2; no rennet, no pepsin; very little fluid, particles of roll not changed. The patient was treated for some time with direct faradism of the stomach. His condition improved, the attacks of vertigo disappeared; still the condition of the stomach in regard to its secretion remained the same throughout the entire year of 1898–1899. A new examination of the stomach contents in 1900 showed the following: HCl+, acidity=40, rennet+, pieces of roll finely subdivided, amount of fluid more than half. Thereafter a similar condition of the stomach relative to its secretion was often found.

CASE II.—December, 1899. John G. M., fifty-two years old, complains of frequent eructations, capricious appetite, tired feeling, and frequent diarrhœa. The patient has lost ten pounds in weight during the last year. Physical examination of the thoracic organs reveals nothing abnormal. Examination of the stomach contents one hour after test-breakfast, December 18, 1899, shows: HCl=O; reaction, neutral, rennet=O, pieces of roll unchanged, only traces of fluid present. A similar result was obtained in April, September, and November, 1899, as well as January and April, 1900. On December 28, 1900, however, one hour after test-breakfast, the following results were obtained: HCl+; acidity=36; rennet+; two-thirds of the contents are formed by liquid; pieces of roll finely subdivided. On October 15, 1902, a new examination of the stomach contents demonstrated the presence of HCl, of rennet, and an acidity of 40; pieces of roll are finely subdivided. The patient's general condition was decidedly improved; a tendency to diarrhœa, however, remained.

CASE III.—February, 1898. Mrs. Margaretha D., about forty-three years of age, complains for the last few years of digestive disturbances; her appetite is usually poor, after eating a sense of fulness results, accompanied by frequent eructations, and the bowels are constipated. With the exception of the stomach, which contained absolutely no secretion, the various organs are normal. During 1898-1899 the examination of the stomach contents always gave the same result: HCl=O; acidity fluctuating between 2-6, no ferments, very little fluid, pieces of bread hardly changed. In 1900, and later, a normal stomach secretion was always present.

Abrupt Development of Achylia Gastrica in Pronounced Cases of Hyperchlorhydria and, after the Achylia Has Persisted for Years, Return to the Normal Secretion.—The etiology of achylia gastrica has not yet been definitely established. Biedert[2] and Martius[3] do not think it impossible that we have to deal here with a congenital defect. My opinion, that in achylia gastrica we have to deal with purely nervous conditions, is rejected by Martius in the following words: "I must confess that I cannot do much with this assumption. In 'irritable weakness' of the nervous system there is a tendency to abnormal increase of the function, followed by rapid exhaustion. In a typical case of gravest neurasthenia, which I published elsewhere, hypersecretion of the gastric juice was present, which suddenly turned into a temporary, almost complete, cessation of stomach secretion. A continuous and uninterrupted inhibition of a normal function for months or years on a neurasthenic basis is, so far as I know, without analogy. With the designation "purely nervous" we can do here still less than anywhere else."

The following three observations which I have collected during the course of many years show very plainly that such a complete inhibition of secretion for years is certainly possible.

CASE I.—November, 1894. Edward D., forty-two years old, was suffering in 1894 from severe digestive disturbances (pains two hours after eating, pyrosis and constipation) and lost over forty pounds in weight. When I examined him in September,

1894, I found a marked dilatation (atony) of the stomach and hyperchlorhydria. Examination of the stomach contents one hour after a test-breakfast showed the presence of HCl and an acidity of 88, no food remnants from the day before. The patient was then treated with alkalies as usual, intragastric faradization was used besides. In the course of the winter of 1894-1895 the subjective symptoms of the patient improved considerably, although the stomach secretion showed more or less hyperchlorhydria all the time. His state of nutrition was much better and the patient gained considerably in weight. In April, 1895, a renewed examination of the stomach contents one hour after Ewald-Boas's test-breakfast gave the following results: HCl=O; acidity=4; rennet=O; pieces of roll nearly unchanged; very little fluid. During the next four years the patient was examined two to three times a year as to his stomach secretion: there was always a complete absence of gastric juice. Twice small pieces of stomach mucous membrane were found in the stomach contents; a microscopical examination showed that most glands were very small. During all these four years he felt perfectly well, could eat plain ordinary food, and never complained of his stomach. Only occasionally he complained of a light attack of diarrhœa with mucus in the stool. Besides he had a few symptoms of neurasthenia, as, for instance, lack of sleep after trifling excitement, temperary impotence, etc. During the entire period of four years, therefore, a complete typical achylia was present. In 1900 the examination of the stomach contents after test-breakfast showed unexpectedly perfectly normal conditions, HCl+; acidity=40; total contents removed 100 c.c.; of which over half was fluid; pieces of roll finely subdivided. From then until the present time the gastric secretion (as often as examined) was found to be normal. Otherwise no change could be observed in the condition of the patient; the neurasthenia, as well as the occasional attacks of diarrhœa, remained the same.

Case II.—February, 1895. Morris J., fifty-four years old, has been suffering since youth from occasional attacks of diarrhœa, otherwise his health was always good. For the last six years he complained constantly of severe burning sensations in the pit of the stomach, occurring one to two hours after meals. The patient has lost thirty pounds during the last two years and feels rather weak and miserable. Examination of the patient in the middle of February, 1895, revealed no morbid changes in the thoracic organs; a high degree of enteroptosis was, however, present; the stomach was low, small curvature somewhat above the navel, large curvature reaching to the pubis, right kidney movable in third degree. On the 20th of February, 1895, the stomach contents were examined one hour after Ewald's test-breakfast, and showed the presence of HCl and an acidity of 86. The urine contained neither sugar nor albumin. It was, therefore, a case of enteroptosis and hyperchlorhydria. The patient was told to wear an abdominal supporter and received a half teaspoonful of bicarbonate of soda three times daily, two hours after meals. The condition of the patient improved visibly; he soon was rid of all his complaints and gained considerably in weight. In October, 1895, he looked well nourished, and an examination of the stomach contents still showed hyperchlorhydria. For two years he disappeared from my observation and consulted me again in October, 1897. He told me that during that time he had felt well, but that lately his appetite was rather capricious and that he had to urinate frequently. Examination of the stomach contents one hour after test-breakfast showed the following condition: HCl=O; acidity=4; no rennet; little fluid; pieces of roll unchanged. From the years 1897 until 1900 frequently repeated examinations of the stomach contents always showed a complete achylia gastrica. Since October, 1900, gastric secretion with free HCl, in normal amount, was again found, without any marked change in the condition of the patient having occurred. This normal secretion of the stomach juice is still present in the patient, and his only complaint refers to a capricious appetite, frequent urination, and occasional diarrhœa.

Case III.—May, 1896. Charles P., forty-three years old, suffered for the last two years from severe, frequently recurring attacks of abdominal pains and vomiting, necessitating morphine injections. In the interval the patient complained also of a feeling of discomfort about two hours after meals and constipation. He had lost during his illness fifty pounds in weight. A careful examination shows only the presence of hyperchlorhydria. May 14, 1896, one hour after test-breakfast, HCl was found present with a total acidity of 90; no food from the day before. Patient was treated with alkalies and put upon a liberal diet. His condition improved, although hyperchlorhydria was again found present in the stomach contents in September, 1896. In February, 1897, examination of the stomach contents one hour after a test-breakfast showed the absence of HCl; an acidity of 4; no rennet; little fluid; pieces of roll hardly changed. The patient felt perfectly well, had no disturbances whatsoever, and had gained thirty pounds in the meantime. From then on he continued to feel well and to gain in weight. Analysis of the stomach contents during the next two years showed an absolute achylia gastrica. In 1900, however, normal gastric juice was found again, which has persisted until now. The patient is in the best of health; he had gained since the beginning of his trouble seventy pounds, and I had to instruct him how to avoid becoming still stouter.

These cases cannot be compared with nervous dyspepsia or gastric neurasthenia, in which a varying condition of the stomach secretion is present. For in nervous dyspepsia the clinical picture is the same, and the secretion changes sometimes every week or even every day. In our cases, however, the existing anomaly is a condition present for months, even for years, accompanied usually by the symptoms peculiar to it; if a change in the secretion takes place it is a lasting one and the old symptoms disappear with it.

Idiopathic and Secondary Achylia Gastrica.—When I chose the name of achylia gastrica I especially emphasized that it should embrace all conditions in which constant lack of gastric secretion was found during a long period of time. Whether this condition is due to an atrophy of the stomach mucous membrane is difficult to determine during life and of subordinate significance. The distinction between idiopathic achylia or achylia gastrica simplex and secondary achylia, based upon an atrophy of the glands of the stomach, as Martius desires it, does not seem to me to be specially serviceable, as, on the one hand, the so-called idiopathic achylia gastrica can certainly cause atrophy of the stomach glands; on the other hand a grave, so-called secondary achylia, with severe anæmic symptoms, can occasionally recover. There is, thus, during life no fundamental difference, and we can, therefore, designate the cases simply as either light or severe.

Cases of carcinoma of the stomach with achylia are sometimes observed. Whether the cancer causes the achylia or not is difficult to decide.

It might just as well be assumed that the carcinoma has developed in a patient with achylia, unless

we are informed of the previous state of the gastric secretion and found it active in digestive power. The distinction between pure achylia gastrica and that connected with carcinoma is, indeed, sometimes very difficult. Prolonged observation of the patient, however, will decide the question whether carcinoma is present or not. It is of utmost importance to know the state of the stomach in the fasting condition. In achylia gastrica it is completely empty; in cancer, however, some food remnants will frequently be found. In cancer the acidity of the contents one hour after test-breakfast is usually higher, although there are exceptions. Small hemorrhages in washing the stomach are also usually more often found in carcinoma than in pure achylia gastrica. The presence of a tumor would, of course, soon clear the situation; but even without it our attention will be directed toward the malignant nature of the trouble by the unsuccessful result obtained by any dietetic or therapeutic measures. The cases of carcinoma complicated with achylia gastrica in which the diagnosis is difficult are certainly rare. I, myself, have observed two cases in which a decision of the question could not be reached for several weeks.

Pieces of Gastric Mucous Membrane.—Martius believes that the occurrence of pieces of mucous membrane in the stomach contents or in the wash water from the stomach is especially characteristic of patients with achylia. I must own that this phenomenon may frequently be observed in achylia, but I have seen a great number of patients with achylia in whom pieces of mucous membrane were never obtained.

Condition of the Blood in Achylia Gastrica.—In a large number of cases of achylia gastrica I had the blood examined by my assistant, Dr. G. L. Laporte. The results obtained are embodied in the accompanying table:

TABLE SHOWING THE CONDITION OF THE BLOOD IN CASES OF ACHYLIA GASTRICA.

No.	Name.	Age.	Hæmoglobin.	Red blood-cells.	White blood-cells.	Remarks.
1	M. A.	30	100%	4,235,000	5,700	
2	T. B.	50	100%	5,290,000	6,200	
3	F. J.	25	100%	4,580,000	7,600	
4	Miss Sch.	35	90%	4,650,000	8,200	
5	P.	46	87%	4,850,000	8,000	
6	Dr. G. McL.	50	82%	4,890,000	9,800	
7	Dr. A.	50	82%	4,450,000	6,600	
8	G.	52	82%	5,330,000	8,660	
9	F.	38	81%	5,211,000	9,600	
10	Dr. T. G. W.	50	77%	5,650,000	8,500	
11	S. F.	54	70%	4,620,000	8,600	
12	Dr. J. C. R.	45	58%	2,360,000	12,500	Red blood-cells somewhat anæmic and pale.
13	Dr. S.	40	52%	2,604,000	4,800	Moderate poikilocytosis. Majority of red blood-corpuscles normal. Occasionally polychromatophilic red blood-cells.
14	Mrs R.	55	45%	1,536,000	4,400	Poikilocytosis. Normocytic type.
15	H. G.	40	41%	3,720,000	28,500	Normal red blood-corpuscles alternate with such in which the biconcavity is large and pale. No poikilocytosis. No megalocytes.

In eleven cases the blood was about normal, in only four of the fifteen cases examined a reduction of the blood-corpuscles was found. This was most marked in case XIV, in which there was, besides, a relatively large amount of hæmoglobin with marked poikilocytosis; the blood picture, therefore, showed several characteristic signs of pernicious anæmia. The other three cases (12, 13, 15) showed merely a marked anæmia.

Pernicious Anæmia.—Under the term pernicious anæmia, as is well known, a condition is understood in which a considerable reduction of the blood takes place, and in which the patients usually die by gradual loss of strength without any demonstrable organic lesion of the body. Biermer[5] was one of the first to describe this disease more accurately, and has detailed the clinical symptoms as well as the results of autopsy. Biermer enumerated the following symptoms, as usually met with in this disease:

(1) Anæmic-hydræmic appearance, great paleness, but no atrophy of the panniculus adiposus, yellowish white appearance of face, later œdematous swelling of the face and the extremities; (2) weakness, vertigo; (3) digestive disturbances; (4) circulatory disturbances, murmurs in heart and vessels; (5) fever, slight and irregular; (6) apoplexies of the retina; (7) hemorrhages in the skin (small petechiæ) not frequently present; (8) apoplexies in the capillaries of the brain have frequently been found on autopsy, without having caused symptoms during life.

According to the same author, the course of pernicious anæmia is as follows: "gradual increase of the anæmia and hydræmia, accentuation of the heart symptoms, accidental capillary hemorrhages, hydræmic transudations, some fever, subsequent anorexia, frequently diarrhœa, fatal result in nearly all the cases, except one that was cured."

On autopsy Biermer found universal anæmia, nearly always partial fatty degeneration of the papillary muscles and the small vessels. Liver, spleen, and kidneys showed nothing abnormal.

Quincke[6] somewhat later also described a few cases of pernicious anæmia, and laid special stress upon the following points as of etiological moment: direct loss of blood, great exertions, the puerperal state, lactation, diarrhœa. Quincke also called attention to the connection of dyspepsia and pernicious anæmia. He expresses himself in the following manner: "Dyspepsia and diarrhœa once present, are kept up by the uniform insufficient nutrition; several times both disappeared on entering the hospital, merely through the change of diet."

This clinician was also the first, who carefully examined the blood in pernicious anæmia. He found that the blood had the following characteristics: poikilocytosis; among red blood-corpuscles of normal size (6 mikra) many microcytes of 4-1 mikra, as well as occasional macrocytes, are found. The white bood-corpuscles were increased only once. Mononuclear, colorless masses were more often present. According to Quincke, however, pernicious anæmia is not to be separated from ordinary anæmia; there is a difference of degree only, but not of principle. According to this writer, the prognosis of pernicious anæmia is not so absolutely fatal as Biermer and others maintained; it is, however, still bad enough, for, according to him, over half of the cases die.

Several more recent authors attempted to find in the blood itself signs characteristic of pernicious anæmia. According to them, the amount of hæmoglobin ought to be larger than would correspond to the number of red blood-corpuscles. There would, therefore, be present in each individual corpuscle an excess of hæmoglobin. Furthermore, megaloblasts will be found here and there. These signs are, however, not recognized by many clinicians as particularly necessary to the picture of pernicious

anæmia. Grawitz[1], among the hæmatologists, also inclines to this view.

I have taken the liberty to adduce these facts regarding pernicious anæmia, in order to show that, even at present, the clinical symptoms, as described by Biermer, are the most important factor in recognizing this disease. I have observed several cases of pernicious anæmia in the sense of Biermer and Quincke, and will describe only those in which an examination of the stomach contents has been made.

Case I.—March, 1893. George S., fifty-eight years old, is suffering for the last eight months with pains one-half to one hour after meals. The appetite is capricious, bowels are usually constipated, and sleep is somewhat impaired. The patient has lost only a few pounds, but feels very weak; the least bodily exertion soon produces a feeling of weariness, so that the patient can walk only short distances.

Present Condition.—Color of lips and cheeks pale, anæmic. Tongue not coated, panniculus adiposus well preserved. In the chest organs nothing abnormal. Palpation of the abdomen shows tenderness on pressure in the epigastric region. In the region of the stomach a splashing sound can be produced only with difficulty; the large curvature seems to lie about two fingers' width below the navel.

The stomach contents examined one hour after test-breakfast show: HCl+; acidity=46; rennet+. The urine contains neither sugar nor albumin. Knee reflexes are normal. The blood shows a high degree of poikilocytosis; mikro and megalocytes and apparently no increase of white blood-cells. The diagnosis was at that time made of pernicious anæmia and hyperæsthesia of the stomach.

Patient was treated for some time with intragastric galvanization, which seemed to allay the pains in the stomach somewhat. The treatment otherwise consisted in suitable nutrition and the administration of peptonate of iron and at times of arsenic. The condition of the patient, however, did not seem to improve, and his strength gradually decreased.

In the summer of 1893 he went to the country, where he had better care and better food. But even here he did not feel better; severe attacks of diarrhœa developed, which soon yielded to treatment, but left the patient much weaker. In August a renewed examination of the stomach contents showed the presence of free HCl. In September the patient became so weak that he had to stay in bed constantly; he suffered frequently from fainting spells and complained much of pain in the stomach.

In October, 1893, without there having been any considerable emaciation, the patient died from the effects of increasing weakness in a comatose state. An autopsy was not permitted.

Case II.—November 24, 1900.—Jacob B., forty-seven years old, coachman. His father had suffered much from nose-bleed and died of some stomach trouble. The mother is still alive and well. Family history is otherwise negative. Patient has complained even from childhood of nose-bleed (brother and sister have also had it as well as his four boys). Twenty-five years ago while in the army he has had an ulcer in the stomach. Since then he has had rheumatism once, eleven years ago. Up to three years ago patient was always healthy, with the exception of an occasional nose-bleed. The latter at that time became worse (two to three times daily), and shortness of breath developed. He was unable to work any more and is unable to do so now.

Bowels are regular, appetite is good, sleeps well, but has a headache if he has no bleeding from the nose. As soon as the latter occurs, his headache leaves him. He complains of pains over the heart region. He has not lost in weight.

Present Condition.—Man of medium size, color of face pale, yellowish; numerous petechiæ on the lower lip, less on the upper lip, one on the right conjunctival mucous membrane, about twelve on the anterior surface of the chest, four to five on the back. Boundaries of heart somewhat enlarged to right; at the apex a light systolic murmur. Lungs normal, spleen somewhat enlarged, reaching to within a finger of the costal margin, liver projects one finger's width over free margin of ribs.

Urine negative, examination of the stomach contents one hour after test-breakfast: HCl+; free HCl=68; total acidity=88. First swallowing sound two seconds, second swallowing sound nine seconds after drinking of water. Hæmoglobin 20 per cent, red blood-corpuscles 1,824,000, leucocytes 3,600. Marked poikilocytosis. Some few normoblasts.

Case III.—May 21, 1901.—Sam R., forty-seven years old, a saddler by occupation, had typhoid fever with pneumonia fifteen years ago. He was then very sick and was in bed for seventeen weeks. He entirely recovered from this. Twelve years ago he came to the United States and has never been ill until a year ago, when he had chills and fever. Under medical treatment he was well again in a week. He then went back to work and has never had fever since. About eight months ago he began to complain of pains in the stomach, which occurred before as well as after eating. Usually they were most intense two to three hours after meals, lasting about one-half to two hours. A feeling of nausea was also frequently present. His appetite was always good as well as his sleep; he complained, however, of vertigo, headache, and constipation. His color gradually became paler and paler. He claims never to have vomited blood nor passed any in his stool. Twice, however, during the last eight months hemorrhoids emerged from the rectum, and he then noticed a little blood in the stool. Occasionally his legs begin to swell. Lately he does not sleep so well. He has lost about seven pounds. Upon the advice of a physician he has been fed per rectum for about three days, receiving nothing per os, but his gastric pains did not abate.

Present Condition.—Patient looks exceedingly pale, lips hardly show a trace of red. The lobes of the ears are also very pale, with a somewhat yellowish tinge. Tongue not heavily coated. Knee reflexes present. Panniculus adiposus is well preserved. Thoracic organs: at the apex of the heart a soft presystolic murmur is heard. Heart dulness is not enlarged. There is nothing abnormal in the lungs. Abdominal organs: dulness of liver and spleen is normal. To the left of the linea alba, somewhat below the ensiform process, a small hernia of the size of an egg is visible, which can be replaced easily. The stomach extends to about one to two fingers above the navel. The epigastric region is somewhat tender on pressure, otherwise nothing abnormal can be demonstrated in the abdomen by palpation. The urine contains no albumin, no sugar, specific gravity 1012. Microscopically, only a few leucocytes are found. The examination of the blood shows hæmoglobin 30 per cent., red blood-corpuscles 3,680,000, white blood-corpuscles 10,200. In the stained specimen the principal characteristics are the small amount of hæmoglobin and the poikilocytosis of the red cells. Polychromatophile degeneration is present in a small degree. The diameter of the erythrocytes in the majority of cases is normal (about 7½ mikra); in a few only 8-10 mikra and none above ten mikra. Normoblasts or megaloblasts are not present.

A differential count of 300 leucocytes shows the following percentages: polymorphonuclear, 78; small

lymphocytes, 12; large lymphocytes, 7; transitional forms, 0.6; eosinophiles, 1.4; mast-cells, 1.

Although the blood picture in case III was not typical of pernicious anæmia, yet the clinical symptoms were so marked that I was unable to interpret the present disease otherwise than that of pernicious anæmia.

Is There Any Connection between Achylia Gastrica and Pernicious Anæmia?—As Hemmeter[8] and Welch[9] correctly say, Austin Flint [10] was the first to think of a connection between grave anæmias and atrophy of the stomach mucous membrane. In 1860 Flint said the following: "Of the importance of the stomach glands we can form an estimate when we consider that their business is to furnish from fifteen to thirty pounds of gastric juice during the twenty-four hours. Nor is it difficult to see how fatal anæmia must follow an amount of degenerative disease, reducing the amount of gastric juice so far that the assimilation of food is rendered wholly inadequate to the wants of the body. I shall be ready to claim the merit of this idea when the difficult and laborious researches of some one have shown it to be correct."

In 1871 Flint described four cases, which died of inanition. Clinically it was impossible to demonstrate any change in any of the organs. Autopsies were not permitted. He expressed himself as follows: "I have for many years had a strong conviction that the secretory glands of the alimentary canal constitute a territory in pathology, until now almost a *terra incognita*, whence are to be derived very important additions to our knowledge of disease. It has seemed to me a rational supposition that destructive lesions of these glands exist in a class of cases characterized by progressive and fatal inanition taking place without the evidence of disease existing elsewhere sufficiently to explain the symptoms and the termination. I have long been accustomed in lectures and consultations, as also in published writings, to predict that in the cases now referred to, the tubules of the alimentary canal will be found to be the seat of degenerative changes, which, in view of the important functions of these glands, will account satisfactorily for the symptomatic phenomena and death." Flint himself did not follow up the histology of the stomach any further, but refers to the investigations of Handfield Jones, Wilson Fox, and S. Fenwick.

Fenwick[12] was the first to notice the fact that in patients who had died of pernicious anæmia a marked atrophy of the stomach mucous membrane was found. The result of the autopsy caused him to assume the atrophy of the gastric mucous membrane as the original cause of the pernicious anæmia. Fenwick's doctrine was subsequently accepted by several clinicians, Henry and Osler[13], Nothnagel[14], Kinnicutt[15], Von Kahlden[16], and others, who observed similar cases. More recent writers, however, are not of the opinion that pernicious anæmia is caused by the atrophy of the stomach.

Neusser[17] has examined the metabolism in a case of gastric atrophy with pernicious anæmia. He arrives at the result that there were at least some cases of pernicious anæmia with atrophy of the glands of the stomach in which the albumin metabolism took place in exactly the same manner as in healthy adults. The opinion of some authors that the severe anæmia in these cases is the result of malassimilation of the food is therefore not correct. On the contrary, he found in his case that even in severe pernicious anæmia complicated with stomach atrophy the power of the body to utilize nitrogenous material of the food responds even to large demands made upon it.

. Strauss[18] also is of a similar opinion. He says: "The facts brought forward in this paper permit us to maintain now even more energetically than formerly the view that at present we have not sufficient positive proof to allow us to raise the idea—that the atrophy of the stomach and intestine may cause pernicious anæmia—above the level of a hypothesis, the admissibility of which, as applied in the present time, still needs considerable corroboration. . . . Therefore, we are much more inclined, especially in view of the results communicated in this paper, to look upon the functional and anatomical changes of the digestive tract, as a coördinated phenomenon, or perhaps even a subsequent result of pernicious anæmia rather than as a cause of this disease."

In 1892 I[19] voiced my doubt of the correctness of Fenwick's doctrine in the following words: "If the authors mentioned conclude from the post-mortem findings (atrophy of the gastric mucous membrane) that the disease of the stomach is the fundamental cause of the trouble, *i. e.* the anæmia, it is possible that this may be true, but it has not by any means been proven. First, the evidence is lacking that in all cases of pernicious anæmia an atrophy of the stomach mucous membrane is found; secondly, not all cases of atrophy of the stomach show the symptoms of pernicious anæmia. Perhaps the atrophy of the stomach in these cases is caused by the bad state of nutrition due to the pernicious anæmia?"

My own present observations also speak against the assumption that pernicious anæmia is caused by atrophy of the stomach for the following reasons:

1. In most cases of achylia gastrica a nearly normal condition of the blood is found.

In one case of achylia gastrica[20] in which at autopsy a total atrophy of the stomach mucous membrane was found, pernicious anæmia did not exist during life.

2. We occasionally observe the presence of gastric juice in cases of pernicious anæmia, sometimes even in an increased amount, as is evident from the three cases reported above. If pernicious anæmia were caused by an atrophy of the gastric mucous membrane, the achylia would have to be well marked, as soon as the symptoms of the blood disease are apparent.

We cannot deny that achylia and pernicious anæmia may occur together. These cases are, however, in the minority, and would probably point to the fact that there is a common cause for both affections, or that pernicious anæmia finds a ready soil in cases of achylia. We must also think of the possibility that in grave cases of anæmia (pernicious anæmia) in the last stages of the disease, changes may occur in the stomach and intestinal glands (atrophy) just the same as analogous changes in the spinal cord have been observed in this disease.

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RECENT RESEARCHES ON THE VOICE.*

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Within the last ten years a new science has been gradually developing. This science of "experimental phonetics" comprises several main departments of investigation, such as the study of the movements of the vocal organs in producing speech

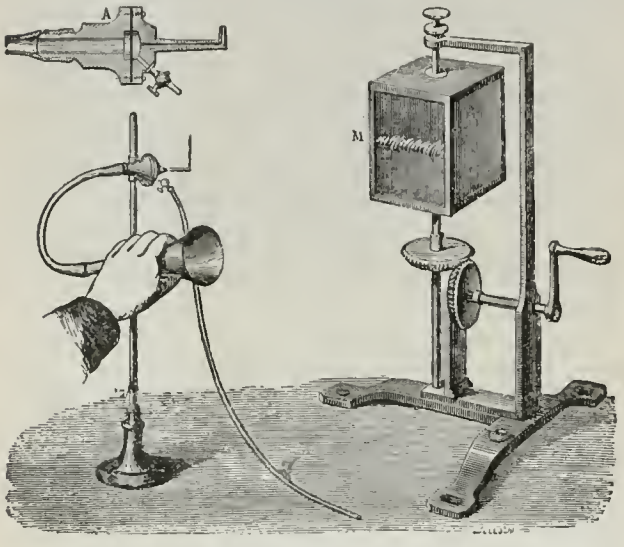

Fig. 1.

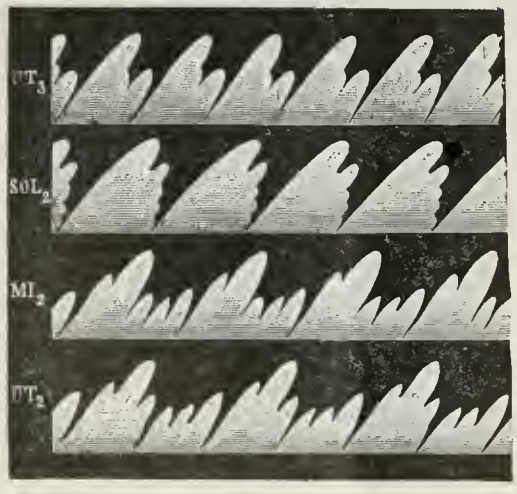

Fig. 2.

sounds, the associations of ideas as the basis of grammar and of language teaching, etc. Here I wish to speak of one special department only, namely, the study of speech curves and the deductions to be drawn from them. The first machine for recording speech was devised by Scott of Paris, who, as a proofreader, got his suggestion from a picture of the ear. Several other phonoautographs were afterward invented; in all of them a diaphragm of rubber, gold-beaters' skin, ivory, etc., moved a lever which recorded the vibrations on a moving surface. Some of these instruments probably give quite accurate tracings of the vibrations of the air from the voice, but the method suffers from the fact that the tracings cannot be turned back into speech.

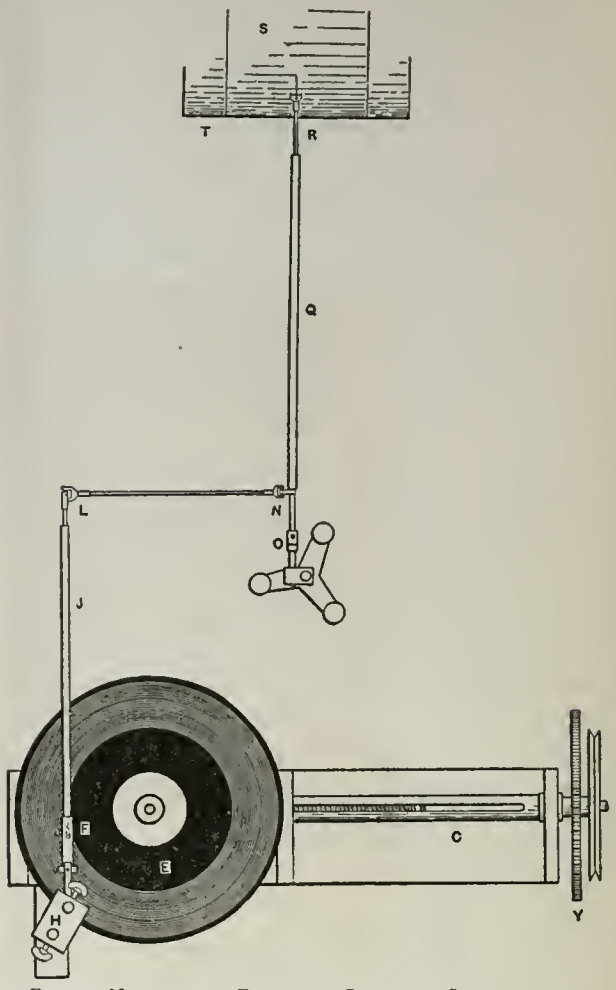

Fig. 3.—Machine for Enlarging Curves of Speech from a Gramophone Plate.

E, gramophone disk with spiral speech-groove containing lateral vibrations; *C*, revolving barrel with feed-screw that turns the disk and moves it sidewise; *Y*, gear-wheel that turns *C*, being moved by the last of a series of reducing-gears connected to a motor; *J*, magnifying lever containing a fine steel point near *F*, which travels in the speech groove and follows its vibrations; *L*, *N*, gimbal joints with connecting-rods that transmits the movements of *J* to the second lever *Q*; *O*, fulcrum of *Q*; *R*, recording-point that draws a line on a slowly moving band of smoked paper *S*; *T*, side of one of two cylinders about 8 feet apart, around which the band of smoked paper travels. The movement of the point in the speech-record at *F* is repeated with great magnification by *R* and recorded as a white line in the soot

A very novel method is that invented by Koenig of Paris. A current of gas is conveyed to a small chamber, from which it issues through a fine jet and burns as a little flame. The back wall of the chamber is formed of a rubber membrane. The speaking tube leads to this membrane, and the vibrations of the voice set it in movement. The flame when viewed in a revolving mirror shows the vibrations. A view of the apparatus is shown in Fig. 1; some results are given in Fig. 2.

The most reliable method at the present time consists in first getting a satisfactory record on a talking-machine, and then tracing off the curve; the record itself and the results can be tested and verified by listening to the speech as reproduced by the machine. The best phonographs and gramophones now pro-

*Summary of a lecture before the Brooklyn Medical Club. Figures 1 to 3 are from Scripture's "Experimental Phonetics" (Yale Bicentennial series); Figure 4 is from the *Century Magazine*.

duce records that hardly fall short of perfection. It remains only to devise machines that will trace off the records on to paper so that they can be studied with accuracy.

For tracing off the curves of a phonograph cylinder a very accurate machine has been devised by Professor Hermann of Koenigsberg. A fine glass point runs in the groove cut in the wax, and moves a system of small levers, which reflect a beam of light. The light is made to record its movements on a sensitive band of paper. The curves are of great accuracy and beauty.

For my own work I use two methods. With one method I obtain a gramophone or a zonophone plate with the desired material on it. The plates made for printing. One such block, showing words spoken by Joseph Jefferson, is shown in Plate I.

Let me give an illustration of the way in which such curves are studied. Take, for example, the word "So," the second line of Fig. 4. The vibrations are seen to be in groups of fairly similar character; each of these groups we know to represent one vibration of the vocal cords with the vibrations of the vocal cavities imposed upon it. The time of each vibration of the cords is found by measuring the length of each group. In this way we can get the melody on which the vowel is spoken. The melody for the entire toast by Jefferson has thus been calculated.

The curves also give the tones of the vocal cavities.

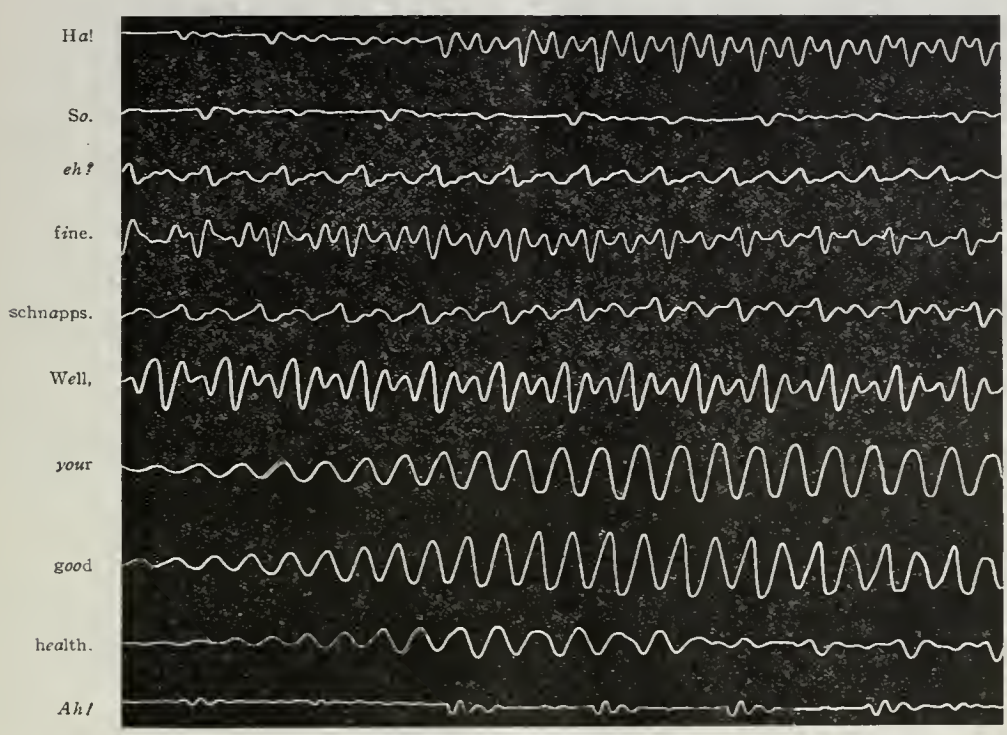

Fig. 4.—Curves from the Voice of Mr. Joseph Jefferson in "Rip Van Winkle's Toast."

The first line shows the beginning of the *a* in the exclamation "Ha!"; the vibrations are in groups, as explained for Figure 1; there is a quick rise of intensity (indicated by the vertical extent of the vibrations) and a slow rise in pitch (indicated by the horizontal length of the groups); the strong vibration found in the middle of each group is peculiarly prominent in Mr. Jefferson's voice; it probably indicates a strong resonance from the chest. The second line is a portion of *o* in "So"; it is a soft, even sound of falling pitch; there are ten groups of vibrations, indicating ten vibrations from the vocal chords; but the alternate groups are slightly different, indicating some interference with their action that produces a peculiar rumbling modulation expressive of satisfaction. The third line is a portion of *e* in "eh?"; its pitch (indicated by the length of the groups) is higher than in the previous examples. The fourth line gives a piece of the *a* sound contained in *i* of "fine"; the resemblance to the *a* in "Ha!" is very close (no two sounds are exactly alike); it differs from *a* in Figure 2 chiefly in having the large intermediate vibration (indicating the strong chest tone) and in the greater evenness of the vibrations within each group (indicating a smoother explosion from the vocal cords). The fifth line gives a portion of the vowel in "schnapps"; there is some resemblance to the vowel of "eh?" The sixth line is a piece of the vowel in "Well"; it is quite loud; the pitch is nearly steady. The seventh line gives the end of *y* and the beginning of *ou* in "your"; the *y* is weak; the *ou* is loud; in *ou* the alternate vibrations are stronger, indicating two vibrations of the mouth cavity to each explosion from the cords. The eighth line contains the beginning of the vowel of "good" as the mouth-passage opens after the *g*; the portion in the middle of the line resembles the *ou* of "your," but the vowel steadily changes its nature. The ninth line gives the first part of the vowel in "health." The last line is the beginning of the exclamation of satisfaction "A-ah!" with which the "Toast" ends; it is of steadily falling pitch; the last part of our record of this sound shows vibrations of such low pitch that the ear cannot hear them.

according to the new processes leave nothing to be desired. The former scratchiness of gramophone plate has practically disappeared, and the records are reproduced with an accuracy of intonation that is practically perfect. With another method I obtain phonograph cylinders in celluloid from a company in Paris.

To trace off the curves from the gramophone plate I place it on a special machine, of which the top view is shown in Fig. 3. The gramophone plate is rotated at a speed of about once in five hours. The vibrations are reproduced with great enlargement on a moving band of paper covered with smoke. The speech line appears as a white curve on a black surface. The record is varnished; the speech curve is cut out of it and reproduced in the form of blocks

We notice in the first place that the speech vibrations are not like those of stringed instruments or of curves produced by adding a series of simple harmonic curves. The curves of the voice are such as can be produced only by a sudden blow on a cavity. The blow is that of an explosion from the vocal cords. The cords close and obstruct the air; the pressure forces them apart for an instant, and they again close. With a steady pressure this produces a series of puffs like that from a disk with holes passed before a jet of air. Such a disk—the familiar "siren" of the laboratory—gives a tone whose pitch depends on the number of holes passing before the jet. The cords act in an exactly similar manner to emit a series of puffs which is heard as the tone of voice.

But how are the cavity tones produced? By a

blow on the cheek or the open mouth the resonance tone of the mouth cavity can be made to sound for an instant; in this way you can make the mouth say the vowels. If these blows could be repeated rapidly enough you would hear the vowel tones added to another tone produced directly by the blows themselves. They cannot be rapidly repeated by the hand, but the puffs from the larynx can be used instead. This is what occurs in actual speech; the larynx emits a series of puffs (heard as the cord tone), each of which strikes a blow on the air of the vocal cavities, and sets it in vibrations corresponding to their sizes and shapes.

This view of the nature of vowels has been definitively established in regard to the male voice in the chest register for German by Professor Hermann, and for English by my results. For the female voice and for the head register the matter has not yet been settled.

This view is directly contrary to the Helmholtz theory, according to which the cords give out vibrations of a complex character, and the vocal cavities reinforce some of the overtones. As the Helmholtz theory is largely used for the basis of instruction in vocal music, the need of a revision of methods is apparent.

Not long ago I stated these facts to a well-known clef club, and supported them by the curves of German vowels sung into and traced from a phonograph by Professor Hermann of Königsberg; by pictures of spoken English vowels obtained in a different way by Professors Nichols and Merritt of Cornell; by analyses of Finnish vowels by Dr. Pipping of Helsingfors; by direct observations of the vocal cords made by Dr. Musehold according to a new method, and by the results of other investigations. The statements were received with a dismay, mitigated only by incredulity. One member even remarked that such views "would, if true, knock all our theories of vocal instruction into a cocked hat." There was, in fact, a natural reluctance to giving up the Helmholtz overtone-theory of vocal resonance. The abandonment of the incorrect theory of vocal action will probably require modifications in the present methods of vocal instruction, but that is a matter for the musicians to decide. I merely suggest that if the mouth-resonance cannot alter the sound from the cords except by mixture of new tones with it, it is hopeless to attempt to correct faulty cord-action by adjustment of the mouth; the cords must be trained to emit such forms of explosions as will produce the best effects on the ear.

The voice curves contain much further information. The curve of "So," for example, shows that alternate groups of vibrations are of diminished intensity; this would be expected to indicate some sort of a low rumble an octave below the tone of the cords, and it is, in fact, just what is heard when the disk is made to speak. It is exactly the rumble that occurs regularly in a voice when a particle of liquid has lodged in the throat; we have thus a record of the drink in its effect on the voice in this particular "Toast." As one of my flippant students once remarked, such records are a "good way of getting onto a man's curves."

Still another field of strange interest lies before us, but it is yet utterly unexplored. We can all detect sorrow, anger, fear, fatigue, etc., in a person's voice. Since the voice travels in the form of air-vibrations from the speaker's mouth to the ear, a record of these vibrations must contain the results of emotions. An understanding of the modifications of the speech curves must reveal the effects due to the emotions: it is only a matter of skilful recording, measuring, and analyzing to detect them.

My second method of studying curves consists in tracing off the curves of a celluloid phonograph cylinder made in Paris. As this phonograph speaks only French, the results are mainly of interest to students of language, but for French they open up an entirely unexplored field. No good curves of the French sounds have ever been obtained. The machine was built by a special appropriation from the Elizabeth Thompson Science Fund, and is now at work on cylinders of French speech specially made for the purpose.

DOCTRINE OF SURVIVORSHIP IN CASE OF TWO OR MORE DEATHS IN A COMMON DISASTER.*

By THEODORE SUTRO,
OF THE NEW YORK BAR.
PRESIDENT OF THE SOCIETY OF MEDICAL JURISPRUDENCE.

The simultaneous death on August 14 last of a childless young married couple of great wealth, as their forty-five horse-power automobile crashed into a tree while speeding at the mad rate of at least sixty-two miles per hour, on the road from Trouville to Paris, France, gave rise to a good deal of controversy in the public press and at gatherings of physicians and lawyers about the presumption of survivorship, as bearing upon the disposition of their estates. As usual, when a scientific question of some difficulty comes up for public discussion, many incorrect notions and crude conceptions of the law bearing on this subject were promulgated, with the dogmatic assurance characteristic of superficial knowledge. I therefore thought that a brief consideration of the principles applicable in such a case, with a cursory review of their history and development, would be of interest, especially as this subject appears never to have been discussed by this society. It has been impossible for me, amid the engrossing cares of my profession, to devote such time to the preparation of this paper as the importance and interesting phases of the matter deserve; my object will be attained if I shall succeed in giving a mere summary of the not inconsiderable mass of material embraced in legislation, decisions, and treatises, and in thereby laying a basis for further consideration and discussion hereafter on the part of other members of the society.

In the case of the Fairs the subject under consideration lost its importance for the reason that wills of the respective parties were discovered, whereby such disposition was made of their estates that the question of survivorship would not have played any great rôle even if a controversy between the respective next of kin of Mr. Charles L. Fair and of Mrs. Fair had ended in a litigation. In view of a compromise,† however, which was effected between the contending parties, a consideration of the result of survivorship in that case would be purely academic, but yet quite interesting, as there has rarely been a case in which death resulted so absolutely at the same instant and practically without any evidence bearing on the question of survivorship. In the account of the case, as nearly as I have been able to gather it from what may *not* be deemed to be the most authentic, and yet the only available source —the public press—it appears that the wife of the gate-keeper of the Chateau Buisson du Mai, in front of which the accident occurred, and the chauffeur

*Read before the Society of Medical Jurisprudence, on January 12, 1903.

†Interest in this matter has been revived since the writing of this paper, by reason of an action commenced by the relatives of Mrs. Fair to set aside the compromise and establish the survivorship of Mrs. Fair.

were the only witnesses. The woman ran to the assistance of the chauffeur, and aided him in extricating Mr. and Mrs. Fair, who, according to one account, were buried beneath the wrecked machine, and, as alleged by the woman, were in the last throes of death. Both had sustained ghastly injuries, and were almost unrecognizable. Mr. Fair's head had been crushed in while his wife's skull was "split," and in so far as these witnesses could state they were both dead, although the woman stated that she saw "the gloved fingers of one hand of Mrs. Fair slowly open, and the foot of Mr. Fair moving as though the leg was drawing up"; but she could not state which movement lasted longer, but on the contrary that they "took place simultaneously."

Dr. Perriquet, who was summoned to the scene after the accident from the neighboring town of Pacy-sur-Eure, stated that when he reached there, about a quarter of an hour after the occurrence, both Mr. and Mrs. Fair were dead. They had apparently been killed outright, and from the nature of the wounds, he was convinced that death was instantaneous in both cases. Questioned about the movements of the body referred to by the wife of the gate-keeper, he said that he was convinced that when these movements occurred life was quite extinct in both.

The chauffeur was too much dazed and frightened to remember anything, but says that when he saw his masters after the accident he believed that both were dead.

It may, therefore, be correctly assumed that if a litigation had arisen about this matter, and the question of survivorship had come up for adjudication, it would have been impossible to ascertain which of the two had died first, and that, in the absence of evidence, any decision in the case would have had to be based upon the fact that their deaths were simultaneous.

Mr. Fair and his wife were not only residents of the State of California, but their property was located there, and it also appears that their wills were executed in accordance with the laws of that State. Had they been residents of a State in which no presumption of survivorship is recognized, the question under examination would not have arisen, even in case of a litigation about their respective estates. But as it happens, California is one of the only two States in the Union in which the doctrine of presumption of survivorship has been almost without change imported from the civil law into the statute law of that State, so that, had the rights of the respective claimants to the estates of the Fairs not been adjusted by compromise, the doctrine of presumption of survivorship would have had to be applied by the Courts, and an opportunity given for a full discussion and adjudication upon the subject.

According to the law of that State on this subject, when several persons perish in the same calamity, and they are over fifteen and less than sixty years of age, and of different sexes (as was the case with Mr. and Mrs. Fair), the *male* is presumed to have survived.

I have not been able to ascertain definitely the contents of the testaments of Mr. and Mrs. Fair, but it appears that each of them willed some or all of their respective estates to the other. It is therefore clear that, in so far as Mr. Fair's testamentary disposition to his wife was concerned, that, under the presumption of his survivorship, and in the absence of *evidence* of her survivorship, would have lapsed; whereas the testamentary disposition of Mrs. Fair's property, in so far as it was in favor of her husband, this would have vested in him. On the other hand, had the wills for any reason been declared invalid, and the respective parties adjudged to have died intestate, the succession to their respective estates would have been governed by the provisions of the California Civil Code (§1386) according to which (Subd. 2) when, as in the case of Mrs. Fair, a person dies leaving a husband and mother, but no issue, one-half of her estate would go to her husband and the remaining half to her mother. On the other hand, in so far as Mr. Fair was concerned, in his case Subdivision 3, §1386 of the Civil Code would be applicable, which provides that when a man dies leaving neither issue, wife, nor parents, but only brothers and sisters, all his estate goes to the latter, who in this case would have been his sisters, Mrs. Herman Oelrichs and Mrs. William K. Vanderbilt, and this, on the presumption of his survivorship, would have included one-half of his wife's estate.

Of course it is idle to speculate upon a purely academic case, and I have only dwelt upon this particular instance so long, as it is of such recent occurrence, and attracted such wide attention, and is so excellent an illustration of the doctrine of survivorship as commonly understood, but erroneously supposed to prevail generally. Assuming the doctrine to have been applied to the Fair case as stated, the question would arise whether this would be the more desirable and more advisable method of the disposition of the property of persons perishing together as they did, or whether the doctrine of the common law is to be preferred, according to which no presumption of survivorship whatsoever arises, but each case must depend entirely upon such evidence as may be adduced by the party claiming title to an estate, with reference to which of the deceased persons lived the longest. In order to arrive at some intelligent conclusion in regard to which of these methods is preferable, it will be necessary to review briefly the principles of the Roman and common law, respectively, governing the subject, in their origin and development. This I propose to do under the following topics:

First: The provisions of the Roman or civil law with reference to the question of survivorship, as originally enacted and still preserved almost intact in various countries, and in two of the United States, and incidentally the presumption of simultaneous death in vogue in some other countries.

Second: The gradual abandonment of all rules of presumption in the jurisprudence of England.

Third: The present state of the law on the subject in the United States.

Fourth: Which of the systems is preferable, the rules of presumption of the civil law, or the presumption of simultaneous death, or the rules of the common law of no presumption whatsoever?

First.—By the Roman or civil law, as laid down in the Digest (Liber 34, title 5, 22, 23), which was published A.D. 533, under a commission from the Emperor Justinian, as a part of the *corpus juris civilis*, and which was the embodiment of the legal wisdom of a thousand years of ancient Rome, republican, imperial and Christian, it was presumed among other things, when a father and son died together in a battle or shipwreck, that the son, if above the age of puberty, outlived the father, but that he died first if under the age of puberty; furthermore, that of persons dying together, if all were over the age of sixty, the youngest, and if all were under the age of fifteen, the oldest, was presumed to have survived. As between males and females

of the same class, the presumption was that the males survived.

I shall not quote the provisions of the Digest *in extenso*, as the same principles substantially were embodied in the Code Napoleon in France, which I shall refer to more fully, and similar rules obtain at present in Italy, Spain, and Greece. On the other hand, in some countries in Europe, as for example, Prussia, Austria, and Holland, the presumption (in the absence of evidence) is that death was simultaneous.

In the United States, only in Louisiana and California, principles almost identical with those laid down in the Code Napoleon, prevail.

The provisions of the Code Napoleon, and of the Code of Louisiana, and the Code of Civil Procedure of California, on this subject, are as follows:

Code Napoleon, Article 720:

"If several persons, respectively called to the succession of each other, perish by one and the same accident, so that it is not possible to ascertain which of them died first, the presumption of survivorship is determined by the circumstances of the event, and in defect of such, by force of age and sex."

The Louisiana Code (Articles 930-931) contains substantially the same provisions as the foregoing. So, likewise, the Code of Civil Procedure of California, Section 1963, Subdivision 41, only that the word "calamity" is substituted for the word "accident" (under which in a certain case in California—Hollister *vs.* Corders, 76 Calif. 649—murder was held to be included under the word calamity).

Article 721 of the Code Napoleon provides as follows:

"If those who perished together were under fifteen years, the eldest shall be presumed to have survived. If they were all above sixty, the youngest shall be presumed to have survived. If some were under fifteen, and others more than sixty, the former shall be presumed to have survived." The Louisiana Code (Article 932) contains the same provisions. So, likewise the California Code (the first, second, and third clauses of Subdivision 41, Section 1963).

Article 722 of the Code Napoleon provides:

"If those who perished together were of the age of fifteen years complete, but less than sixty, the male is always presumed to have survived, where there is equality of age, or if the difference which exists does not exceed one year.

"If they are of the same sex, the presumption of survivorship which gives rise to succession according to the order of nature must be admitted; thus the younger is presumed to have survived the elder."

The Louisiana Code (Article 933) contains the same provisions, and the California Code (Clause four of Subdivision 41, Section 1963) contains like provisions in the following language:

"If both are over fifteen and under sixty, and the sexes are different, the male is presumed to have survived. If the sexes are the same, then the older."

In the last part the California differs from the Code Napoleon, which presumes the younger between those ages to have survived, if both are of the same sex.

The California Code (in the fifth clause of the subdivision of the section referred to) contains the additional provision:

"If one is under fifteen or over sixty, and the other between those ages, the latter is presumed to have survived."

Similar legislation to the foregoing is said to have been advocated by Mr. David Dudley Field, in the State of New York, in his first draft of the proposed Civil Code, which, as is well known, however, failed of adoption.

I have been somewhat specific in giving the provisions of the Roman law, and as subsequently embodied in the Code Napoleon in France, and in other countries, as well as in the States of California and Louisiana, in order to present a clear understanding of what the provisions actually were and still are in the jurisdictions where the principles of the Roman law on this subject prevail at the present time.

Outside of those jurisdictions, however, it may be said that the modern tendency throughout the world, and especially in England and the United States, has been to disregard not only these presumptions of survivorship but all presumptions of survivorship in cases in which two or more deaths occur in a common calamity, catastrophe or disaster.

Second.—This brings me to the second subdivision of my subject. In England the law was for a long time unsettled, and it was so declared judicially by no less an authority than Lord Mansfield, in the year 1767, in the famous case of King *vs.* Hay (1 Sir William Blackstone's Reports, page 640), known as "Lord Mansfield's undecided case." The question of survivorship arose in that case in consequence of the death of General Stanwix, his wife, and his daughter by his first wife, who all died together while crossing the Irish Channel from Dublin, the vessel being lost at sea, and in the quaint language of the report "no account of the manner of her perishing had ever yet arrived." The nearest relative of the General was his nephew, and the nearest relative of the daughter was a brother of the General's first wife, and both applied for administration on the estate. Lord Mansfield declared that there was no legal principle upon which he could decide the matter, and so, on his recommendation, the parties made a compromise.

Thereafter the question was debated in all its phases until the leading case of Underwood *vs.* Wing (19 Beav. 459), which was reviewed in 4 De G. M. & G., 633, and subsequently in the House of Lords in 1860 in 8 House of Lord Cases, 183, which finally settled the law on this question in England, in the enunciation of the principle that the English law was opposed definitely to any presumption of survivorship, and that any claim of survivorship must be proved.

In that case the facts in dispute were with reference to the survivorship of a husband or wife, who died in a shipwreck, the only witness being a seaman, whose testimony was uncertain. Experts were examined as to the comparative duration of life in cases of asphyxia, as between males and females, with the weight of testimony in favor of the survivorship of the male. On the trial in the Court below Sir John Romilly, Master of the Rolls, said:

"It is possible to speculate to an unlimited extent, but to come to a safe conclusion or to a definite result is, in my opinion, totally impossible. . . . My opinion is, that there is no evidence to show me who is the survivor, and the conclusion of law is that I cannot form any decision on the assumption that either was the survivor." And on appeal Lord Chancellor Cranworth said: "We may guess, or imagine, or fancy, but the law of England requires evidence."

The principle laid down in the case of Underwood *vs.* Wing, disregarding the entire doctrine of presumptions of survivorship, has laid the foundation for all subsequent decisions up to the present time, and it may now be accepted as established that

according to the law of England, no presumption of survivorship whatsoever is recognized.

Third.—The doctrine laid down in Underwood *vs.* Wing, of the entire absence of any presumption of survivorship, has been adopted generally in the United States, always, of course, excepting California and Louisiana. There have been numerous decisions to this effect in the various States of the Union.

The leading case in the State of New York is Newell *vs.* Nichols, 12 Hun, 604, being a unanimous affirmance of the decision, and on the opinion below, of Justice Van Vorst, and further affirmed on appeal in 75 N. Y., 78.

In that case a Mr. Charles W. Walter, together with his two children, Joseph and Mary, by his deceased wife, and the latter's mother, a Mrs. Ridgway, were all lost at sea in the wreck of the ill-fated steamship *Schiller*, on its voyage from New York to Europe, in the year 1874.

There was no evidence to show which, if any, of these persons survived the others. The action was brought to obtain a judicial construction of the will of the deceased Mrs. Charles W. Walter, and to determine the respective rights of certain persons mentioned in the will as entitled to remainders depending, as it happened, on the survivorship between the two children.

In the opinion of Judge Van Vorst the authorities are fully reviewed, and the following language used:

"It would seem to be unsafe to rely upon any presumption arising, either from age or sex, in regard to survivorship of persons exposed to a common peril by the sinking of a ship. It is true, that one might, by strength and powers of endurance, survive the other, but the strongest might perish first. Experience in such cases shows that no rule can be unalterably adopted to determine survivorship." . . . "In the case at bar, there being no legal presumption of survivorship, no rights could have been transmitted by one child to the other, nor to his or her heirs or next of kin, and under the authorities above cited, the burthen of establishing a survivorship rests upon the party who claims any portion of the estate through such fact." . . . "It is the merest speculation or conjecture as to whether there was a survivorship at all, and both cannot be entitled. Nor is the necessity of proving a survivorship wholly obviated through an attempted solution of the difficulty by adjudging an intestacy as to the remainder at the death of the children. In such condition the obstacle is not overcome, but only postponed. The legal title was not in the children, and they had nothing, if they perished in the same moment, to transmit."

In the Court of Appeals the question was somewhat re-examined, and Chief Judge Church said among other things, in referring to and concurring in the opinion below:

"The principal points decided are: 1st. That the appellants who claim through a survivorship must prove the survivorship; 2d. That there is no presumption in law of survivorship in the case of persons who perish by a common disaster, as in this case, by shipwreck, without other evidence tending to prove the fact, and hence that the party upon whom the *onus* lies fails to establish it." . . . "It is not claimed that there is any legal presumption that the children died at the same time. Indeed, it may be conceded that it is unlikely that they ceased to breathe at precisely the same instant, and as a physical fact it may perhaps be *inferred* that they did not. But this does not come up to the standard of proof. The rule is that the law will indulge in no presumption on the subject. It will not raise a presumption by balancing probabilities, either that there was a survivor, or who it was. In this respect the common law differs from the civil law. Under the latter, certain rules prevail in respect to age, sex, and physical condition, by which survivorship may be determined, but nothing can be more uncertain or unsatisfactory than this conjectural mode of arriving at a fact, which from its nature must remain uncertain, and often upon the existence of which the title to large amounts of property depends." . . . "There are cases where a strong probability, in theory at least, would arise, that one person survived another, and perhaps as strong as that that there was *a* survivor, and yet the common law wisely refrains from acting upon it in either case. It is regarded as a question of fact to be proved, and evidence merely that two or more persons perished by such a disaster is not deemed sufficient. If there are other circumstances shown tending to prove survivorship, courts will then look at the whole case for the purpose of determining the question; but if only the fact of death by a common disaster appears, they will not undertake to solve it on account of the nature of the question, and its inherent uncertainty. It is not impossible for two persons to die at the same time; and, when exposed to the same peril, under like circumstances, it is not, as a question of probability, very unlikely to happen. At most, the difference can only be a few brief seconds. The scene passes at once beyond the vision of human penetration, and it is as unbecoming as it is idle for judicial tribunals to speculate or guess whether during the momentary life struggle one or the other may not have ceased to gasp first, especially when the transmission of title to property depends upon it, and hence, in the absence of other evidence, the fact is assumed to be unascertainable, and property rights are disposed of as if death occurred at the same time. This is done not because the fact is proved, or that there is any presumption to that effect, but because there is no evidence and no presumption to the contrary. The authorities are uniform upon this doctrine, but the expressions of some of the judges in announcing it are liable to be misunderstood as indicating a presumption of simultaneous death, which is not the rule." . . . "All the common law authorities are substantially the same way, and the rule, which I think is wise and safe, should be regarded as settled."

The most recent decision, and which stamps the authority of the Supreme Court of the United States upon the principle laid down in the leading English and American cases, is the one reported in the newspapers of last Tuesday, January 6, 1903, but the official report of which I have been unable to obtain at this writing, in the Matter of the Rhodes Estate. The facts in this appear to be that Sophia Rhodes of Washington made a will leaving her estate to her son Eugene, and in case she survived him, then to the Young Women's Christian Home of that city. The testatrix and her son were drowned in the wreck of the steamer *Elbe*, January 30, 1895. The personal representatives of the son claimed the estate for his next of kin, on the ground that *prima facie* the title vested in him, and that the burden of proof was upon the Young Women's Christian Home to show that Mrs. Rhodes survived her son. The Supreme Court of the District of Columbia decided that the bequest should go to the Young Women's Christian Home, and the Court of Appeals for the District of Columbia, on the other hand, that the next of kin of the son were entitled. In reversing the last-mentioned decision, Chief Justice Fuller said:

"The rule is that there is no presumption of survivorship in the case of persons who perish by a common disaster, in the absence of proof tending to show the order of dissolution, and that circumstances surrounding the calamity of the character appearing on this record are insufficient to create any presumption on which the courts can act. The question of actual survivorship is regarded as unas-

certainable, and descent and distribution take the same course as if the deaths had been simultaneous."

From the foregoing remark of Chief Justice Fuller it may be surmised, as is in fact true, that notwithstanding the general principle that there is no presumption of survivorship at common law, yet in applying the rules of evidence to the peculiar facts of some cases, certain presumptions are indulged in. For example, when several perish in a common disaster, but in a proved series of successive events, separated from each other in point of time and character, and each likely to produce death, differences of age, sex, health, and the like, may raise an inference of survivorship. Thus in a Florida case (Smith *vs.* Croom, 7 Flor. Rep., 147) in which a father and his two children died together in a shipwreck, and the father was in feeble health and unable to reach the upper deck, which was swept by the waves last, but which the children reached, the father was presumed to have died first.

So, also, the one who was last seen or heard alive, although subject to the same cause of death as those who perished with him, is presumed to have survived the others. Thus in Pell *vs.* Ball (1 Cheves' South Carolina Equity Reports, 99) where a husband and wife perished at sea in consequence of the explosion of a boiler which parted the ship, and the wife was seen and heard calling for her husband after the disaster, but he was not heard to answer, and not seen again subsequent to the explosion, the presumption was that the wife survived the husband.

So, also, in an old English case (Broughton *vs.* Randall, Cro. Eliz., 503) in which father and son were hanged for a crime "in the same cart," and the son moved his legs after the father had become still, the son was presumed to have survived the father.

Fourth.—The foregoing is a brief—a very brief—outline of the original source and present state of the law on this subject. It remains to consider briefly which of the systems indicated is preferable, namely, the rules of presumption of the Roman law, as still in vogue in the Latin and some other countries of Europe, and in California and Louisiana in this country, or the presumption of simultaneous death in all cases as prevalent in countries like Prussia, Austria, and Holland, or the rule of the common law now adopted in England and generally in the United States, of no presumption whatsoever either as to survivorship or simultaneous death.

It must be remembered that in all three systems actual evidence of survivorship overcomes all presumptions, for no legislation has ever gone so far as to hold any of these presumptions to be conclusive. They are in all cases disputable or rebuttable presumptions. The question, therefore, narrows itself down to this: Ought any presumption whatsoever to be indulged in, or ought in every case the determination of succession to depend upon a fair preponderance of credible evidence, as in any other litigated case in which a certain fact is to be proved, and, in the absence of all evidence ought the property of persons thus dying together to be disposed of as if all had died at the same moment of time?

The importance of arriving at some conclusion on this subject is evident from the few cases to which I have already referred as involving the question of title to estates, utterly at variance with what were the probable intentions of the deceased. This importance will appear perhaps still more forcibly in considering, for example, that in case of testator and legatee, the question of survivorship of one or the other, if but for an instant, will determine a lapse of the legacy or the contrary, and the consequent rival claims between the personal representatives of the testator and legatee, and so on, innumerable illustrations might be given of the great difference which the survivorship of one over the other of persons thus dying will make in the devolution of their estates.

In countries where the presumptions of survivorship exist, there have been many learned discussions and disputations among medical and other scientific experts, as to the basis for assuming a continuance of life in male or female, adult or infant, young or old, according to the nature of the calamity in which they met a common death. These discussions have been as various as the disasters in connection with which the presumptions of survivorship arose.

Most of the reported cases have arisen from rival claims to the property of persons who have perished at sea, yet similar questions also have arisen in cases of those who died in a railroad disaster; in a massacre, as, for example, the one at Cawnpore in 1867 (*Re* Wainright, 1 Sev. and Tr., 257) through murder, as in the case of a mistress and housekeeper, when the former had left by will everything to the latter (Doe *vs.* Nepean, 5 B. & C., 32); on the other hand, innumerable are the cases, of course, in which numbers of persons died together, but many of which have not been brought before the courts for judicial determination at all. One of the most frequent is death in conflagrations, in battle, in earthquakes, in explosions; as, for example, on the occasion of numerous deaths from a premature explosion of fireworks in this city on election night last fall at Union Square, and in volcanic eruptions, which will at once call to mind the recent terrific catastrophe at St. Pierre, Martinique, where 30,000 persons were overwhelmed in a common death, with not a living witness to testify as to whether any one of them outlived the others.

The great variety of circumstances, therefore, under which such synchronous deaths may occur, must be considered with reference to the doctrine of presumptions of survivorship. The presumptions in the civil or Roman law are undoubtedly founded on many centuries of observation of usual occurrences "according to the order of nature," as the Code Napoleon terms it, depending on differences of age and sex. All are based on the assumption that the person deemed to have survived, was likely, from superior strength, to have struggled longest against death. And yet we cannot leave out of consideration that comparative health, physical strength, courage, bravery, and self-possession, and in cases of drowning, the ability to swim, the manner of apparel as well as habits of temperance or intemperance, may be as strong factors in assisting or, on the other hand, impeding the struggle against death, as differences of age and sex, and that these fortuitous circumstances may, in a large number of cases, entirely reverse and change the theory of survivorship of the civil law. To these may be added a further element antagonistic to the presumptions of the civil law, that in some cases, according to scientific authorities, the strongest perish first, and the male rather than the female. Dr. Beck relates an incident in which, in a caravan, suffering from want of water in the Nubian desert "the younger slaves bore thirst better than the rest; and while the grown-up boys all died, the children reached Egypt in safety." The same author thinks that persons with a tendency to affections of the head or lungs should be deemed the first victims in cases in which these parts of the body are likely to be affected by the accident or calamity.

Another author claim that death from hunger occurs soonest in the young and robust, their vital organs being accustomed to more pronounced action than those of persons past adult age. (See "Chambers' Pocket Miscellany," Vol. 18, p. 119.) Dr. John J. Reese, in his work on "Medical Jurisprudence," Philadelphia, 1894, says that "in deaths from asphyxia (apnia), as in smothering or breathing noxious gases, as women require less oxygen than men, the probabilities are in favor of the former, other things being equal." He relates that in Paris, in one year, from 1834-1835, there occurred 360 cases of death by inhalation of charcoal vapors, and that of this number, in nineteen cases, in which a man and woman were exposed together, only three survived—all women. Dr. Beck relates a case in which a man, wife, and child were all asphyxiated, while sleeping in a room, from vapors of a coal-stove. In the morning the man was found dead, the child dying, but the woman recovered.

Again, as between young and old, Reese asserts that the very young and very old can stand heat better, but cold less, than persons in adult or middle life.

Dr. Krügelstein relates a case of a young man and his betrothed, who were lost in the Catacombs, near Maestricht, and at the end of the third day they were found, the man dead, while the young woman was resuscitated, and lived to an extreme old age—as an illustration that in cases of starvation, the female has a better chance of survivorship than the male. Böcker claims that women can bear loss of blood longer than men.

In actual decisions under the Code Napoleon some very curious cases have arisen, not strictly based upon differences of age or sex, but rather on additional presumptions which do not appear to have been founded upon any actual evidence. Thus in deciding cases arising out of the massacre of the Huguenots on St. Bartholomew's day, the Parliament of Paris acted on the presumption that the older persons, as having been more likely to have offered resistance, were assassinated first, and in the case of Madame Dumoulin and her two children, it was presumed, probably for the same reason, that the robbers first killed the mother.

In view of these innumerable circumstances, which undoubtedly have a bearing upon the question of survivorship, the presumptions of the civil law, based as they are entirely upon differences of age and sex, and likewise the statutory presumptions in vogue in some countries of simultaneous death, appear neither of them to rest upon any logical foundation. As proof of the futility of all artificial presumptions of survivorship, may be mentioned the case of the loss of the steamer *Asia*, in a storm on Lake Superior, in the month of November, 1882. The captain and mate, who had in their favor strong and hardened constitutions, together with the passengers, including a mere boy and girl, sought refuge in one of the boats. Yet out of this whole number the boy and girl survived, all the rest either sinking from sheer exhaustion, or being drowned as the boat capsized. Again, there are instances recorded in which a woman has survived the whole number of a ship's crew and passengers. Such occurrences as these set at defiance all attempts to formulate any presumption which may be said to have reason or experience in its favor. An arbitrary rule is all that can be arrived at, and taking everything into consideration, the most reasonable and logical rule would seem to be the one which now has been generally adopted in our law, namely, that when it is necessary or important to ascertain or consider which of several persons survived, and there is no evidence respecting the circumstances of the calamity, no presumption whatsoever will be indulged in, but the conclusion adopted that all perished together.

It may well be that on the assumption that, in the absence of evidence, there is no survivorship, the intended testamentary disposition of property made by persons thus dying together, may be wholly nullified and their estates diverted in a manner entirely contrary to what they expected. But this can be readily obviated by inserting a proper clause in their wills, a practice which I have uniformly followed for many years, providing for the disposition of their estate, in case of the occurrence of the death of the testator and legatee or devisee in a common disaster. This is entirely practicable as between husband and wife, and also in most other cases in which it is likely that persons mentioned in a will may perish together, while traveling or otherwise. And on the other hand, in cases of intestacy, it may well be assumed that the statutes of distribution and descent will regulate the devolution of property quite as wisely and well as if complicated and confused through artificial distinctions of survivorship, which cannot be said to be borne out either by uniform experience or to rest on any reasonable or scientific basis.

THE ETIOLOGY AND PREVENTION OF SENILE CATARACT.

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TWENTY years ago a man, then forty years of age, was struck in the right eye by a piece of lime. To-day there is no discoverable trace of injury or disease of the eye, external or internal, save a paralysis of the sphincter pupillæ, which has existed since the injury. The pupil is five to six millimeters in diameter, regular, reacting easily to atropine or homatropine, but unresponsive to eserine. There is no reaction to light or to accommodation, no hippus, and no reflex demonstrable to any stimulation. The anisocoria is very marked, since the pupil of the left eye is normal. Vision in the right eye is 5-100, and in the left 5-70. The vision in the right eye has been thus partially amblyopic ever since the injury. The vision in the left eye is failing. Equatorial radial opacities are faintly manifest in the lens cortex of this uninjured eye; but mark that in the eye with the paralyzed sphincter all the media are as clear as crystal!

There is nothing apparently abnormal in the left eye, external or internal, save the incipient cataract. There is nothing apparently abnormal in the right eye save the paralyzed pupil!

Here then is a case that gives a clue and a clear hint for the partial solution of a problem fruitful of theorizing, but barren of practical results—the etiology of senile cataract, and its treatment without removal of the lens. It seems to be pretty well agreed that nutritional changes are responsible for the development of cataracts of all kinds. Hyperplasia, degeneration—these are results of malnutrition and the essentials of opacification. Undoubtedly nutritional changes are at the very root of many cases of senile cataract, but not in the sense that is commonly supposed. Senility brings nutritional changes throughout all the tissues of the body without exception. These changes are physiological, or may be so regarded. Complete cataract is not present in the majority, but in the minority of individuals of advanced age. It is clear, then, that a change in the pabulum of the lens cannot in many cases be held

as the sole cause of cataract; yet that has been the popular scientific acceptance.

The truth of the matter, and a great and important truth it is, is that nutritional changes, brought about by, or associated with, senility, when they exist in tissues in contact with the lens, irritate and interfere with the physiological activity of the lens, and cause pathological conditions to appear. Certain other factors, in addition to senile changes, may produce this interference, as will be shown.

The theory that nutritional changes in tissues in continuity with the lens tissue influence the character of the lens pabulum and so cause opacification is rather difficult of substantiation, and while it may be true in some instances, the actual proof is lacking. If a theory more plausible is adduced, with a small amount of proof presentable, and the opportunity for further proving ample, should it not receive at least as much consideration as an old theory, plausible only because of the utter hopelessness of theories previously advanced? And especially should it not be considered when, if it can be shown to be probably true, the knowledge would lead to the possibility of arrest of many cases of incipient senile cataract.

The lens is exceedingly sensitive to traumatism or pressure. That is an established fact. It has been shown that repeated tapping on the cornea with an elastic rod will produce lenticular opacities. Arlt, Meyer, Horner, Knies, and many others have placed themselves on record as showing that eclamptic seizures, presumably from various causes, bringing about intense contraction of the intraocular musculature, frequently produce lamellar cataracts. This is not a very rare occurrence. And Stein, cited by Fuchs, has even shown that he could set up opacities in the lenses of young guinea-pigs simply by placing them in the resonator-box of a tuning-fork, which was kept in constant vibration. We may work upon this knowledge with all the better assurance when we reflect that all efforts to prove the development of cataract, as a fixed pathological entity, by the extraction or imbibition of water or abnormal ocular solutions, have terminated unsatisfactorily.

The Significance of Capsulitis.—Much evidence at hand goes to support the views of Schoen that all simple and senile cataracts commence as a "capsulitis." This produces proliferation of epithelial cells sometimes progressing to hyaline degeneration, and perhaps coagulation necrosis. Knies's molecular granulation with swelling fibers is quite compatible with this asseveration. This hypothesis is doubly striking in view of what Forster has shown regarding the effects of slight trituration of the lens capsule with a smooth instrument for the hastening of cataractous development. That such is a fact is easy of demonstration. Weeks, moreover, has shown that this massage of the lens for hastening opacification results in the adhesion of capsule and cortex. This indicates capsulitis with proliferating, or granulation cells, or perhaps exudative matter.

Knies and Treacher Collins, among others, have shown definitely, what most oculists have doubtless seen, that anterior capsular cataract may arise from contact between the capsule and the edges of a perforating corneal ulcer. Cortical cataract is a ready sequent of this condition. Here then, again, we have an evident capsulitis, prefacing opacification. Whether it is of a traumatic or an infective nature is totally immaterial. It is a fact utterly incapable of controversion that conditions ofttimes apparently infinitesimal in importance can produce cataract; this result being often attained by the setting up of a state, which, for want of another term, we must call "capsulitis."

Now, the momentous question arises: Does there often exist in the senile eye any condition, pathological or physiological, which could produce even the minute irritation or traumatism of the lens capsule necessary to the production of opacities in the lens proper? Fraught with significance, the answer is: Yes, there does often exist such an essential condition.

Significant, indeed, is the answer, for with it is born the hope that with this knowledge some, perhaps many, of the human family will be spared the brain-torturing increase of insidious and relentless cataracts, and the harrowing outlook of blindness, to be followed by an operation with a chance of failure.

The Rôle of the Iris.—It is an anatomical fact that a portion of the posterior surface of the iris lies and moves in contact with the surface of the anterior capsule of the lens. In youth, and unless certain changes occur which may accompany senility, the iris is a thin and delicate membrane composed of soft, almost impalpable tissue. The passage of this filmy substance across the surface of the capsule is not harmful. But let the character of its tissues become altered; let them stiffen or roughen, and we have an immediate plausible causation for capsulitis and opacification. For the iris never rests, save while the individual sleeps, and perhaps not even then. There is constant movement, action and reaction, a continual oscillation known physiologically as hippus.

This constant grating of a rough or stiffened iris upon the capsule is, beyond all peradventure of a doubt, one of the great causes of cataract. That it has been overlooked—for I can find no reference to such a thing after reasonably diligent search—is strange; that it should be recognized at once is certain.

It is not a coincidence, we may be sure, that in the majority of cases of cataract it is impossible to obtain full dilatation of the pupil under the influence of mydriatics. It is to be accounted for by the thickening or stiffening of the iridian fibers, and not, as is commonly suggested, by atrophic conditions.

Now as to the causes of these changes in the iris tissue: They are various. There is, first and foremost, preëminent in the causation of senile cataract, arteriosclerosis, which is prone to affect the capillaries, and which may run riot in the distal circulation long before it is discovered; there are rheumatism and gout, with the thickening fibrin or the uric acid in the blood, and the changes they may cause in the vascular system; there are the circulatory changes of Bright's disease and of diabetes, and there are the hyperplasia, the œdema, the rough and sticky exudation, or the inflammatory stiffening that would accompany acute or chronic inflammations of the intraocular structures. Any of these may be the cause of changes which eventuate in cataract. But mark that in these cases the iris, the abnormal, diseased, rough, thickened iris, is the medium by which the cataract is started.

Were the iris not present to bear the weapons of the attacking forces—to rake and scrape and jostle and disorganize the ultra-sensitive lens and its capsule—in many cases no cataract would develop. For, it is to be repeated, it has not been shown that mere interference with the nutrition of the lens by pathological changes in its pabulum can produce opacities; whereas it is often and comprehensively shown that conditions similar to those that have just been described are not only capable of causing, but are prone to cause, cataract.

Let me be understood. I do not propose, for a moment, that all cases of cataract shall be considered

as arising in the manner just outlined. On the contrary, I believe there are certain forms of shrinkage, trauma, and nutritional changes which are quite capable *per se*, of causing the formation of lenticular opacity.

But I am firmly convinced that the vast majority of cases of senile cataract originate and progress in the way described, and doubtless many of the other clinical forms of cataract are brought about in a similar manner.

Cataract May Be Arrested.—At any rate, if this theory of frictional causation by physical interference be correct, or even partially so, it is certain that means can be adopted to prolong, and perhaps to arrest completely the formative process of cataract. For the present, at least, reasoning must necessarily hold the scale over experience, for my work along this line has not yet been of sufficient scope or duration to warrant a professional exposition. But with this friction theory as a working basis the logical and proper procedures are easy of understanding. Förster's hastening process may be valuable in a way, but an arrest or indefinite prolongation of the disease would be essentially practical and invaluable to the majority of the victims of cataract. It has been noted that iridectomy, by some believed to assist in hastening maturity, sometimes seems to prolong the process of formative opacification. In the case related at the beginning of this article it is seen that the lens of the eye in which the iris has been retired from active duty remains clear, while its fellow manifests incipient cataract.

Here then is the glimmer of an immense ophthalmological truth: Interrupt the iris and prevent its activity in those eyes—and they are many—in which iridian friction is irritating the anterior capsule, starting opacification, and the cataractous process will be arrested.

I do not say the opacities already formed will be resolved, and the lens thus become clear once more; yet I cannot persuade myself that this is a physical impossibility, for hyperplastic tissue is certainly sometimes capable of resolution, and degeneration, where there is no actual destruction, may reasonably become regenerate.

How to Control the Iris.—Now, as to the manner of controlling the offending iris: doubtless the ideal method would be to sever the fibers of the motor-oculi, which pass into the lenticular ganglion, and thence innervate the sphincter pupillæ. But this ganglion, reposing near the apex of the orbit, is wholly inaccessible by reasonable means, and to divide its distal fibers as they approach the iris would be a task for Tantalus or Job, were it even physically possible without wholesale destruction.

It might be presumed that the use of mydriatics would serve the purpose, but this would not be wholly satisfactory, since the prolonged use of atropine in sufficiently strong solution to maintain complete paralysis might be dangerous. But here, it may be remarked, is an explanation of the undeniable fact—leaving out of account the temporary advantages of mydriasis in central opacities—that some of the much advertised quack remedies of charlatans do, at times, exert a beneficial and more or less lasting effect upon the progress of lenticular opacities. In younger persons mydriatics would be necessary to restrict the accommodative movements of the lens, but in cases of senile cataract this is obviously superfluous.

These procedures being eliminated, our next and last resource is iridectomy. But, it will be said, iridectomy sometimes hastens opacification. Even so, but, as has been said before, it sometimes prolongs or seemingly arrests the process. Where it hastens the formation of the opacities it is most likely that the lens capsule has been bruised or injured in the course of the operation. Where it exerts no influence, though it has been carefully performed, then the incipient cataract is due to some of the causes not embraced in this theory; but, even then, in either case, no harm has been done save the inconvenience of the slight operation. In those cases the probable causation of which is frictional, as described, it would seem that iridectomy is indicated. But it must be skilfully and delicately performed. No thumb-fingered tyro need attempt it with hope of success, for in care and delicacy and expertness lie the hopes of brilliant achievement here.

Sphincterectomy.—All that is required is a minute nick, a tiny piece snipped out of the pupillary border of the iris, sufficient to break the continuity of the sphincter. This will result in partial dilatation of the pupil, and cessation of hippus.

If the moderate or even continued use of a very weak solution of atropine should seem to assist in the control of the iridian movements and any slight accommodative movements that may be present in spite of age, there is probably no objection to its use.

If, in the course of operation, the iris forceps scrape or rub upon the capsule of the lens, even with the iris tissue intervening, the purpose of the effort may be thwarted, and instead of arrest there may be an increase of progress of the opacities. But, though this should happen, let it be repeated, no great harm is done, and nothing has occurred to endanger the success of the eventual extraction.

I would not be understood as advocating this method to the exclusion of all other efforts. Far from it. Even with this, constitutional treatment is still important. Regular and wholesome diet, consistent hygiene, and all measures, therapeutic and prophylactic, tending to establish the individual economy upon the most wholesome basis are directly indicated. Flushing out the circulation with copious and constant draughts of water, taken at the proper times, I conceive to be a valuable adjuvant in this condition. Glasses should invariably be adjusted to keep pace with any refractive changes that may occur.

It may be superfluous to add that the measures here indicated must be resorted to early—in the very incipiency of the cataractous formation. Where the lens has had a long start on the downward road of degeneration, it will naturally be difficult or impossible to apply the brake with any hope of efficacy.

Of course, the surgeon must exercise the most careful judgment in the selection of proper cases for sphincterectomy—the little operation may be so designated. An illustration will explain clearly. I have now under my care a beautiful case of double zonular cataract in a man thirty-six years of age. For several years he has been a rheumatic sufferer. In the last two months he has had a violent double rheumatic iritis. He now has in each eye three distinct zones of punctate cataract, and, suggestively enough, the equatorial zones are the most affected, while the polar axes and nuclear areas are comparatively clear. It is evident that in such a case it is wiser to allow the pupils to remain normal, since the pupillary spaces are practically free from opacities, and zonular cataracts are proverbially slowly progressive, and often stationary.

Résumé.—To sum up: (1) Many cases of cataract, especially of the senile form, are started and aggravated in their progress by the friction of a ceaselessly moving iris, which has been roughened, hardened, stiffened, thickened, by disease. (2) Many of

these cases can be arrested, or their advance indefinitely postponed or prolonged, chiefly by the careful performance of the simple little operation of sphincterectomy, as described herein.

The Cure of Boils.—A. K. Bond says that the first thing to do is to quarantine the existing boils, so that no more pus may be carried from them by the fingers, or in any other way, to other parts of the feeble skin. To this end antiseptic dressing is necessary. If the core of the boil is loose it should be removed by dressing forceps. Cleansing the wound-hole with peroxide of hydrogen, and dressing with calomel and bismuth will probably secure as quick healing as in any other wound. If the core of the boil is not loose, cut it out with knife and scissors. The core itself is insensitive. Where, however, bacteria foci are bound down by dense fibrous tissue or wherever pus is shut in, the adjacent healthy tissues will be extremely sensitive. The application of pure carbolic acid on an applicator in advance of the knife or scissors will usually anæsthetize the wound sufficiently to permit of thorough work. Peroxide of hydrogen is a great aid to the cleansing, but takes much time. Suppuration will not cease till all infected tissues have been removed. As pure carbolic acid favors suppuration, the last traces of necrotic fibrous tissues in the depths of a deep excavation may better be removed by dressings of pure alcohol. It gives severe pain on the first touches to the wound, but then anæsthetizes the parts it has touched. Fibrous sloughs seem to clear away under it more quickly than under carbolic acid A plug of gauze soaked in alcohol may be left in the wound. The top dressing should be of cotton, to keep the sick tissues at even warmth, and slight pressure to support the tissues is helpful.—*Louisville Monthly Journal of Medicine and Surgery.*

Treatment of Tropical Dysentery.—Frederick Goldsmith insists upon absolute rest to the body and to the intestinal canal. The diet should be left off altogether for a time, or be wholly fluid and as little as possible. Although the patient may be almost continuously on the stool, that which is passed is not fecal matter at all, but merely the product of the highly inflamed bowel. The fæces tend to be locked up behind the diseased part, and to be retained there by the muscular spasm of the affected portion of the bowel, the lumen of which is still further diminished by the œdema present in the mucus and sub-mucus coats. To ensure the passage of the fæces it is necessary to render them as liquid as possible, and for this the sulphates of magnesia or soda are very suitable. The author usually gives one-drachm doses every two hours, combined with a little tincture of opium, tincture of orange and chloroform water, till the motions become feculent, and then every four hours afterward for a few days. To render the deceased bowel aseptic as far as possible, and to destroy the disease-producing germ, injections per rectum are valuable when the disease does not extend backward beyond the descending colon. Methylene blue nine grains, and boracic acid solution two pints, gives the most satisfactory results. The enema should be injected slowly, and if there be still any expulsive effort, the buttocks (which are raised on a pillow) should be pressed together till the spasm passes.—*The Australasian Medical Gazette.*

Portal Anastomosis.—Daniel H. Craig reports the case of a woman suffering from cirrhosis of the liver. Operation was decided on and performed. At the lower extremity of the wound the parietal peritoneum was separated for about two inches in all directions, and the lower extremity of the omentum, after having been for some time exposed to the air and rubbed with a dry gauze sponge, was tucked down into the sulcus formed by thus separating the peritoneum. Six sutures of catgut were used to secure the end of the omentum within this pocket, to the abdominal parietes. Peritoneum closed above and about the omentum with interrupted catgut sutures, and the abdomen closed in three layers, fascia, fat, and skin Relief of symptoms was absolute, and two months after operation the patient declared herself to be so well that she protested against further dieting, medicine or observation. By the above described technique the author avoided multiple adhesions between various organs and the parieties. As the operation does not cure the cirrhosis, though it does dispose of its distressing symptoms, the contraction of the liver may continue, and if it does so any adhesions formed may be put on such tension as to be extremely annoying. Moreover, the author made the incision in the lower half of the abdomen instead of the upper half, and thus preserved the physiological function of the omentum; namely, to protect the intestines from violence and chill.—*Annals of Gynecology and Pediatry.*

On Chronic States of the Circulation Simulating Heart and Kidney Disease.—Graham Steell calls attention to a condition in which the patients have the ordinary symptoms of cardiac failure, shortness of breath on exertion, dropsy and venous engorgement of the liver. On physical examination of the heart there is no evidence of disease to explain the symptoms—at most, some strengthening of the aortic second sound or reduplication, or lack of tone of the first sound in the mitral area with, perhaps, an apex beat somewhat suggestive of an hypertrophied left ventricle. The heart under consideration would be an overstrong one for the average healthy individual, but for our patient it is weak relatively to the burden it has to bear The departure from health is not "weakening of the heart," but increased arterial tension. Pathological derangements of metabolism, and so forth, have increased the peripheral resistance in the circulation to a degree that imples a burden upon the heart, to cope with which implies an unceasing struggle to an even vigorous organ The condition is met with chiefly in women about the time of the climacteric. Treatment should consist largely in regulation of the diet, avoiding starches and sugars and subsisting chiefly on flesh foods and green vegetables. —*The Medical Chronicle.*

The Typhoid Form of Malaria.—A. Billet states that in Algeria there exists a frequently seen variety of malaria which might easily be confounded with the typhoid group of diseases. It is malaria of a typhoid form. The differential diagnosis consists: (1) In the periodicity of the remissions and paroxysms of the fever to be ascertained by the hourly study of the temperature chart. (2) The constant presence of Laveran's hæmatozoon. (3) Mononuclear hyperleucocytosis, with predominence of the large mononucleated cells filled with melanotic pigment. (4) Other secondary points, such as the absence of rose spots, and a negative result with the Widal reaction. (5) Finally specific treatment with the salts of quinine, which nearly always causes a cessation of the infectious symptoms. If it fails to do this, at least it induces true intermittency, and thus settles the diagnosis.—*Revue de Médecine.*

Relapsing Septicæmia.—W. J. Lockard reports a case which was positively one of relapsing septicæmia, recurring after a convalescent period of nine days. The original seat of infection remained unaffected throughout the relapse. Involvement of all the glandular structures showed the relapse to be general with subsequent local foci of infection. Malaria might have been supposed to be a factor, but no malarial organism was found; quinine had no effect, and malaria is unknown on the Western Slope of Colorado. The usual antipyretics were powerless to reduce the temperature. Thermol, ten to fifteen grains, invariably reduced the temperature, even when at its highest, to normal or nearly so, producing free perspiration and sound natural sleep. The antistreptococcic serum was of so great a value in combating the disease and holding it in abeyance, that the author is convinced that had it been used earlier in the disease a fatal issue might have been avoided.—*The Colorado Medical Journal.*

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PUERPERAL INSANITY.

AT a meeting of the Obstetrical Society of London, held on January 7, the subject for discussion was puerperal insanity. The majority of those present were well-known English alienists, so that the matter was considered more particularly from the standpoint of the insane expert. The views expressed as to the etiology of puerperal insanity were somewhat divergent, but, on the whole, the conclusions reached by the different speakers were of great interest.

Dr. Robert Jones opened the discussion and said, in part, that his paper was based upon a personal experience of 259 cases, divided into 120 cases during the actual puerperal period, eighty-three during lactation, and fifty-six during pregnancy. Insanity was stated to occur once in every 700 confinements. Insanity was stated to be a characteristic form after confinement, amounting to an almost nosological entity, but this was not the case during pregnancy, nor during lactation, there being no definite type of insanity occurring in connection with these two stages. The divisions were, however, more convenient than typical. The following propositions were advanced by the author: (1) The insanity of pregnancy is more common in first confinements among single women, the disappointment, shame, and disgrace of illegitimacy being an important factor in the mental breakdown. (2) During pregnancy the mental condition is more often acute melancholia than acute mania, and suicidal symptoms, which occurred in 41 per cent., have to be carefully guarded against. (3) The insanity of pregnancy is divided into that occurring during the early months and that occurring during the later months, and in these, the nearer the insanity in point of time to the confinement the more acute are the mental symptoms. Insanity is not more frequent when the sex of the child is male. (4) The insanity of the puerperium comes on after the first confinement in 33 per cent. of the cases, and supervenes suddenly rather than gradually. (5) The cases which occur during lactation present characters of marked general physical exhaustion, and mentally are more often of the depressed than of the maniacal form. Lactation insanity becomes chronic oftener than the insanity of the other periods. There is a tendency to low forms of inflammation, thrombosis, gangrene, and phthisis during the insanity of lactation. Both suicidal and infanticidal promptings are more common in lactational than puerperal cases—that is, in cases in which insanity commenced more than six weeks after confinement. (6) The early symptoms of threatening insanity are loss of sleep and headache, and these should be a forewarning of mental breakdown. The busy delirium of hallucinatory character, ending in acute, restless, purposeless mania with religious and erotic delusions, is characteristic of this variety. [The writer suggested a close analogy between the emotions of love and religion, and agreed with Simpson that the organ diseased gave a type to the insanity, and that in women suffering from affections of the generative organs, the delusions were more likely to be connected with sexual matters.] (7) Etiology.—Heredity is more marked in the direct maternal line in puerperal insanity, is equally paternal and maternal in the insanity of pregnancy. A previous record of hysteria is frequent in puerperal insanity. (8) The pathology is that of heredity and stress. Is the stress due to a toxin? (9) As regards prognosis, cases of insanity during early pregnancy improve toward the end of pregnancy, whereas those of late pregnancy become worse at the puerperium. Puerperal insanity is markedly recoverable; improvement is rapid, being often complete in three months, but generally takes four to five months. (10) Treatment.—All cases presenting headache and sleeplessness must have absolute quiet and rest, and sleep must be procured. Home treatment in all cases, if possible. Guard against unusual and sudden impulses of suicide and infanticide. The presence of the husband aggravates the symptoms. There is much necessity for a liberal and stimulating dietary. Change is necessary in puerperal insanity when cases tend to become stuporous. Menstruation is a sign of mental improvement. Purgatives and iron are well borne.

The questions mainly discussed in connection with the foregoing paper were: If there is such a disease as puerperal insanity, is it due to toxæmia or septicæmia, or both; or is this delirious mania due to extraordinarily emotional disturbances? Does hysteria in youth manifest itself by insanity in later life at the puerperal or other physiological crisis, and should the marriage of neurotic persons be discountenanced?

Dr. Herman thought that the main duty of the physician was to prevent this condition. The chief means of prevention, in his opinion, were to see that the patient got food and sleep. If sleep were absent he thought that the best hypnotic was alcohol, which was much less harmful, if taken too freely, than chloral, bromide, morphine, sulfonal, or other hypnotic.

Dr. Mercier did not think that headache was a common prodroma of puerperal insanity; sleeplessness and loss of appetite he thought were more distinctive features.

With regard to the proposition laid down by Dr. Jones that single women in their first confinement were more subject to puerperal insanity than any others, he thought that if such were the case the condition should be far more frequent in moral countries than in immoral countries. While Clouston says that 75 per cent. of the puerperal cases admitted to Morningside Asylum followed illegitimate births, and 26 per cent. of the cases admitted

to Bethlehem Hospital had had a previous attack of insanity, either one before marriage or one after marriage, which was not puerperal in origin or a previous puerperal attack.

In summing up the opinions expressed at the discussion, it would seem that the conclusions arrived at were that puerperal insanity is due both to septic poisoning and to emotional disturbances. When there is a decided rise and fall in temperature, septicæmia is present. But the evidence is not sufficient to assert that a specific disease actually exists. Hereditary nerve instability, however, plays an important part in the causation of puerperal insanity, while at the same time it would be going too far to discountenance the marriage of women who had suffered from what is somewhat loosely classed under the head of hysteria. Puerperal insanity is—according to the views of most authorities—a condition distinct from that of pure insanity. That septic poisoning is an important factor in its origin appears to be shown by the fact that pure insanity rarely kills, while puerperal insanity is not infrequently fatal to life.

As to the statement of Dr. Jones that home treatment is far preferable for persons in this condition, opinions were divided. Perhaps the majority of physicians are inclined to favor well-managed institutions for patients suffering from puerperal insanity.

METHODS OF CLEANING RAILWAY CARS.

The crusade which is being waged against the insanitary conduct of the street and elevated railways of New York has awakened attention to the question of railway hygiene generally. The American public is inclined to be somewhat too easy-going as regards such matters, and so long as the cars travel quickly and are equipped in a fairly comfortable manner the sanitary arrangements are not looked into, or disregarded as of no account. The discontent, however, so recently and so widely manifested by the inhabitants of greater New York with the service and management of its lines of transportation, has opened up the whole subject of the sanitation and ventilation of railway cars. In view of this attitude on the part of the population of the country, the Medical Record has thought that it would be opportune to make inquiries as to the exact condition of affairs with regard to the methods in vogue of cleaning-car equipment, and of ensuring good hygienic conditions whilst travelling by train. Accordingly, the Pullman Company was communicated with, and the following description was given by its superintendent of the measures taken for the protection of the health of its patrons:

(1) All the cars are thoroughly cleaned at the end of each trip. The upholstery, carpets, and bedding are taken out of the car and the dust is removed from the plush and carpets by means of compressed air; the mattresses and pillows are beaten and aired and the blankets are shaken and aired. (2) The hoppers are flushed automatically each time they are used, and as a part of the process of cleaning given to cars at each end of every trip, the closets and all fixtures therein are thoroughly washed and disinfectant applied. (3) If an invalid occupies a berth in one of our cars, the bedding is removed and disinfected as soon as possible after the berth has been vacated. In the event of an invalid suffering from a known infectious or contagious disease occupying a car, it is thoroughly fumigated under the direction of a local health officer, and the car is not allowed to return to service until proper permit has been issued by such officer. Cuspidors are also frequently cleaned and disinfected while cars are *en route*.

For the protection of the traveling public from the danger of infection from consumptives travelling in cars, the following instructions have been in force for more than four years:

"It is therefore important that the Pullman Company should do everything in its power to prevent the spread of the disease, and to that end it is deemed best that all cars which have been occupied by a consumptive shall be fumigated after such occupancy, and before the car is permitted to make a return trip to its starting point. All cars running to points within regions regarded by consumptive persons as favorable health resorts should be closely watched and cared for, and the car service men instructed to report to the District Superintendent at the termination of the trip if any person suffering from consumption or other contagious or infectious disease has occupied a berth in their cars, and if so measures must be taken by the District Superintendent to have such car or cars immediately fumigated according to the approved methods now in use by the company. In addition to the foregoing, and in order to prevent, as far as possible, the spread of contagion, all cars in such line should be fumigated at least once a month. The spittoons in all cars occupied by sick persons are to be frequently cleaned."

From a consideration of these rules the fact will be gathered that the Pullman Company's regulations as to cleaning and disinfecting are sufficiently comprehensive and should be effective. It goes without saying that this is a matter of vital importance that every precaution should be taken to avoid spreading disease, and to render railway traveling prejudicial to health in the slightest possible degree. When a large number of people are cooped together in a comparatively limited space for a considerable period of time—as is the case during a long railway journey—the opportunities of contracting the disease are greatly increased, and it is therefore essential that extreme care should be exercised to avoid such eventualities. It is probable that, on the whole, there is less fear of disease being communicated on long journeys than whilst traveling in New York under the conditions prevailing on the elevated and street railway systems at the present time. The overcrowding which is so prominent and disgustingly unhealthy a feature of the New York local lines, is absent on the main railways. Long distance railway traveling is far superior in the United States as regards comfort and attention to sanitation than in any country, and although the acme has not yet been reached, such improvements are introduced every year as to convince the public that railway officials appreciate the fact that it is to their best interests to consider travelers in every way.

Manhattan State Hospital (West).—Dr. R. C Kemp has been appointed consulting physician to this institution.

The Proposed New Jersey Sanatorium for Tuberculous Diseases.

The first annual report of the Board of Managers of the New Jersey Sanatorium for Tuberculous Diseases has just been published. In the first instance, the Board of Managers has made an approximate estimate of the number of persons suffering from tuberculosis in New Jersey who are in indigent circumstances, and who are suitable subjects for sanatorium treatment. It was found that a building with a capacity of 250 patients would meet the necessities of the case. As to the cost of erecting such a hospital, and of furnishing it with all the appliances needful in the treatment of these patients, it was decided that a sum of at least $300,000 would be necessary. The last Legislature of New Jersey appropriated $50,000 for this purpose, a part of which the Board of Managers has expended in purchasing a site, and have furthermore retained an architect to draw plans for the construction of plain, substantial, two-story pavilions for the accommodation of 125 men, and the same number of women, if possible, in single rooms, and for the erection of separate buildings for the administration, dining-rooms, recreation-rooms, kitchen, laundry, power-house, and rest-cure shelters.

The report points out that there can be no doubt that the establishment of a sanatorium for this class of people is an economic measure, as well as a philanthropic one, since through its agency many will be restored to good health, and thereby placed in a condition to support themselves and those dependent upon them, while without such treatment they would become a burden to the community, and an increasing source of infection at no distant date.

The following amendments to the law establishing this sanatorium are also recommended by the Board of Managers to empower it: (1) To restrict admission to curable cases of tuberculous diseases of the respiratory organs. (2) To designate the physician or physicians, upon whose certificate only, application shall be made to the Court of Common Pleas, as provided in Section No. 9 of the Act, and whose certificate shall be taken as a *prima facie* evidence of the existence of pulmonary tuberculosis in the curable stage.

The views of the Medical Record with regard to the *care* of indigent consumptives has been so frequently stated of late that it would be superfluous to dwell further on the subject. Suffice it to say that the report of the managers of the New Jersey Sanatorium for Consumptives seems quite reasonable. The Legislature of New Jersey will be acting wisely if it grants the sum required without demur, on both humane and economic grounds.

Electrotherapeutics and Quackery.

At the first annual meeting of the British Electrotherapeutic Society, Mr. Edmund Owen delivered an address in which he deplored the lack of proper recognition of the treatment of diseases by electricity, on the part of the medical profession, and attributed to that cause the fact that the medical use of electricity had fallen largely into the hands of quacks. While we cannot agree with Mr. Owen as to cause and effect, our inclination being rather to reverse the order, we heartily concur with him in that the practice of electrical therapeutics is largely in the control of those whose consciences are somewhat blunted and those whose enthusiasm conjures up at times strange dreams. The fact that there are scarcely a handful of reputable authorities in the world to-day who have any faith in or knowledge of the therapeutics of the static form of electrical manifestation, and that there are hordes of users of this method whose voicings betray their ignorance of even the elements of electrophysics, is significant at least. Turning to so-called galvanic electricity, which has been somewhat explored by able and reputable scholars and put upon a comprehensible basis, we find one recent writer speaking of "a boil that a surgeon had opened, and then the germs got in and the trouble began." He "placed a needle in the boil and turned on about two and one-half milliamperes of *negative electricity*," and the cure was speedy, etc., while others are reporting cures of every ailment from chilblains to cancer, and reporting the same with the most ingenuous disregard for the accepted theories of electricity.

The wide-spread employment of the Röntgen ray will do more to bring about a dissemination, if not a deeply grounded knowledge, of apparatus and electric manifestation and effect upon the human system than anything that has occurred for many years.

Treatment of Graves' Disease with the Milk of Thyroidectomized Animals.

Ballet, Enriques, Mobius, and Lanz have had some success in the treatment of patients suffering from Graves' disease, by feeding them exclusively on goat's milk, from animals in which the thyroids had been removed. Their theory was that these animals would in all probability develop in their organisms a substance which would neutralize or otherwise fix the toxin in these patients. The results were very encouraging. More recently Goebel treated a patient in the same way with good results, but his theory is unique and may lead to further developments. He suggests that patients suffering from a hypersecretion of thyroidin, could be greatly benefited by excluding iodin from the food, as that in the thyroidin is probably directly derived from the food. The best and safest way to obtain such food appeared to him to get the milk of an animal which, on account of having been thyroidectomized could not secrete any iodin. It is suggested to feed the patient on such milk exclusively.

Human and Bovine Tuberculosis.

There is still a great difference of opinion as to the identicalness of human and bovine tuberculosis, although the majority of investigations undertaken to determine the point somewhat tend to disprove Koch's theory. In the *British Medical Journal*, January 31, is an article by Dr. Nathan Raw in which he puts forward the suggestion that bovine and human tuberculosis are distinct forms of the disease, but that bovine tuberculosis can be contracted by human beings and especially by children. With regard to the disease called tabes mesenterica, which is classed as tuberculosis, Dr. Raw says that we must ask ourselves the questions, "How does the bacillus gain entrance to the mesenteric glands?" and "why is the disease not decreasing with other forms of tuberculosis?"

Dr. Raw then goes on to say: "From a recent case, I made cultivations of the mesenteric gland on blood serum with glycerin, and to my surprise the growth exactly corresponded to bovine tuberculosis or perlsucht." Again he says, "From a case of strumous knee-joint, I made a cultivation of the lymph from the interior of the joint with an exactly similar result. The cultivations which I have previously obtained from phthisical sputum have generally shown the usual characteristics of human tuberculosis, and never bovine. From these two

cases, together with a general survey of clinical facts, I feel there is some reason to suppose that whilst bovine and human tuberculosis are distinct and separate diseases, yet the human subject is susceptible to bovine tuberculosis, and that bovine tuberculosis may set up serious lesions in the human body.

Dr. Raw draws the following conclusions: (1) That there are two distinct varieties of tuberculosis affecting the human body, one produced by human tuberculosis, and the other by bovine tuberculosis. (2) That human and bovine tuberculosis are separate and distinct. (3) That bovine tuberculosis entering the alimentary canal in milk may set up tabes mesenterica, more especially in children. (4) That bovine tuberculosis is probably the cause of enlarged lymph glands, tuberculous joints and lupus. (5) That true human tuberculosis, or phthisis pulmonalis is always conveyed from one person to another by infection, and generally from advanced cases of phthisis. (6) That every effort should be made to stamp out tuberculosis in cattle, and that milk should be boiled before being given to children.

Vaccination in Great Britain.

An influential deputation of the recently-formed Imperial Vaccination League—including prominent medical men and laymen—waited a short time ago on the President of the Local Government Board, in order to represent to him the necessity for introducing a Vaccination Bill in the next session of Parliament, and in particular to urge the desirability of instituting a system of compulsory vaccination in Great Britain. Among those who spoke was Dr. J. C. McVail, a recognized authority on the subject in England. He dwelt on the importance of obligatory vaccination of children before leaving school, and declared that the present vaccination acts referring to children were simply half-measures. There was, he said, "no evidence in favor of primary vaccination of infants which did not equally apply to the revaccination of adolescents. . . . The essential points of the request made by the Imperial Vaccination League with regard to revaccination was that, when a child was approaching twelve years of age, the duty should be impressed on the parent of seeing that that child was protected against smallpox before entering on its further career. If early revaccination was adopted in England, as in Germany, epidemics of smallpox would disappear or be minimized. There would be great economy in the provision of smallpox hospital accommodation, and there would be an enormous saving in the supply of glycerinated calf lymph, as the demand would be more regular.

Prof. Clifford Allbut, referring to lymph, said "the enforcement of revaccinat on rendered greater the obligation upon the Local Government Board to see that the lymph used was beyond even suspicion. At present the private practitioner was compelled to have recourse to private firms, and only three or four of these gave any adequate public guarantees of the efficiency of their processes and the purity of the product which they sold."

The points mainly touched upon in discussion were the great importance of revaccination and the necessity of being able to procure lymph guaranteed pure. Revaccination is absolutely essential to prevent the spread of smallpox, and how well it acts, when carried out in a thorough manner, has been clearly shown in Germany. Revaccination is neglected in many parts of the United States, and to this fact may probably be attributed the prevalence of smallpox during the past three years. The question of pure lymph is another serious one. The Medical Record has always recommended that the process of producing lymph should be strictly supervized by Government or State, so that the medical practitioner may be able to depend upon getting a genuine article. There would seem to be, however, no need to place the production of lymph in the hands of Government; so long as the private manufacturers are kept under strict supervision, enough will have been done. Efficient revaccination and a guaranteed pure lymph will in the course of a few years, stamp out smallpox.

Tuberculous Peritonitis.

Dr. G. A. Sutherland of London has come to the following conclusions regarding this disease: (1) In uncomplicated tuberculous peritonitis the prognosis is good. (2) When tuberculous pleurisy is present the prognosis is still more favorable. (3) The prognosis is rendered less favorable in the case of (*a*) a strong family history of tuberculosis; (*b*) an infancy passed under bad hygienic and dietetic conditions; (*c*) a constitution of feeble resistant power; and (*d*) a history of severe life. (4) The prognosis infective illness in early is rendered less favorable in the presence of one or more of the following symptoms: Continuous pyrexia, rapid wasting, persistent diarrhœa, rapid pulse, and recurrent acute exacerbations. (5) The prognosis is rendered less favorable in the presence of one or more of the following local complications: (*a*) Tuberculous ulceration of the bowel; (*b*) extensive caseation of mesenteric glands or of tuberculous masses; (*c*) localized suppuration from infection through glands or the intestine; and (*d*) obstructive symptoms from bands or matting of the intestine. (6) The prognosis is bad in the case of the following complications: (*a*) Rupture of a suppurating gland or the perforation of an intestinal ulcer into the peritoneal cavity; (*b*) pulmonary tuberculosis; (*c*) tuberculous meningitis; and (*d*) general miliary tuberculosis. (7) In tuberculous peritonitis the prognosis is not appreciably affected by laparotomy.

As to the treatment of tuberculous peritonitis, since the adoption of surgical measures, many think that such a procedure is the sole means of cure. Nevertheless, somewhat of a change has recently taken place in the attitude of physicians and some surgeons with regard to surgical interference, Dr. Guthrie thinks that the treatment should be mainly symptomatic, with rest in bed, and, after recovery, hygienic. While Mr. Watson Cheyne is of the opinion that laparotomy is of much value in certain cases of tuberculous peritonitis, and while admitting that it is difficult to understand how laparotomy can be beneficial, thinks that the reason may be that it possibly alters the tension of the circulation, and thus gives indirectly a stimulus to reparative changes.

It is certain, however, that laparotomy does not find the favor it did but a comparatively short time ago for relief of tuberculous peritonitis.

Anti-Football Legislation.—A bill has been introduced into the Illinois Legislature placing a ban on football, and providing for a fine of from $10 to $100 for any player, or any college, or school officer who "permits, encourages, or allows students under his control to participate in the game."

News of the Week.

A Venerable and Venerated Contemporary.—The first issue of the *Boston Medical and Surgical Journal* as a weekly journal under that title appeared February 19, 1828, and with its issue of February 19, 1903, it therefore celebrated its seventy-fifth birthday. The *American Journal of the Medical Sciences* was established as a quarterly publication in Philadelphia in November, 1817, and *The Lancet* appeared as a weekly journal in London on October 5, 1823. In the first editorial announcement in its issue of seventy-five years ago it was said: "Whether it will be continued in its present form will be determined by experiment. As it is devoted to no party or institution, the editors (and Board of Management) offer it to the medical profession as a vehicle for such publications as they may wish to make; and they hope by it to bring out the talent of this part of the country." Time has determined this, and to-day, as throughout its past, our valued contemporary pursues its upright and conservative way, bringing out the talent of its part of the country, serving as a vehicle for the publications of the physicians of New England, and upholding the honor and dignity of the medical profession throughout the world. With our hearty congratulations go our wishes for longer life and continued prosperity.

The Rockefeller Institute for Medical Research.—As was previously announced in these columns, the scope of this institute has recently been greatly enlarged. As originally established, the institute had no home of its own, but the funds were employed in the form of scholarships, in furtherance of investigations carried on by some twenty workers in the universities of Columbia, Harvard, Yale, Johns Hopkins, Pennsylvania, Chicago, Michigan, McGill, Wesleyan, California and the Western Reserve, in this country; in Ehrlich's laboratory in Frankfort, and in the Institute for Infectious Diseases in Berlin. Besides extensive observations relating to the milk supply of New York City and its effect upon the health of children, other subjects investigated have related to tuberculosis, tetanus, typhoid fever, dysentry, diabetes, immunity, vaccina and smallpox, and the relation of mosquitos to disease. It has now been decided to concentrate the work in a special way, and to establish in this city an institute of medical research which will be without equal in this country, and unsurpassed in any city in the world. Dr. L. Emmett Holt, secretary of the board of directors, has prepared a statement of the plans of this project so far as they have been determined upon. In June last, he says, Mr. Rockefeller gave to the institute the additional sum of $1,000,000 for the purchase of a site and the erection of a laboratory in which to begin the work of the organization of the institute along broader lines. After due consideration of the advantages offered in other cities, New York was unanimously selected as possessing greater advantages than could be obtained elsewhere in America. The directors have secured Dr. Simon Flexner, professor of pathology at the University of Pennsylvania, to take charge of the new work, beginning with July next. The immediate plans of the directors are the erection of a single laboratory building so arranged as to permit of such extension as the growth of the work may necessitate. In this building will be provided equipment for investigations in the following departments: Physiological chemistry, hygiene and preventive medicine, pharmacology and therapeutics, normal and pathological physiology and the study of microorganisms. In order to ally the research work of the institute closely with practical medicine, it is the purpose of the directors to erect in the near future a hospital where special groups of patients may be treated. It is expected that the first laboratory will be ready for work by October, 1904. The institute will also assume the publication of the *Journal of Experimental Medicine*, established some time ago by Dr. William H. Welch of the Johns Hopkins University. It is the conviction of the directors that such an institute of research might wisely have as its aims not only increasing knowledge of the cause and cure of disease, but the education of the people in matters of hygiene. This it is hoped may be promoted eventually by means of popular lectures, a hygienic museum, the diffusion of suitable literature, etc. The following are the directors of the institute: Drs. William H. Welch of Baltimore, T. Mitchell Prudden of New York, Simon Flexner of Philadelphia, Theobald Smith of Boston, and C. A. Herter, Hermann M. Biggs, and L. Emmett Holt of New York.

The Health Officer of the Port of New York.—Governor Odell has sent to the State Senate the renomination of Dr. Alvah H. Doty as Health Officer of the Port of New York. The term of office is four years. Dr. Doty has held this office for eight years, having been appointed by Gov. Levi P. Morton in January, 1895.

Röntgen-ray Treatment of Hodgkin's Disease.—A case of pseudoleukæmia is reported from the University of Colorado Hospital in Denver in which a very notable improvement has followed treatment for two months by the *x*-rays. The patient has gained in weight and strength and the glandular swellings have been markedly reduced in size.

Typhoid Fever at Ithaca.—The epidemic at Ithaca continues with little change, but there has been an improvement at Cornell University. A few days ago it was stated in the daily press that the students at Cornell had petitioned the trustees to supply them with pure water, and that the trustees, some of whom were shareholders in the Ithaca Water Company, had refused. This assertion is pronounced by the trustees of the Universtiy to be absolutely false. They say that no member of the board of trustees owns any stock in the Ithaca Water Company. The university itself does not own any stock in that company. The water supply of the university comes from Fall Creek, which is a different source from the water supply of the city. No case of typhoid fever is known to have occurred among those who used exclusively the water supply of the university campus. No person in Sage College, in which more than 200 women students board and lodge, and which is supplied by this water, has had typhoid fever, and no case of typhoid has occurred in the families of the professors living on the campus. The university authorities have made arrangements to enable the students to secure pure water, duly inspected. Artesian water has been placed in all the university buildings, where the students may draw it freely. Furthermore, some time ago the university secured from boarding-house keepers a pledge to use only boiled water for drinking, to wash all uncooked vegetables in boiled water before serving, and to wash and rinse all dishes used for the holding of food or drink in boiled water. On February 21 there were fifty-four patients, most of them with typhoid fever, in the university infirmary, and these were attended by fifty skilled nurses.

Sanitary Regulations for Barbers.—The Jersey City Board of Health has formulated a number of

rules for the guidance of barbers in their relations with their customers. The barber shop must be swept out and dusted every day, and the floors and woodwork must be scrubbed at least once a week. Barbers must keep their finger-nails short and clean, and must wash their hands carefully immediately after waiting on a customer, and before attending to another. All brushes, combs, razors and other utensils must be sterilized in boiling water or a solution of formalin within five minutes after use, and razor strops must not be moistened with the breath or wiped with the hand.

Damages for an Unauthorized Operation.—A Chicago surgeon has been sued for performing an operation without the consent of the patient, and the court has found him guilty and fixed the damages at $3,000. The plaintiff entered the defendant's hospital for treatment, but was subsequently operated on without her consent or the consent of her husband. She was afterward adjudged insane. It was not asserted that the doctor performed the operation in an unskilful manner and no malpractice was charged. "It cannot be reasonably contended that the doctor acted from any malicious motive," the court said, in rendering decision. "The absence of malice does not excuse an unauthorized trespass on the body of the plaintiff."

Substituting and Adulterating Druggists.—A short time ago agents of the New York City Board of Health detected a large number of druggists selling various other and much cheaper drugs when the prescription given them called for phenacetin. The excuse offered by some of the offenders, when charged with the substitution, was that they had bought the drug in good faith of peddlers who had smuggled it, and so were in a position to sell it cheap. The health inspectors have continued their investigations, and now announce that of 215 samples of Jamaica ginger made by as many different druggists, forty were found to have been made with wood alcohol instead of ethylic alcohol.

A Psychopathic Hospital for New York City.—A bill has been introduced into the Legislature, at the instance of the State Commission in Lunacy, providing for a psychopathic hospital in New York City. The hospital would afford a place for detention and expert examination for persons suspected of incipient insanity. The detention ward at Bellevue serves something of the same purpose now. The hospital would be conducted in connection with the existing psychological institution on Ward's Island, and would be located probably on the East River, opposite the Ward's Island institution. The bill appropriates $300,000 for the establishment of the hospital, for which the city is to furnish the site. It would accommodate from 150 to 200 patients.

An International Congress on Tuberculosis at St. Louis.—It is announced that a World's Congress on Tuberculosis will be held in St. Louis on July 18–23, 1904. The work of organization is being carried on as rapidly as possible by the committees appointed by the American Congress on Tuberculosis, which is now a permanent body and is, we understand, incorporated under the laws of Georgia. An advisory committee, composed of the heads of the medical corps of the Army and Navy and of many presidents of health boards and other santiarians in this country and Canada, has been appointed. The secretary of the organization is Dr. George Brown of Atlanta, Ga.

A Serum for Cholera Infantum.—The Health Commissioner of New York City announces that the bacteriologists of the department are preparing a serum for the treatment of cholera infantum, at least for that form of it which is believed to be due to the presence of Shiga's bacillus.

A Laboratory of Criminal Anthropology.—The Senate Judiciary Committee has made a favorable report on the bill to establish a laboratory for the study of the criminal and defective classes, a similar bill having been reported favorably by the House Judiciary Committee. The bill provides for establishing in the Department of Justice a laboratory for the study of abnormal classes, the work to include not only laboratory investigations, but the collection of sociological and pathological data, especially such as may be found in institutions for the criminal, pauper, and defective classes, and general hospitals and schools. The laboratory is to be in charge of a director appointed by the President, who is to make an annual report to the Attorney-General.

The New General Hospital for Manila.—A despatch to *The Sun* reports that Bishop Brent of the Episcopal Church has secured 6,000 signatures to a petition to the Philippine Commission requesting the establishment of a general hospital in Manila. Commissioner Ide has offered personally to subscribe $10,000 for the endowment of free beds in the hospital. It is believed that the example of Commissioner Ide in heading the list will influence rich Filipinos and foreigners to assist in promoting the scheme. It is also thought the Philippine Commission will give some financial aid to the project.

St. Bartholomew's Clinic.—A special clinic has been instituted for the treatment of gastrointestinal diseases in adults and children. Dr. R. C. Kemp has been appointed to take charge, and Dr. John E. Traub is associated with him in the work.

Obituary Notes.—Dr. William Elias B. Davis of Birmingham, Ala., one of the leading gynecological surgeons of the South, was killed on February 24 by being run over by a railway train. He was born in Alabama, near Birmingham, on November 25, 1863, and was graduated from the Bellevue Hospital Medical College, New York, in 1884. He began practice in Birmingham immediately after graduation, and continued to practise there, with the exception of a few months passed in Rome, Ga., up to the day of his death. He was one of the founders of the Southern Surgical and Gynecological Association, and served as its secretary for many years until elected president. He was an ex-president of the Tri-State Medical Society of Alabama, Georgia, and Tennessee, and was also an active and prominent member of the American Medical Association.

Capt. Franklin M. Kemp, Passed-Assistant Surgeon, U.S.A., died at Nueva Caceres, Philippine Islands, on February 23. He was born in Holbrook, Suffolk County, N. Y., and was appointed to the medical corps of the Army in 1896. In 1898 he served with the exploring expedition in Alaska under Captain Eldridge and went to the Philippines in 1899. Returning to the United States the same year, he was assigned to duty at West Point, where he remained until November, 1900, when he went back to the Philippines.

Dr. Wilbur A. Blauvelt died at Newark, N. J., on February 19, at the age of twenty-seven years. He was a graduate of the New York University Medical School in the class of 1900.

Dr. Ashley A. Webber of Brooklyn died on February 19, at the age of forty years. He was a native of Maine, and was graduated from the New York University Medical School in 1888. He was physician to the Eastern District Hospital and a member of the Kings County Medical Society.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE KING'S HEALTH—SHELL-FISH—GASTRIC AND DUODENAL ULCERS—DISLOCATED HIP—ATAVISM?—MUSICAL MURMURS.

London, February 6, 1903.

Disquieting rumors as to the King's health were flying about at the end of last week. On Monday a projected journey was postponed, as His Majesty had a "feverish cold." On Tuesday it was announced that a mild attack of influenza had developed, and the King was confined to his room, but not to bed. The attack is so mild that formal bulletins have not been issued, but an official statement has been made daily on the authority of Sir Francis Laking that His Majesty is progressing satisfactorily. Sir Francis has continued in attendance, and it has not been considered desirable to call for a consultation with either of the other court physicians.

The County Council, on a report of the Health Committee, has asked the Local Government Board to take steps to obtain power to prohibit, under heavy penalties, the laying down of all edible forms of shell-fish in sewage-polluted creeks or other dangerous localities, and the sale of such shell-fish for human food; also that all unpolluted layings, fattening beds, and storage ponds now in use may be protected from pollution.

Dr. Collingridge, M.O.H. for the city, has prevented a report in which he says Dr. Klein's experiments show that the whole of the Thames estuary is polluted, and the fish, therefore, contaminated or under grave suspicion. All shell-fish, he says, should be examined and, in addition all sprats, whitebait, and smelts, these being eaten "uncleaned," should be subjected to cooking of such a nature as to secure a high temperature throughout the whole fish.

Mr. Moynihan communicated his experience of the surgical treatment of gastric and duodenal ulcers to the last meeting of the Medico-Chirurgical Society. For perforated ulcers he operated on ten cases with four recoveries; for chronic ulcers gastroenterostomy was done on fifty-one cases with one death. Three cases of pyloroplasty were performed with no death. Eight cases were operated on for hemorrhage; in one an ulcer was excised and the patient died on the eighth day; in one an ulcer on the posterior surface was excised and a gastroenterostomy performed, the patient recovering; in six gastroenterostomy alone was performed and all recovered.

Mr. Moynihan laid stress on the following points in connection with gastroenteostomy: (1) Sterilization of mouth, stomach, and jejunum. As soon as a patient is admitted preparation of the mouth is begun, the teeth are cleansed and brushed frequently with Condy's fluid; all food is liquid and sterile; the stomach is washed out twice, once about thirty-six hours before operation and again about six hours before with tepid boiled water. A dose of calomel is given forty-eight hours before the operation. (2) Thin rubber gloves, boiled, are worn by operator, assistants, and nurse. (3) The hands are washed and instruments rinsed in salt-solution; no antiseptic is allowed to touch the peritoneum. (4) Care is taken to avoid possible infection from the mucosa; instruments which touch it are immediately laid aside and not used in subsequent stages. As soon as the suture of the membrane is completed the gut is lightly washed with saline solution and the hands thoroughly cleansed.

Mr. Moynihan considers that operation is required for these ulcers whenever perforation has taken place; when hemorrhage is profuse or recurs frequently; when chronic dyspepsia, due to dilatation, pyloric stenosis, or hour-glass contraction, is distressing. Perforation calls for immediate operation. In duodenal cases the escaped fluid runs down the outer side of the ascending colon and the symptoms resemble appendicitis. The incision has, on this account, been made in a number of recorded cases over the appendix. Perforations of gastric ulcers may be classed as acute when the opening is large and the stomach full, so that the contents escape freely; subacute when the reverse conditions make the leakage less and the symptoms subdued; chronic when adhesions limit the leakage, and the result is local peritonitis and abscess. Hemorrhage may occur in either form; in the acute, operation is not often required, in the chronic it should be the rule.

Other points were brought out in this paper, some of which were referred to in the discussion that followed Thus Mr. D Power had found that when drainage was neglected trouble had ensued from subphrenic abscess. In cases confused with appendicitis free drainage was very beneficial. He had seen much mischief from overfeeding after operation.

The President (Mr. Alfred Willett) remarked on the accuracy of the diagnosis shown in the cases before the meeting. In chronic cases drugs were useless and operation saved the patients from much subsequent trouble. The simplicity of the manipulations in the operations described was doubtless a most important factor in the success.

Mr. English said that of forty consecutive cases at St. George's Hospital, twenty-one recovered. In some the symptoms were slight and in others latency was a feature in the reaction stage.

Dr. Newton Pitt said in some cases of acute ulcer he had seen profound anæmia. He asked if post-mortem evidence showed that a hard chronic ulcer ever healed after gastroenterostomy. He thought chronic ulcers sometimes might be solitary, though usually they were multiple.

Mr. Moynihan, in reply, said that in any doubtful case the abdomen should be opened. He had never failed to find the ulcer. He regarded drainage as of less importance than cleansing the peritoneum. In one case not drained there was a subphrenic abscess. He gave fluids early and freely. He feared cases were lost in the early days from starvation. In acute cases anæmia was transient and less profound than in chronic. In his experience chronic ulcers were never solitary, and he had never found a duodenal ulcer without a gastric one also. He did not mean to use a Murphy's button again. The operator should use the suture he was most accustomed to employ. He had never had the chance of seeing post mortem a healed ulcer, but complete recovery of health followed operations.

Two of our societies had clinical evenings last week, and a number of interesting cases were shown. Among them I may mention some. Mr. Openshaw exhibited three cases of congenital dislocation of the hip; one was a girl of seven years, treated by Lorenz's method; another a girl of eight years, by Hoffa's open method; the third a girl of thirteen years, with both hips dislocated, and who had not been treated. Mr. Openshaw did not regard this case as hopeful. He thought Lorenz's method gave good results up to the age of five years, but after that Hoffa's was better. Mr. Keetley and Mr. Ballance both considered Hoffa's open method generally preferable.

A child of three years was shown by Dr. Poynton as a case of atavism. He could not walk properly. When placed on his feet he stood erect at first, but on trying to walk he "crouched in the attitude of a chimpanzee." The whole body was bent forward, the head bowed, and the chin pointed to the right. The hands were held in front, the wrists and elbows bent, hips and knees flexed, the feet turned in so that the pressure fell on their outer borders. As the child got tired the crouching attitude became more marked. The penultimate phalanges of the fingers and toes were longer than normal and their movements very free. Is that a sufficient reason for suggesting a return to the condition of a "remote ancestor?" Mr. Muirhead Little, Dr. Cautley, and Dr. Voelcker commented on this case.

Two cases with musical murmur were shown, but not at the same society. One in a man of forty-four years. It was loud, diastolic, almost suggestive of a ruptured valve, but there was no other sign of that. No history of syphilis, rheumatism, sudden access of pain, etc. The patient discovered that he had a wheezing in his chest and later got short of breath. There was a thrill. In the other case there was history of syphilis, sudden seizure, marked diastolic thrill, the murmurs distinctly heard two inches off, and with a stethoscope all over thorax, on abdomen down to navel and down the arm, no other sign of aneurysm.

Dr. Morison thought the case aortic regurgitation with loss of compensation; ruptured valve was rare, came on suddenly, was continuous and cumulative. Dr. Cayley agreed with this view and did not consider musical murmur with marked diastolic thrill sufficient for diagnosis of ruptured valve. Dr. Pearson had seen a similar case, which proved at post mortem to be dilated-aortic orifice with failure of compensation. Dr. Taylor, who showed the case, admitted doubt, but regarded the syphilis, the loudness of the murmur, and the patient's occupation (a hammerman) as supporting his view.

A Contribution to the Surgery of the Internal Saphenous Vein.—William Francis Campbell recommends the following procedure in ligating the internal saphenous vein: Find the spine of the pubes. From this point project a line three and one-half inches long at right angles to Poupart's ligament. The end of this line marks the point for the center of the incision, which should be about one inch long, and parallel with the fold of the groin. In retracting the edges of the incision, retract the upper edge so as to ligate as near the saphenous opening as possible.—*Medical News.*

OUR PARIS LETTER.

(From Our Special Correspondent.)

A NOVEL ON SANATORIUMS—COLLARGOL EMPLOYED IN THE PARIS HOSPITALS—CASE OF ARSENICAL CANCER—EXAMINATION FOR THE INTERNATE—DISTRIBUTION OF PRIZES BY THE ACADÉMIE DE MÉDECINE—AUDHONI'S BOOK ON THERAPEUTICS—CHANTEMESSE'S SERUMTHERAPY OF TYPHOID FEVER.

JANUARY 23, 1903.

A NOVEL recently published in France, called "Les Embrasés," has been the subject of medical discussion. The title of this book, which has been written by Corday, means "On Fire," and deals with dramatic incidents that take place in a sanatorium. The author had already written a novel called "Venus, or the Two Risks," in which he showed the dangers incident to venereal indulgence. In this work he accepts the old dogmatic teaching that consumptives are more prone than others to sexual excitation, and describes the results that follow from the promiscuous gathering of patients of both sexes in such an establishment.

Dr. Cabanès, the editor of *La Chronique Médicale*, asked several distinguished medical men to write him their opinion on the subject, and one of the last numbers of this periodical is full of their answers. Professor Graucher's reply showed that he hardly thought it possible that consumption should undermine the constitution in one manner and strengthen it in another. Dr. Letulle, who is a physician of the Boucicaut hospital, where there is a species of sanatorium for tuberculous patients, gave it as his opinion that tuberculous patients of the female sex were affected with jealousy, but he had not noticed that they were more affectionate. Professor Landouzy sent his answer from Greece, and in it he speaks of the importance of the cult shown to the goddesses of love and fecundity, and he then gives it as his opinion that a sanatorium is not the best place to judge this question. There is, perhaps, an appearance of truth in the popular saying, and it is due to the patient wishing to prove to himself that he is still in fairly good health As for what may take place in a sanatorium, the conditions of life must be taken into account.

Collargol is being used in Paris in the different hospitals, and at a recent meeting of the Medical Society of the Hospitals Dr. Netter described the results he had obtained in various diseases. The ointment used is prepared according to Credé's formula, 15 per cent., and the amount used is one, two, or three grams, according to the patient being a child, a youth, or an adult. Netter has tried it in generalized pericarditis, pneumonia, suppurative meningitis, scarlet fever, diphtheria, and typhoid fever. The results were good, and especially noticeable in the case of a young doctor, who was suffering from pyohæmia, and had been obliged to undergo the operation of nephrotomy. The day after the inunction there was noticeable improvement, the appetite coming back very soon. According to Dr. Netter, this drug does not seem to act as an antiseptic, but rather by neutralizing the toxins.

At a recent meeting of the French Society of Dermatology and Syphilography, Dr. Darier presented a patient suffering from what he considered arsenical cancer. The patient, who is forty-seven years old, had already been affected twelve years ago with an eruption of nævi on the face and neck, and warty excrescences. He was seen last spring, and was then found to be suffering from a transformation of the excrescences into epitheliomata. For the space of ten years, from 1886 to 1896, he had twelve drops of Fowler's solution twelve days a month, and seven days a month from 1897 to 1901. This theory of arsenical cancer, which was proposed by Hutchinson in 1887, has been endorsed by a certain number of observations since then.

The written composition which serves as the first part for the examinations of the Internate of the Paris Hospitals, was given to the candidates on the 13th of December. Three questions are generally chosen by the jury, and one of them is drawn by one of the six or seven hundred candidates. The question drawn this year was: Submaxillary gland. Symptoms, diagnosis, and treatment of ulcer of the stomach. The other questions were: Pulmonary artery, without the physiology. Causes, symptoms, and diagnosis of acute pericarditis. Popliteal region. Articular manifestations of blennorrhagia. The annual distribution of prizes of the Academy of Medicine took place on the 23d of December.

Dr. de Lavarenne, who is the editor of *La Presse Médicale*, made some remarks in an article in his paper on the small number of members present—only about 27 out of 110. Out of thirty-eight prizes only twenty-two were given, and the roll-call was less than usual, as it has been decided that the prizes cannot be awarded to several men. There is a prize, called the Prize Audiffred, which consists of an annual income of $4,800, payable for twenty-five years, and which is to be given to the discoverer of a sure cure for consumption; the author's profession or nationality is not to be considered. A sum of $400 taken from this was allotted to Dr. Besauçon and Griffon for their work on the culture of Koch's bacillus on gelosed serum. The Campbell Dupierris prize of $500 was awarded to Castaigne for his work on the use of methylene blue as a means of gauging renal permeability. Dr. Jaboulay, a well-known surgeon of Lyons, was given the Laborie prize of $1,000 for his book entitled "Surgery of the Nerve Centers, the Viscera, and the Limbs. Eblers of Copenhagen was honored with a prize of $300. Testul of Lyons was awarded the Saintour prize of $900 for his "Anatomy." Dr. Magnan, the celebrated alienist, pronounced the panegyric of Baillarger, the great neurologist of the Salpetrière, which closed the proceedings. A new edition of the "Treatise of Therapeutics," by Victor Audhoni, a well-known physician at the Hotel Dieu, shows how fearlessly a physician will sometimes attack the most admirable discoveries. The author passes severe judgment on antidiphtheritic serum, criticises pitilessly antirabic vaccination, and condemns the new organic compounds of arsenic. Dr. Audhoni is a physician of the old school, and writes in a most clear and vigorous style. Balneotherapy in typhoid fever, and the use of the salicylates in rheumatism, are severely dealt with. It must be remembered that there are to be found physicians practising in Paris, and well-known in certain social circles, who doubt the efficacy of vaccination, do not use the antidiphtheritic serum, or countenance nephropexy by suppuration.

Dr. Chantemesse had already published last year, in the *La Presse Médicale*, the results he had obtained in the treatment of typhoid fever by the use of his antitoxic serum. He has again brought before the medical public a new series of cases with the results as regards the mortality. He prefaces his description with the remark that sometimes one may be the victim of a fortunate series of patients, and he, therefore, has examined, at the same time, the statistics of the cases seen in the other hospitals of Paris, and treated cold baths. From April 1, 1901, to December 1, 1902, there were 1,478 cases of typhoid fever treated in eighteen of the large hospitals in Paris, and there were 286 deaths amongst this number, which makes a mortality of 19.3 per cent.; sometimes it was more in some hospitals, sometimes less. For instance, at the Lænnec Hospital there were 44 cases in 1901, without a single death; in 1902, with 42 patients, there were 11 deaths. During the same period of time, from April 1, 1901, to December 20, 1902, there were 186 patients with 7 deaths, which makes a percentage of 3.7 per cent. There was also one death from diphtheria, which is not included in these statistics. Dr. Chantemesse considers that the difference in his statistics due to serumtherapy. The seven deaths were due to the following causes: First case, severe hemorrhage and pneumonia; second case, typhoid fever with syphilis and blennorrhagia; third case, brought to hospital in comatose condition, purulent peritonitis found at autopsy. Fourth case, a young woman with peritoneal pains, symptoms of intestinal obstruction. In three cases death was due to perforation. Two other cases of perforation were operated on and recovered. There were no cases of perforation in patients injected during the first week. If one adds to the 186 patients mentioned above, 70 cases already treated with 4 deaths, and 100 others with 6 deaths, results of former statistics, one finds that the percentage is 4.7 per cent. This treatment was also carried out at Toulon at the marine hospital, 151 sailors being injected, and there being only 13 deaths. These results are certainly better than those obtained in the German army, where there were, last year, 020 cases of typhoid fever with 87 deaths, or an average of 9½ per cent. Dr. Chantemesse has also remarked that local complications of the bones were rapidly ameliorated by the use of the serum.

Congenital Unilateral Paralysis of the Velum Palati.—Deguy has a patient, now a young man, who has always had unilateral paralysis of the velum palati. The left half of the velum is flaccid and immobile, and there are resulting troubles of phonation and deglutition. Nothing suggestive is noted in either the family or personal history. There is no particular history of syphilis. The patient has a good appearance. At the age of one year he had an attack of convulsions, which never recurred and which left no trace. The electrical examination of the velum shows a diminution of electrical contractility of the palatine muscles, and especially of the posterior pillar. The musculature is atrophied in the entire left part of the velum, and especially in the posterior pillar. The diminution of the contractility appears proportional to the degree of muscular atrophy.—*Le Bulletin Médical*, January 24, 1903.

REPORT OF THE CHOLERA EPIDEMIC IN THE PHILIPPINES.

(From Our Special Correspondent.)

MANILA, January 12, 1903.

REPORTS are now being received from medical officers of the army relative to the epidemic of cholera in the Philippines, especially as it has directly or indirectly affected the health of the troops. An exhaustive report by Major C. E. Woodruff, Chief Surgeon of the Third Brigade, Batangas, Luzon, summarizes the reports rendered by the surgeons at twenty-four military stations in Laguna and Batangas Provinces, Luzon, and complies with instructions issued from the office of the Chief Surgeon, as follows:

1. To investigate, as far as possible, the causes of the infection of the Provinces with cholera.

2 To investigate the unduly high proportion of deaths from cholera in the Ninth Cavalry, and Second and Eighth Infantry.

3. To determine how far general orders issued for the government of troops relative to cholera were complied with, and how far any disobedience of these orders could be considered as responsible for the spread of the epidemic.

4. To investigate the state of discipline in the companies most affected.

The report states that the infection was carried into a new field either by infected persons coming from districts in which cholera was prevailing, or by infected moist food. The first method was by far the most common, and in nearly every authentic instance there is direct proof that there was a newcomer who was infected prior to arrival, and was taken sick shortly afterward, often on the same day. The second method was much less frequent, but was shown most clearly at Biñan where a native cook from Manila smuggled infected food through the quarantine guard of Biñan, under the name of coal oil. These foods were served at a native fiesta, to which the first eighty cases of cholera in Biñan were directly traceable. The cook himself died of the disease a few hours after arrival, and was probably infected in Manila from the same source as that from which the foods were infected.

The period of incubation of cholera is so short that its transmission by infected individuals stands out with great distinctness, for, as a rule, these persons were sick at the time of arrival. For instance, the first cases at Dasmarinas, June 5, were members of the native constabulary who had spent June 1 at a village eight miles away in which cholera was present; while the first case at San Pablo was a native who visited for three days in Santa Cruz, where the disease had prevailed for two months, and who was taken sick twelve hours after his return, and died thirteen hours later. As the territory included in the investigation was under military control, with closed ports, it had been suggested that infected soldiers introduced the disease and started the epidemic; but careful investigation by a board of medical officers leaves no reasonable doubt that clandestine arrivals among the natives had introduced the infection, and that they were dying from cholera for nearly a month before this fact was more than suspected. This fact is still further demonstrated through the occurrence of the first cases of the disease among soldiers in men who had been in the districts recognized as being infected.

After the introduction of cholera, its spread from the first case usually occurred through the medium of water, though food infected by flies or dirty hands played a considerable part therein among the natives. Among the soldiers, the quality and preparation of the food in garrison was carefully guarded, the water was boiled, and nearly every case occurred as the direct disobedience of standing orders which prohibited the use of native foods or drinks and the use of unboiled water. One exception is the case of a company cook who had been in the habit of eating pieces of raw meat, and as the latter came through a cholera-infected district, on boats on which natives had died of cholera, it might have become infected by handling. Three cases occurring in the prison at Santa Cruz were believed to have been infected by food carried in by natives. In only one instance was the disease attributed to infected fruit, when five out of the six first cases at Lipa had eaten of the same pineapple. Where the infection seems to have been due to food or water, however, it is difficult to exclude the possibility of the use of infected water also.

The chief way by which the disease was spread locally was by drinking water contaminated with cholera excreta. For instance, the inhabitants of the town of Lucsuhin used water from a shallow stream running through the town. The first cases here were quickly followed by a violent epidemic, which killed nearly 25 per cent. of the population of 3,000, and which ceased after heavy and prolonged rains had swept the bed of the stream clear. Where there were many wells in a town, the epidemic was never as general or sudden in its development, as it is not likely that all the wells could become infected at the same time. Hence cases in such a town show a gradual instead of an abrupt increase. In San Fernando it was shown that the widely scattered early cases in the town all took water from a popular well, which could readily have been infected from a case in an adjoining house. Those natives of the better class who used the water collected from the tin or tile roofs of their houses largely escaped cholera. At Balayang, the severe epidemic was confined almost wholly to people in the part of the town using river water, which had been infected by the first case, while natives using the spring water escaped. Although water was undoubtedly the main source of infection, the extremely insanitary habits of natives made it possible for them to infect anything and everything, and rendered it very difficult in many cases to determine the method of conveyance. The carriage of cholera infection by flies seems to have been established in the case of the troops at Lipa, the latrines having been infected by the first cases. Direct infection from the sick, where proper antiseptic precautions were taken, proved to be rare, though cases occurred among soldiers detailed for cholera work. A feature of the disease noted was the great difficulty in securing truthful replies from the sufferer, so as to enable his infection to be traced. This was noted so frequently in natives as to be regarded as a racial characteristic; but the same feature, though in less degree, was observed in the white men attached, who could have had no reason for the concealment of any fact. Prevarication seems to depend upon mental apathy rather than a desire to deceive, and is perhaps dependent upon the altered condition and lessened oxygenation of the blood due to the withdrawal of its fluid constituents. Whatever its cause, this condition has proved a serious obstacle in the investigation of the source of infection in the provinces. An undoubted source of infection existed in association with native prostitutes; but this is not susceptible of proof, as it is never admitted. To avoid this, it was successfully ordered in San Pablo that every man should be put in quarantine under guard except while on duty. Finally, familiarity with the disease undoubtedly bred a certain contempt for it, while the knowledge of the protection afforded by a few simple precautions led to a knowledge of false security. Not a few cases occurred in which men deliberately exposed themseves to the chance of cholera by eating and drinking in native houses, though fully appreciating the danger of such a course. One of the men who thus exposed himself, and died as a result, was a graduate in medicine; five others were members of the hospital corps. One case of direct infection occurred in a medical officer, apparently as a result of making numerous post-mortem examinations of cholera cases.

With respect to the high rate of cholera among troops at certain stations, the report finds that this was due to inefficient management by commanding officers, to failure by commanding officers to carry out the recommendations of their surgeons, to failure by at least one surgeon to press his recommendations after they had been made and ignored, and to direct disobedience of departmental and post orders by enlisted men. In several instances the medical board did not hesitate to severely score the responsible parties. "It appears that the post surgeon has been guilty of weakness in his management of the cholera epidemic here. The records show that while he made a number of recommendations, these were not acted upon, and that he took the position that, having made these recommendations, he had fulfilled his obligation to the command. The only extenuating circumstances in the case of the commanding officer are that he was, in our opinion, both physically and mentally incapacitated for command of a post—a fact of which the post surgeon must have been acquainted. The record of thirty-two cases and fourteen deaths in the command . . . with seven cases and two deaths among the quartermaster's employees is sufficient evidence in itself of the general mismanagement of the cholera situation at this post. . . . The most marked feature of the epidemic was the unconcern with which the commanding officer viewed the situation. Though the command was one of the most severely stricken on the island, and though communications and recommendations were coming in regularly from the post surgeon, these were filed away, and no further action taken upon them." Certain officers did not seem to be impressed with the gravity of the situation; and it was found especially difficult, in the case of colored soldiers, to keep them from eating and drinking in the native houses. The presence of a large

proportion of colored recruits not yet accustomed to discipline made this task especially difficult.

Concerning the occurrence of eleven deaths in one company, it is stated that this "is merely the penalty of having raw recruits without a sufficient number of officers." Well-disciplined regiments largely escaped the disease, in spite of being quartered in badly infected towns. In several instances in which cases of cholera developed in a command, the application of proper measures successfully checked the threatened epidemic. The report says: "Lack of discipline causes results reflecting upon sanitaton, and medical officers must understand that they are just as vitally concerned in the discipline of a command as any other officer. The more they confine themselves to prescribing for individual patients, and neglect the military part of their work, in just that proportion do they neglect their duty to their commanding officer. Some military training is now a necessity for medical officers; they have too long been forgetful that they are soldiers."

The strength of the command in which this investigation was carried out was about 8,000, the deaths from cholera in this number amounting to 90, or a rate of 11.2 per thousand. Among the 990,000 natives, in the same territory, the mortality from cholera was estimated at 25 per thousand. If it be understood that the troops were surrounded with cholera foci, and that there were innumerable ways by which the disease might have been contracted, the result is not bad, and speaks, on the whole, of the faithful execution of the recommendations of medical officers. Formerly, under like conditions, in India, before medical officers were able to outline scientific prophylactic measures, regiments were almost destroyed. Nevertheless, it is theoretically true that not one of the ninety deceased soldiers should have died, and in most of these cases the contraction of the disease was due to careless or wilful disobedience by the soldier himself. Some cases of the disease depended upon the insufficient supply of boiled water carried in the canteen, and the failure to carry a reserve supply with moving troops. As a result, these drank unsterilized and infected water *en route*, after the supply in the canteens was exhausted. Among civilian teamsters, who were not required to carry canteens as part of their equipment, the death rate was 34.5 per thousand. The rate for white soldiers was 10.0 per thousand; for colored soldiers 23.0 per thousand. Among the natives, the village death rate from cholera varied from zero up to 250 per thousand, as at Lucsulin. The more the native town is spread out, the greater has been the difficulty of doing anything for the natives. It does not appear likely that the spread of the epidemic could have been markedly lessened except by quarantine guards on all roads, requiring the services of 25,000 troops, and four times the number of medical officers actually present. It is suggestive, as showing the great sanitary importance of discipline that at the two worst stricken posts there were no summary court proceedings instituted against any soldier, while in a large command which entirely escaped the disease around them, "the post commander has maintained a high standard of discipline, and has punished any violation of rules with as great severity as possible. He has had ten or twelve men brought before a summary court for violation of rules concerning cholera."

The conclusions drawn in the report are that careful quarantine is the most potent factor in checking the spread of cholera, and that the nearer this approaches absolute isolation the better. All persons should be held five days at point of arrival, and no merchandise admitted except in a thoroughly dry condition, and not liable to have been contaminated. Even an ineffective quarantine is regarded as better than none, as it delays the introduction of the disease and lessens the number of foci of infection. Prompt detection and isolation of the sick, with the disinfection of their discharges and surroundings, is essential. Treatment in hospital is desirable; in the hospital at Biñan the mortality was 40 per cent., while outside it was 80 per cent. Detention camps for contacts are not essential, as contacts do not seem especially liable to contract the disease. They should be quarantined in their own houses, so as to secure subsequent cases which have been infected from the same source as the first one. To avoid the loss of personal liberty from confinement in a detention camp, cases will be concealed by natives, and the system do more harm than good. The source of the disease should be traced when possible, and the specific cause destroyed at the source. The sale of fruits and vegetables used uncooked should be prohibited, and cooked food protected against contamination. Instruction in the necessary hygienic precautions should be given. Finally, for the military service, the accountability for sanitary deficiencies should be definitely placed upon either the surgeon or commanding officer, so that sins of omission or commission can be properly punished, and the guilty not be allowed to escape as a result of divided responsibility.

LETTER FROM NEW ZEALAND.

(From Our Special Correspondent.)

OKOROIRE, NEW ZEALAND, January 22, 1903.

I AM writing from one of our health resorts, in the middle of the North Island, which has been established on account of its hot springs. The place was recommended to me on account of its "bracing" qualities; I have not yet found them out, but as this is the hottest part of the year in our Southern hemisphere, perhaps that may account for it. Anyhow, the air is pure, the soil is porous, and there are no swamps about, so a city resident must find it an improvement on his ordinary environments.

We are undergoing an extensive epidemic of measles, which is generally attributed to the return of our troopers from the war in South Africa. The ship I returned in had a number of cases on board, and many more were taken sick after landing. The disease was unusually fatal among the men, owing to the overcrowded state of the transports, and the filthy state of the men. It appears from an investigation by a Royal commission that the space allotted by the Admiralty regulations was not quite filled up in any of the transports. This proves that the Admiralty regulations are wrong. To pack men in hammocks with only eighteen inches allowed in width is certainly not likely to conduce to health in men who have just come off the veldt, where they have slept in the open air, and had plenty of hard work. The men literally did nothing for the most part but eat, drink, and sleep. They had no amusements on our ship, except sports on one occasion, in which they showed how much out of condition they were. When attacked with measles, most of them developed pneumonia, of which many died.

We have also had an epidemic which some call gastro-enteritis and others English cholera. It is characterized by violent colicky pains, vomiting, and diarrhœa. There have been some deaths, chiefly amongst old people. This again the public charge against the returned troopers, although I don't see why. We have had much dysentery and enteric, but nothing like this gastroenteritis. I have not actually seen any cases, as I have been unable to practice since my return.

We still have a few sporadic cases of plague, but nothing to make a fuss about. There is one fatal case described in the report of the Health Department in great detail, in which I cannot but think the patient died more from the *nimia diligentia medici*, or, rather, *medicorum*, for he had three or four doctors, than from the disease itself. I think, considering how entirely inexperienced in the treatment of plague cases our medical men are, it would be better if they let the patients alone more, and adopted a simple expectant plan, with the wet pack to subdue fever. When a man is treated with Yersin's serum, calomel, hyocine ($\frac{1}{200}$ gr. hourly!), hypodermic injections of hydr. perchlor. into the bubo, painting the surface with ichthyol, whiskey and hypodermics of strychnine every four hours, potassii bromidum, and chloral, digitalin $\frac{1}{100}$ gr., hypodermically, every four hours, Yersin's serum again on the eighth day, chloralamide, bromide, injections of strychnine and digitalin, and Yersin's serum again on the ninth day. On the tenth the poor man had saline injections per rectum, Yersin's serum and stimulants four hourly as before, and yet he died early the next morning. If such a course of treatment were administered to a healthy man, I should think he would gladly die on the eleventh day

I saw an officer with exactly the symptoms from which this man suffered—bubo and high temperature not arising from syphilis, gonorrhœa, or any visible injury to the lower extremity, admitted into the Pinetown Hospital in Natal when I was there. The bubo was poulticed; he had little if any medicine; when fluctuation was established, the surgeon in charge incised the bubo, and let out a large quantity of ordinary pus, and when I left, the patient was convalescent. He was a Canadian. I said to him, when he was getting better, that it was lucky for him he had not landed in New Zealand, or he would assuredly have been treated as a case of plague.

Considering the experience of Sydney, and the proof that plague of the ordinary kind, not pneumonic, is not communicated directly from one person to another, it seems to me that the precautions taken are excessive, and must often prove fatal to the patient. Tell a patient he has plague, and you half kill him to begin with, just as the knowledge that a man is suffering from cholera is far more fatal than the disease itself. Every one who has had a large experience of cholera knows that. But our chief health officer has plague on the brain. Considering that the death rate of the colony is only about eleven per thousand annually, the Health Department must justify its existence.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Feb. 19, 1903.

Observations upon Long-Distance Runners.—J. B. Blake and R. C. Larrabee report the result of the observations upon members of the Boston Athletic Association, taken by Drs. Williams and Arnold during the contest of 1899. The length of the course is twenty-four miles; the contestants were of various nationalities, and their ages ranged from sixteen years upward The pulse rate was always increased in frequency, though the increase was often surprisingly small. The loss of weight varied from two to seven pounds. After the finish, the mouth temperature was sometimes raised, often normal, and occasionally subnormal. The rectal temperature was invariably raised. The difference between mouth and rectal temperature was often surprisingly large—in one case as much as 7°. The men ran with open lips, and the forced and continuous breathing of cold air lowered the temperature of the mouth cavity. As to the urine, in every case an active hyperæmia is developed during the race. The amount of urine for twenty-four hours is lessened, the color becomes higher, the specific gravity rises, and the reaction becomes more intensely acid. Urea is diminished for twenty-four hours. Chlorides are markedly diminished after the race.

J. B. Blake and D. D. Scannel state that the pulse-rate seemed to depend on three factors; first the condition of the heart itself; second, the character of the exertion, particularly in the last few minutes of the race, and third the time which elapsed between the actual finish and the observation of the pulse. The hearts best prepared for the contest seemed to have the slowest rates. These hearts were always hypertrophied, but were not overworked by excessive training. As to temperature, the results showed that forced exertion of this character raises the body temperature. Other agents, acting simultaneously may cool exposed portions of the body. In rare instances the ingestion of large doses of alcohol seems to prevent the body temperature itself from rising.

Allen Cleghorn reports on the pulse tracings taken from the Marathon runners in the races of 1900, 1901, and 1902. The candidate invariably presented at the start of the race a normal pulse curve, but at the finish the curve was found to be profoundly altered, the tracing pointing to the condition of enormously low arterial tension. All competitors lost considerable weight during the race, presumably by loss of water through sweating, etc. The author queries whether the low arterial tension is a result of a concentration or lessening of the quantity of the blood circulating in the vessels, and consequently the vessels not being completely filled; or whether it is due to the action of the "depressor" nerve endeavoring to ease the overworked heart by increasing the caliber of the arterioles, and so lessening peripheral resistance, or to an active dilatation of the arteries caused by the circulation in them of fatigue products, CO_2, etc. He inclines to the belief that all these factors are concerned in producing this low tension pulse. Ralph C. Larrabee, Wilder Tileston, and W. R. P. Emerson, in their blood examination of contestants found a decided leucocytosis after the races. They suggest that it may be due to a double cause: muscular work acting mechanically to produce physiological leucocytosis plus a toxæmia from fatigue products acting chemically to produce toxic leucocytosis It has been amply proved that brief exercise produces an increase in all the forms of white cells alike, and one may assume that the cases here studied had such an increase during the early part of the race. Yet at the finish their leucocytoses were always characterized by a disproportionate increase in the polymorphonuclear neutrophiles. This result the authors are not able to explain.

Ralph C. Larrabee and Lawrence W. Strong in the races of 1901 found systolic murmurs before the race in six out of eighteen cases. They attribute these murmurs to nervous excitement. Out of these six cases the abnormal sounds had disappeared at the finish in four. After the race there was increase in the heart area in sixteen of the eighteen cases. They attribute this to temporary acute dilatation. It is difficult to understand that the heart should be dilated when the blood pressure is remarkably decreased. Stengel considers that the dilatation found in the presence of low blood pressure represents the failure of the heart to recover from dilatation that occurred in the early period of high tension. Another explanation is that the dilatation represents relaxation of the heart's muscular tonus as a result of exhaustion or "fatigue products." The authors hold that the changes, so far as the heart is concerned, must be considered as physiological.

John M. Connolly reports the results of the urinary examination. In most cases the amount of urine passed after the race was small. The color was in every instance higher; the acidity was increased. No satisfactory results were obtained in regard to the increase or decrease of the urea. Uric acid was diminished, as were the chlorides. Albumin was present after the race in every urine. After the race every sediment contained large numbers of hyaline and fine granular casts, a few coarse granular and epithelial casts. There was in all cases more or less blood, normal and abnormal, free and on casts. The amount of blood usually varied directly as the amount of albumin.

Journal of the American Medical Association, Feb. 21, 1903.

The Early Appearances, Diagnosis, and Treatment of Tuberculosis of the Upper-air Tract.—In the course of a general consideration of this subject, W. F. Chappell calls attention to the fallacy of a pale mucosa as a positive sign of laryngeal tuberculosis. In his experience reliance should be placed on recurring and persisting hyperæmias, infiltrations, and tumefactions. They appear as patches, or may involve the whole interior of the larynx. The interarytenoid space, ventricular bands, posterior third of vocal cords and epiglottis are the usual places for early circumscribed infections. Any of the enumerated symptoms, occurring in the situations described, should cause some anxiety and a careful watching of their progress, and especially so if pulmonary tuberculosis already existed. These symptoms may be present, however, without being tubercular even in a tuberculous patient. Cold, rheumatism, and voice strain will produce laryngeal redness and thickening, which may continue at intervals for years.

The Prophylaxis of Sinus Diseases.—D. Bryson Delavan notes that the prevention of sinus disease is not always within the limits of our present knowledge. Thus, in diphtheria, measles, and scarlet fever, attended as they are with violent local congestion of the nasal cavities, it is difficult to think of any safe means of treatment. In typhoid fever, smallpox, and pneumonia, however, careful systematic cleansing of the nasal passages is most valuable for many reasons, and is clearly indicated, not only for the prevention of otitis, but also for that of analogous inflammations of the accessory sinuses. We are, however, to proceed along the following lines: (1) We must recognize the conditions under which sinus inflammation is likely to occur, and if possible, remove them; (2) when removal of the predisposing causes is not practicable, we should guard the patient against the various exciting causes which may determine an acute attack, and (3) when acute inflammation is already threatened, we should apply immediate relief. This is found in two main procedures, through cleansing and free nasal drainage.

Medical News, February 21, 1903.

Functional Disorders of the Biliary Secretion and Their Treatment.—H. Richardson divides functional disorders of the biliary secretion into three forms—a morbid excess, a morbid deficiency, and a vitiation of the bile. A morbid excessive secretion of bile may exist theoretically, but there is little or no evidence that it ever produces any serious symptoms. Deficiency of bile, "torpor of the liver," is a much more common condition, producing morbid processes. The function of the bile is both excretive and secretive, thus if the formation is insufficient, failure of excretion will embarrass the liver, and failure of secretion will affect the digestion and absorption from the intestine, more especially the absorption of fats. It is certain, also, that at the same time vitiation of the bile formed takes place. Gallstones are of very great frequency, often producing very severe symptoms. Pregnancy and tight-lacing probably account for the greater number of gallstone cases among women than among men. In order to hold the excretory components of the bile in solution, and at the same time stimulate the gall-bladder to empty itself as often as possible to prevent stagnation. A purge of calomel and soda should be given occasionally to relieve the intestine of undigested food and possible toxins which may accumulate. The patient should drink a large tumblerful of water containing 5 gr. of sodium bicarbonate, about half an hour before meals, and an injection of a liter of normal salt solution every other day, well up into the colon, will be of great assistance. To increase the solvent powers of the bile, 5 gr. capsules of glycocholate of soda three times a day after meals will have the desired effect. If stone is present or suspected, the dose may be 10 gr. The diet should be abundant, principally of carbohydrates, but not excluding meats. Exercise is an important aid.

New York Medical Journal, February 21, 1903.

Intussusception in a Baby Five Months Old.—A case is reported by L. Fischer. Operation was refused by the parents and the child died. The most marked features of the case were the following: (1) continued vomiting; (2) fecal impaction, the gut being so obstructed that no fæces passed in more than ten days, though flatus occasionally passed; (3) during the first two or three days

not only was clear blood passed per rectum, but large masses of jellylike mucus, tinged with blood, were frequently expelled from the rectum until the end; (4) the distended belly, the abdomen abnormally distended and very tympanitic on percussion; (5) the absence of all inflammatory symptoms, such as rise of temperature until two days before the death of the patient, when the temperature rose to 101° F, and the pulse rose to 160°. (6) continued crying, the child, with rare exceptions, showed evidences of pain. The author regarded the case as a distinctly favorable one for operation, because the child was well nourished and developed, was breast fed, because an early diagnosis was made, and because there was a good heart action, and a freedom from any chronic or infectious disease.

The Prophylaxis of Appendicitis.—H. Illoway regards constipation as the great predisposing cause of appendicitis. It enables fecal matter to pass into the appendix, and the fecal matter thus forced and becoming stagnant may liquify and permit bacterial development which may give rise to an inflammatory process, either mild or severe. Fecal stagnation may also lead to formation of concretions. In answer to the objection that women are so generally constipated and yet more exempt from appendicitis than are men, Illoway makes reply: First, that in woman the pelvic cavity is much roomier than in man, and thus perhaps permits of greater distention of the cæcum without the orifice of the appendix being forced open. Secondly, that woman is more particular in her food, eats more at her home table, and is thus less liable to introduce decaying matter, which is likely to set up sharp putrefactive fermentation, into her digestive tract. Thirdly, she is not given so much to the free consumption of alcoholic beverages, which of themselves cause a predisposition to congestive processes in the abdominal organs, and particularly in the terminal parts of the intestinal tract. The general conclusion is—remove the constipation and there will be no appendicitis.

American Medicine, February 21, 1903.

Chronic Pancreatitis.—B. L. Hardin states that it is only about eighteen months ago that the true significance of this disease was brought to the attention of the profession. But it is not an uncommon disease. It is caused by infection, the toxic material usually gaining entrance through the pancreatic duct, sometimes through the general circulation. The patient may have suffered with long-continued chronic gastric catarrh. Suddenly severe epigastric pain occurs. This is central and not over the gall-bladder. It radiates either to the back and interscapular region or toward the left. After lasting a variable time the paroxysm recurs with either regular or irregular intermittence, or there may be no paroxysmal pain, merely a deep-seated dull ache. There may be nausea and vomiting. Diarrhœa or constipation may be present. In advanced stages glycosuria occurs. With each paroxysm the jaundice deepens. The pulse becomes slow; there may be hemorrhages from various mucous membranes or into the skin. The patient finally dies of exhaustion. On examination there is often a tender spot central and about an inch above the umbilicus. There is more or less resistance to palpation over the epigastric region, and very rarely the enlarged pancreas may be felt. In a few instances, when the enlarged pancreas passes on the vena cava, ascites develops. Diagnosis is very difficult. The best evidence of failure in pancreatic secretions is in the presence of an excess of undigested muscle fiber in the stools. Another good test is the absence of carbolic acid in the urine after the administration of salol. There is rapid loss of flesh and strength with the absence of marked anæmia and leukocytosis. When the urine from these patients is boiled with an oxidizing agent and the phenyl-hydrazin test applied, these results so far have shown a large number of delicate yellow needles, arranged in sheaves and rosettes. In many cases diagnosis can be made only by exploratory operation, which should be unhesitatingly done in all doubtful cases. The disease may last for months or perhaps years. The treatment is purely surgical, and is effected by clearing the ducts of obstructions so far as possible, and draining the gall-bladder or both ducts, as the circumstances may demand.

Philadelphia Medical Journal, February 21, 1903.

Retinal Hemorrhages; an Aid to the Early Recognition of General Arterial Degeneration.—Henry C. Haden concludes that: (1) Retinal hemorrhages, associated with high arterial tension and accompanied by transitory albuminuria, are significant of beginning widespread arterial degeneration. (2) That in those cases of so-called physiological or transitory albuminuria, occurring in active, healthy young business men or students, in those who are working under forced pressure, ophthalmoscopical examination should be made for retinal hemorrhages. (3) When retinal hemorrhages occur without albuminuria, the patient should be kept under observation, the urine to be examined from time to time and the quantity passed noted. (4) In case of finding these conditions, it is our duty to warn the patient of his condition and, as Osler says: "so gain his intelligent coöperation," and preserve his life and usefulness.

Uterine Carcinoma; Its Treatment by the Combined Use of the Finsen Light and the Röntgen Ray.—George G. Hopkins declares that, from his experience, he believes that the best method of treatment of uterine carcinoma consists in the combined use of decomposed light and *x*-radiance. The application of the light and radiance requires much thought and skill, the deposits being differently arranged in each case. With the Finsen light the external parts only need the protection of some fabric, but with the Röntgen rays we need metallic protection and, of all metals, lead is the most satisfactory. The patient is placed on her back and the rays so arranged that they will impinge upon the diseased surface. So far as the Finsen rays are concerned, they can play upon the parts for an hour or more, but with the *x*-ray it is different, the time must be limited and, when hysterectomy has been performed, more caution must be used, as their penetration cannot be limited, and there is no uterus back of the vagina to intercept and partly absorb the rays.

Tropical Abscess of the Liver.—Charles F. Kieffer speaks of three broad classes of abscess of the liver: Traumatic, pyæmic, and tropical. Traumatic abscess is usually solitary. It may arise from a severe contusion of the organ, without a lesion of the skin, or from the penetration of a foreign body, as a bullet, knife, or needle. The liver blood is relatively richer in bacterial forms than any other part of the circulation. The lesion in pyæmic abscess is usually multiple. It may begin in embolism of the portal vein from inflammatory lesions, affecting the radicles of the vein. Examples are ulcerations in the colon, appendicitis, hemorrhoids and, rarely, typhoid ulceration. Echinococcus cyst of the liver may suppurate and form abscess. In tropical abscess, the predisposing causes are first considered. There is a very great tendency to passive congestion of the liver, to some extent, in a large proportion of settlers in the tropics. Malarial, chill and exposure, and especially alcohol, are important predisposing factors. The writer thinks that alcohol in moderation produces no more harmful effects than in other climates. But its abuse is followed by a much prompter reckoning. The liver that is the seat of the beginning abscess formation, is congested and enlarged. There will be one or more areas of necrosis, the center of which will contain a few drops of bloody or chocolate-colored, inspissated pus. Later liquefaction takes place over the entire area. The abscess may be solitary or multiple. It varies in size from a pigeon egg to a cocoanut or even larger. Fever is the most constant symptom, and in type is hectic, of narrow range. Other symptoms are sepsis, enlargement of the liver and pain, although pain may be entirely lacking. Enlargement of the liver is fairly constant. The decubitus is quite characteristic. The patient lies almost on his right front aspect. The shoulder is drawn down and the right knee strongly drawn up to relieve the tension of the abdominal muscles. The prognosis depends upon the number of the abscesses and the time when the case is brought to operation. The diagnosis is quite difficult unless the abscess be large and the signs so prominent as to be unmistakable. In all obscure cases, attended with the signs of sepsis, insert an aspirator to make your diagnosis clear.

The Lancet, February 14, 1903.

An Unusual Number of Gallstones.—The patient of C. A. S. Ridout was a woman of forty-three years, whose condition called for a cholecystotomy. The cavity of the gall-bladder was found to contain 449 calculi, averaging about the size of a pea. Two more stones were passed during the period of convalescence. Recovery was without incident.

Note on "Relapse" in Scarlet Fever.—Three cases are reported by A. B. Slaan, who believes that the "relapse" is far more common than is generally believed. The statistics of the Metropolitan Asylums Board for 1901 show a percentage of 1.09 relapses out of over fourteen thousand cases. The histories of his own cases present nothing new.

A Rare Form of Purpura.—The case is related by H. L. Gordon, his patient being a boy of fourteen years of nervous temperament. The boy was suddenly taken ill, complaining of pain and stiffness in the limbs with a rash on the legs. There was no previous history of rheumatism. A diagnosis of purpura rheumatica was

made, but this was shown to be incorrect by the onset of colic and the escape of a pint of blood from the bowels. Joint swellings appeared later and the colic also returned. Various "flying œdemas" made their appearance in different parts of the body. This changing character of symptoms continued for some weeks when a loud systolic mitral murmur was heard. These purpuric rashes, flying œdemas, etc., lasted over the space of several months, and then a chorea set in. The case seemed to present a curious mixture of the symptoms of purpura rheumatica and the "peculiar purpura" described by Henoch, but the case differed from the clinical picture described by Henoch as follows: (1) In its more continuous nature; there were no intervals of freedom from symptoms of several days or weeks or even of a year; (2) in the prominence of skin eruptions other than purpura, and of what can only be called "flying œdema"; (3) in the cardiac complication; (4) in the chorea; and (5) in a diminished daily flow of urine. At last accounts the boy was fairly well but still nervous. No treatment seemed to have any curative value, and symptoms were relieved as they arose. An earache preceding by a few days the onset of his illness, was suggested as a source of septic infection, but this could not be proved. The poison, whatever it was, seemed to expend itself on the nervous system.

Notes upon a Case in Which Symptoms of Early General Paralysis of the Insane Followed a Head Injury.—The case is reported by Marmaduke Shield and T. C. Shaw. The patient was a man of thirty years. At the time of operation his condition was as follows: He had a confused and demented facial expression and had a considerable amount of both facial and general tremor. He complained of pressure-feeling over the scalp and declared his inability to perform any sustained mental work. There was no disease of the fundus oculi, but the pupils were slightly non-symmetrical, the left being the smaller; they reacted to light and accommodation. He could not stand firmly when his feet were placed together, nor could he walk along a line when told to plant one foot directly in advance of the other. The knee-jerks were present but weak. There was some tremor of speech, but the tongue was fairly steady, and there was no prominent complimentary spasm of the muscles around the orbit. When asked to read the paper he misplaced and mispronounced words and altered the spacing. The handwriting was to be deciphered with difficulty, owing to the crowding of the letters and shakiness of the upstrokes. The prominent mental condition was one of dementia, an apathy and slowness of comprehension in answering ordinary questions. There was an unwarranted sense of *bien-être*, but no illusions could be elicited. The friends said that he had become subject to impulsive outbursts, and was considerably changed in general disposition. He suffered from insomnia and spoke of loss of sexual appetite. As to diagnosis there was no history of alcoholic excess or of syphilis, and the symptoms appeared to be directly traceable to an injury to the head. It was probable that they were due to pressure, and the only remedy seemed to be to resort to trephining as soon as possible. The temperature under the tongue was 100° F. The operation consisted of reflecting a semilunar flap over the left frontal region, the site of the injury following his being thrown from a wagon three months previous to his coming under observation. A faint crack was discoverable in the bone, though none had been made out at the time of injury. Trephining showed that there was pressure on the dura. The bone was lifted and the operation concluded in the usual manner Two days later improvement began in the mental condition, and at the time the case was reported there was every reason to believe that the man would completely recover.

British Medical Journal, February 14, 1903.

Frambœsia in Fowls.—Jas. A. L. Calder states that the histological features of the disease in fowls are identical with those seen in the human variety. The disease attacks chickens mostly, and its chief seat is the head. The disease thrives best in the young. The writer has not been able to transfer the disease from man to fowl, nor from fowl to man. However, he believes that the diseases are identical. Frambœsia is not syphilis.

Cerrebellar Hemorrhage in a Girl Aged Nine and a Half Years.—H. H. Phillips was called to see this case after the child was dead. On that morning she was apparently perfectly well and ran upstairs. But on coming down she complained of headache. In fifteen minutes she was asleep. This sleep deepened into coma, and death occurred in half an hour. Necropsy revealed a large hemorrhage, which had practically excavated the entire left lobe of the cerrebellum. The right lobe and cerebrum were normal. The lesion was quite recent, and the cause of the hemorrhage could not be determined.

A Case of Prolapsus Uteri Treated Successfully by Injection of Quinine.—G. Crewdson Thomas reports the case of a woman of thirty-eight years, who looked strong and healthy, and had had three children. The vaginal walls were very lax, and the uterus was enlarged and retroverted with a soft and hypertrophied cervix. On straining, there was marked procidentia. The writer instituted the treatment of injecting the broad ligaments with quinine sulphate solution (50 minims in each), and replacing the uterus with the insertion of a Napier's pessary. At the end of the third week a Hodge pessary was inserted, and the patient was allowed to get up. The results were most satisfactory. Three months later there was no tendency to prolapse of either the vaginal walls or uterus on straining.

Operations for Cancer of the Tongue, and the Early Diagnosis of the Disease.—H. T. Butlin lays down the following rules for guidance in regard to operations on cancer of the tongue. He first discusses warts and warty growths, particularly on tongues which are the seat of one of these predisposing conditions. No time should be lost in removing these growths. It should be done by two elliptical incisions which include the healthy tissues around the wart into the muscular substance. The edges are brought together, and the wound is healed in four or five days. In regard to indolent ulcers upon the surface or under the border of the tongue, which are ascribed to the rubbing of a tooth, the cause of the irritation should be removed at once. And if, at the end of a week or ten days from that time, the ulcer is not well or healing rapidly, it should be cut out in precisely the same fashion, with not a moment's hesitation. The operation is trivial, and may save the patient from great misery, and often from a horrible death. If white patches or plaques become thicker, and a little more prominent, and particularly if they show a tendency to break down in the center, or soften, they should be cut with as little delay as possible. The writer now, in cases of bad superficial glossitis, when the tongue is constantly irritated, and the patient always suffering and in dread and danger of cancer, removes that part of the tongue, even when there is no sign of cancer or of a precancerous condition. This holds true especially when the under surface is in a healthy condition, so that the mucous membrane can be turned up to make a good covering for the stump Such patients are then relieved not only of the fear, but of the danger of cancer. They are able to take all kinds of food which had been previously denied them on account of the constant irritation which such food produced.

A Contribution to the Study of Cancer Mortality.—Charles Templeman concludes, as regards cancer in the city of Dundee: (1) That the death rate from cancer as a whole during the twenty-five years under review has more than doubled, having increased from 7.27 to 16.92 per 10,000 of the population over the age of twenty years. (2) That this increase is greatest at ages over forty-five, is common to both sexes, but more marked in the male sex, though the actual mortality is higher among females. (3) That in females this is chiefly due to an increase in malignant affections of the abdominal viscera. (4) That uterine cancer and cancer of the breast in females have increased, though not in any marked degree. (5) That cancer of the rectum also shows a slight increase in both sexes. (6) That in males the highest mortality is from cancer of the abdominal viscera. (7) That in males cancer of the mouth and upper digestive tract has also greatly increased. (8) That, therefore, cancer of regions which may be described as "accessible" has increased as well as that of parts which are not so accessible, and where the diagnosis is more difficult, but the increase in the latter is out of all proportion to that in the former class. (9) That during the same period there has been a great improvement in both clinical and pathological diagnosis, as well as in death certification, and consequently a considerable diminution in returns from such indefinite conditions as "old age" and "disease" of the various organs (without any specification of its nature). (10) That this must, to a considerable extent, have helped to swell the returns of death from "cancer." The writer does not think this sufficient to account for the great increase of cancer mortality. This increase is real and substantial, though not so great or alarming as the general public believe. To solve this problem of increase, we must have a more accurate knowledge of the etiology, and if parasitic in its nature, we must know something of the life history of the organism which gives rise to it.

Munchener medicinische Wochenschrift, January 27, 1903.

Serumtherapy of Exophthalmic Goiter.—Otto Lanz adds four cases to the two which he has previously reported. All were well marked cases of Graves's disease, and one was far advanced when first coming under treatment. To all the so-called "milk treatment" was given—that is, the

milk of thyoidectomized goats. The duration of the treatment was varied, being from several weeks to six months In every case treated the result was satisfactory, marked improvement taking place in the special symptoms. It should be noted, however, that this disease is subject to marked variations in its clinical course, and that the number of cases as yet treated by any system of serumtherapy is too small to admit of definite conclusions as to the actual value of such a method of treatment.

Scarlatinal and Diphtherial Nephritis.—O. Heubner shows that pathologically these forms of nephritis are different and may be easily differentiated. Scarlatinal nephritis shows marked hemorrhagic changes, especially in the glomeruli. The involvement of the epithelium is secondary. In diphtheria the renal lesions are primarily epithelial. Hemorrhagic lesions are sometimes found, but never involve the glomeruli, as in scarlatina. When present they are almost always found in the region of the straight tubules. In preparing the tissue for examination it was first placed in 10 per cent. formalin solution for twenty-four hours. Frozen sections were then made. These were stained with hæmatoxylon and decolorized with hydrochloric acid and well washed. They were then placed in dilute eosin solution for several hours and again in water for twenty-four hours. The number of scarlatinal cases studied was only two. This was because of the great difficulty experienced in obtained pure cases of this disease, since the vast majority of those observed showed the presence of diphtheria bacilli in the throat.

Münchener medicinische Wochenschrift, February 3, 1903.

Gangrenous Pharyngitis and Appendicitis in Combination.—W. Mayer reports this case in support of the theory that pharyngitis frequently holds a direct etiological relation to appendicitis. The patient, a female seven years of age, suddenly developed pharyngeal symptoms of great intensity. Examination showed a marked injection and swelling of the tissues, but no membrane. Diphtheria bacilli were not found. Within twenty-four hours the lesions became characteristically gangrenous in appearance. At this time abdominal symptoms (pain and vomiting) appeared. Examination showed a tumor in the right iliac region, and McBurney's sign positive. Upon operation a perforated gangrenous appendix was found. Recovery took place. Microscopical examination of the pharyngeal secretion showed a few bacilli and staphylococci and a great abundance of streptococci. In the appendix only colon bacilli were found. The author does not think that this diversified bacteriological find is to be regarded as against the close association of these processes, since the colon bacilli in the appendix may have "overgrown" the streptococci which gave rise to the trouble.

Acute Cerebral Ataxia.—Adolf Bickel reports a rare case of uncomplicated acute cerebral hemiataxia. The patient was a male, sixty-four years of age. The previous history was good. In May, 1902, he was suddenly seized, while walking, with marked attack of vertigo. Consciousness was not lost. When seen shortly thereafter all of the senses were intact, but there was a marked loss of cutaneous sensation over the entire left half of the body, including the face. The line of demarcation between the affected and non-affected was sharply drawn at the median of the body. All the movements made by the patient with his left limbs were markedly ataxic. If the patient closed his eyes these limbs could be placed in various positions without his knowledge. The majority of the reflexes on the left side of the body were accentuated. Babinski's reflex was absent on both sides. Also the foot clonus was bilaterally absent. Both pupils were normal. There was no laryngeal paralysis. The muscular power on the affected side was not in the least reduced, and the electrical reaction of the muscles and nerves was normal. During the following six months the condition slowly improved. The movements of the infected side became less ataxic and more spastic in character. At present the patient remains in *statu quo*.

Deutsche medicinische Wochenschrift, January 29, 1903.

Epithelioma Contagiosum of Fowls.—E. Marx and Anton Sticker a few months since demonstrated that this disease was readily transferable from doves to hens, but not *vice versa*. In a new series of experiments they have inoculated hens from doves, and then inoculated other doves with virus obtained from the infected hens. They find that in the latter doves the virulency of the virus is much reduced. Of eighteen doves thus treated, seven showed no signs of the disease, three had an abortive attack, five had a mild attack, while in only three was the infection well marked. Thus are established similar relations as are present between variola and vaccina, and there is developed a new method for the control and mitigation of "bird pox."

A Case of True Hermaphroditism.—Garré describes a case which he recently exhibited in Konigsberg. The subject was a Russian, twenty years of age, and had always passed as a male. The penis was fairly well developed, but contained no urethra. The vulva was characteristically formed and of the usual size. Menstruation occurred regularly every month, but the flow was always scanty. With the patient's permission the lower abdominal cavity was opened on the right side just above Pourpart's ligament. An ovary and fallopian tube of fair size were found and immediately below a testicle. These structures were removed and examined histologically and the diagnosis thus absolutely confirmed. So far as is known this is the first case of true hermaphroditism which has been confirmed by both macroscopic and microscopic examination.

Mechanism of Strangulated Intestine.—Wilms gives the following description: When a small knuckle of intestine has slipped into a narrowing there is no strangulation at once and fecal matter enters the knuckle through its upper entrance. It enters, however, with more or less difficulty according to the pressure exerted upon the knuckle and the size of the incarcerating ring, and passes out of the lower entrance with still greater difficulty. In a varying length of time fecal matter, therefore, begins to accumulate at the lower end of the knuckle and thus distends the intestine in this location. This distension causes a drawing up of the intestine at the lower end of the knuckle, so that more is drawn into the ring at that point; as this increases the amount of fecal matter accumulates in the knuckle; pressure and tension increase, and strangulation takes place. Diagrams are submitted which make the author's description entirely clear.

Berliner klinische Wochenschrift, February 2, 1903.

Incipient Tabes.—Georg Flautau emphasizes the importance of a consideration of all the symptoms in the early diagnosis of tabes. Various observers have laid great weight upon the diagnostic importance of special symptoms, but it is certain that most of these may fail in incipient tabes, and, on the other hand, be occasionally observed in other conditions. The absence of the Achilles reflex when Babinski's method is employed is of considerable value for the diagnosis of tabes; nevertheless, experience has shown that it is not to be absolutely relied upon. One hundred cases of non-organic nerve cases showed this phenomena with Babinski's method bilaterally absent in two and unilaterally absent in two. The triceps phenomenon is of much less value since this is frequently absent in purely functional cases. In advanced cases several of these special signs are of great diagnostic value, but for the early diagnosis of the disease a consideration of the entire clinical picture, together with the personal and hereditary history, leads to more correct results than a dependence upon any special symptom.

Value of Otitic Symptoms in the Diagnosis of Cranial Injuries.—Stenger says that in recent cranial injuries objective otitic symptoms are of certain value in locating the seat of the lesion. The discharge of cerebrospinal fluid from the ear means, as a rule, that basal fracture is present, while the discharge of blood from the same orifice unless accompanied by a distinct external fracture is of very little, if any, value in this connection. The same may be said of rupture of the tympanum as of the discharge of blood. Functional otitic symptoms may be utilized to great advantage for diagnostic purposes in both recent and late cases. Such symptoms may be divided into three groups: (1) Loss or disturbance of hearing; (2) vertigo; (3) paralytic appearances. Simple loss of hearing means an injury in the region of the origin of the internal auditory nerve. Loss of hearing combined with paralysis of the facial nerve means an injury to the internal auditory nerve at some point in its course. Loss of hearing combined with vertigo means an injury to the internal auditory nerve in the region of its peripheral distribution. Loss of hearing may be tested either by whispered speech or the tuning fork. Disturbances of hearing mean an injury either to the labyrinth or to the middle ear. Vertigo when alone present signifies an injury to the semi-circular canals. Of course it is to be understood that the entire significance of vertigo in this connection depends upon its relation to some cranial injury—that is, it must have been preceded by such an injury within a reasonable time. Unilateral nystagmus is often associated with injury of the semicircular canals of the affected side. Paralysis of the facial nerve is the only paralytic symptom which directly accompanies injuries of the internal ear. By a combined consideration of the above symptoms much light may be thrown upon the location of the lesions in many cases of so-called traumatic neuroses, and a sharp differentiation may be made between those in which actual lesions are present and those in which the entire process is one of simulation.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, Held February 9, 1903.

ROBERT T. MORRIS, M.D., CHAIRMAN.

Intestinal Obstruction; Gastroenterostomy.—Dr. SAMUEL LLOYD presented, in connection with his paper, a woman who had come to him at the Post-Graduate School. She had already had a ventral fixation done, and thirteen months before admission had been operated upon for appendicitis. She complained of nausea, epigastric pain, and vomiting. Pressure below the ribs on the right side caused excruciating pain. Examination of the stomach showed hyperchlorhydria. The vomitus had never been streaked with blood. He saw the patient with Dr. Quintard in October, 1901, and the case was decided to be one of intestinal difficulty, possibly of obstruction. On November 2 he made an incision on the right side. The stomach was found to be greatly dilated, with its pyloric end drawn down a considerable distance. From this point the pylorus was bent upon itself and ran upward and inward. The smaller end of the stomach was thus drawn out into a tube, and was bent upon itself in the shape of a letter "S." This extreme flexure caused partial obstruction of the lumen of the pylorus. The cæcum was found to be normal; the appendix was gone. The gall-bladder appeared to be normal, and no calculi could be felt on palpation. With great difficulty adhesions between the stomach and intestine were gradually broken up by the fingers, and the colon was straigthened out. The uterus was found to be held in good position by a band one inch and a half long. An attempt was made to fasten the pyloric end of the stomach into position by freshening the peritoneum in the hope of getting adhesions. This, however, failed, and the patient soon began to complain again of the same symptoms. The second operation was done on the left side. This disclosed the fact that the pylorus had been drawn down again, and was sharply flexed as at first. This time a gastroenterostomy was done by McGraw's method. The patient was comfortable for some months after this, but returned to them with all of the old symptoms. Palpation seemed to indicate the advisability of not operating, and after the patient had been in the hospital for some time she recovered, and since then had done well up to within the past few weeks, when the vomiting had returned. He would like to hear the opinions of others regarding the advisability of further operation.

Dr. JOHN F. ERDMANN said that he did not think there was much occasion for operation at the present time, her condition, apparently, being largely the result of a neurosis or of her hysterical state.

Dr. R. T. MORRIS said that there could be no doubt that the mental feature in some of these cases was quite prominent, yet most practitioners did not feel like referring their patients of this class to those who applied themselves systematically to the relief of the psychical element.

Dr. LLOYD said that he concurred in the opinion expressed by Dr. Erdmann, and had already advised against farther operation. As long ago as last June she had been treated in the hospital by suggestion, and had been temporarily relieved. It was, of course, possible that at some time the intestinal adhesions would give rise to obstruction, necessitating an operation.

McGraw's Operation for Gastroenterostomy.—Dr. SAMUEL LLOYD read a paper on this subject. He said that in stomach operations particularly the Murphy button had proved very disappointing. In some cases the necrosis of tissue between the flanges of the button extended beyond the line of sutures, and caused fatal extravasation; at other times the button became impacted after leaving the stomach. The author said that so far he had employed McGraw's method only seven times, but even this experience had convinced him that it was efficacious, rapid, and easily applied. The weak point of the operation was the danger of breaking the ligature. The stomach having been brought into the wound, the position for the anastomosis was selected, preferably on the posterior wall whenever possible. The operator should seek for the junction of the duodenum and jejunum, and the latter should be followed downward for sixteen or eighteen inches, and an opening then torn in the transverse mesocolon, and the posterior wall of the stomach drawn through so as to expose the surface for about three inches. The jejunum should then be attached to its upper surface about one-half inch from its free surface. A simple Lembert stitch was carried along the portion of the gut required for the anastomosis. A sterile rubber ligature threaded into a needle was next passed through the stomach wall, and then through the intestine. This was best done by pressing the stomach wall together over the whole area to be included in the suture, and while the assistant held the rubber taut the surgeon passed the needle and drew it through the stomach wall. In order that the exposed viscera might not be soiled by the rubber, the stomach was covered with gauze or a towel. As soon as the tension on the rubber ligature was released the ligature expanded and completely closed the orifices of entrance and exit. The intestine was next treated in the same way. A piece of strong silk was now laid along the line of sutures before the rubber suture was tied. The rubber should be tied over the silk, and then the silk tied over the knot of the rubber. The silk and rubber were then cut short. This procedure caused distinct puckering of the stomach and intestine together. McGraw said that at first he feared the folds might become agglutinated together, and be held permanently corrugated, but this fear proved to be unfounded. Another danger at first apprehended was that the ligation and folding of the intestinal wall might cause irritation or obstruction of the gut, but this was found not to occur. The symptoms following operation appeared in no case to depend upon injury to the intestine. Coming back again to the line of Lembert's stitches, it should be said that this line was finally carried over the rubber stitches. In order to be successful it was important to select a proper rubber ligature. According to McGraw, the ligature should be a hard, round, and smooth cord at least 2 mm. in diameter, but the speaker thought it would be better to have the ligature still larger. The rubber ligature must be drawn as firmly and tightly as possible without breaking, and tied by a silk knot. In this operation there was no incision of the bowel, no loss of blood, no escape of fæces, and no exposure to peritoneal infection by escape of the bowel contents. The operation was followed by a minimum of shock and pain, and the patient recovered rapidly without any sloughing of the bowel. The advantage of the method over the Murphy button was that the surgeon could make the opening large or small as seemed best. Feeding might be begun after forty-eight hours, although McGraw advocated an interval of fifty-six hours.

Dr. LLOYD said he had been able to collect eighteen operations performed by this method. Three of them had been done by Dr. Willy Meyer, with one death; three by Dr. H. O. Walker of Detroit, all successful; five by Dr. McGraw, with two deaths from collapse—one from starvation and one from vicious circle, and his own seven cases without any fatalities. In McGraw's cases, only the first fatality could fairly be attributed to the operation. In his own seventh case, owing to the breaking of the ligature the operation had to be completed by suture. This record gave eighteen cases performed by the McGraw method with one failure of the ligature and five deaths. Three of the deaths would have occurred by any method that could have been employed. The

operation was certainly exceedingly simple and effective, and required little time for its performance.

Dr. Willy Meyer said that on reading the description of McGraw's method he had been impressed with its merits, and had given it a trial at the first opportunity, although he had long been a warm advocate of the Murphy button. He preferred to use for the rubber ligature the ordinary rubber ligature, size No. 4. There seemed to be no necessity for having the ends made tapering. The cases operated upon by him according to this method were then briefly described. The enteroenterostomy he had modified by using the continuous suture, but this was not recommended for the stomach because of the different thickness of the wall of the stomach and that of the intestine. With regard to the vicious circle, he would say that he had never seen a single fatality result from the vicious circle, but he had suggested the use of enteroenterostomy in connection with the use of the elastic ligature. It was probable that in the future the method adopted would be to unite the anterior wall of the stomach to the duodenum, taking pains to liberate the duodenum sufficiently to make it movable. If this mode of operating were adopted he thought the McGraw method would be found especially useful. He had not seen any specimen yet showing the condition of the bowel after the McGraw operation, but his own patients had been so free from digestive disturbance that he had no doubt the opening remained of the original size. He considered the McGraw method a very great addition to our technique.

Connell's Suture.—Dr. George Gray Ward spoke of the Connell suture for intestinal anastomosis, illustrating his remarks by diagrams. He said that one of the features of the Connell suture was that all of the coats of the intestine were perforated by the suture, and all of the knots were on the inside of the bowel when the operation had been completed, thus doing away with the objection of having the stitches on the surface. This was accomplished without the longitudinal incision used in the Maunsell method. Connell had pointed out that in the duodenum the glands of Lieberkühn were located in the submucosa, and hence, in picking up the submucosa these glands must be penetrated. The first stitch should be passed at the mesenteric border and completely through the walls of the bowel, then over to the opposite side and back again in the same way. This straddled the mesenteric attachment, and thus closed the triangular space. The second stitch was passed one-third of the circumference around the bowel. These two stitches were then tied and held by an assistant. The sutures placed between these two sutures were passed rapidly by perforating both walls of the intestine and tying in such a way that for every two perforations there was only one knot. The second third was sutured in the same way with stay sutures introduced as were the first two sutures described. The last third of the circumference must be sutured in a somewhat different manner because of the small space. The stitches bore the same relation to the walls of the intestine, but were passed through each coat separately. The trick of the method was in tying the last stitch. A threaded needle was passed—eye-end first at a point near the mesentery in the space between two stitches which had been previously tied. The needle passed into the lumen of the bowel and out through the small opening left where the last stitch remained to be tied. The ends of the stitch were caught in the loop of thread in this needle. The method of tying this last stitch was difficult to undertand from mere description without an accompanying diagram.

Harrington's Method.—The speaker also described a comparatively new method known as Harrington's. In this the anastomosis was made over an aluminum ring made in four segments. After this had been done the withdrawal of the handle of the ring caused the segments to fall apart—in other words, it was a form of crushable ring.

Dr. Edward Wallace Lee said that while he had had no personal experience with the McGraw method it did not appeal to him. One of the advantages claimed for it was freedom from soiling the peritoneum, but he was disposed to doubt the truth of this statement. One who was expert in the use of the intestinal suture should be able to complete the suture in from fifteen to twenty minutes; hence there did not seem to be much saving in time. He thought gastroenterostomy should be made on the anterior portion as far back and as low down as possible. At least four inches of the jejunum should be attached to the stomach, which, in itself, would have a tendency to prevent kinking. He was in favor of a continuous suture, the first past through all the coats of the intestine, and the last being a Lembert suture. He had not heard any one say yet what became of the rubber ligature in the McGraw method. It was said that the partition between the stomach and the intestine did not slough through, but was absorbed; possibly there might be a failure in this essential part of the operation, and the communication between the stomach and bowel not be established after all.

Dr. Robert T. Morris said that there were some points in Dr. Lloyd's statistics which required elaboration. For instance, Bevan, in analyzing 195 cases of union between the stomach and bowel in cases of cancer, found that the death rate was about 26 per cent. Heidenreich, in a series of about one hundred cases, operated upon for stenosis of the pylorus for ulcer, found the death rate to be about 16 per cent. from operation. Dr. Lloyd's seven cases with no deaths constituted a remarkable series, but it was most important in considering the death rate to determine the state of each patient and the particular condition for which the operation had been done. Dr. Mayo had said very truly that there were four questions to be decided at the present time in making a gastroenterostomy, viz.: Should one employ the anterior operation, the posterior operation, the button, or the suture? Although Dr. Mayo had had a very large experience in this field, he was of the opinion that it was not a matter of much importance which operation was selected so long as it was well done.

Dr. Lloyd, in closing the discussion, said that the foreign body left in the intestine in the McGraw method was so very minute that it was entirely a negligible quantity. It had certainly given rise to no discomfort. With regard to the question of how the communication was produced, the speaker said he was of the opinion that it was the result of a cutting or sawing action of the rubber ligature, and was not due to absorption. There seemed to be no doubt about this cutting through of the tissue taking place if the rubber ligature were drawn sufficiently tight at the time of operating. Aside from the simplicity and rapidity of the operation, it seemed to him that its greatest merit was the ability of the operator to make the opening just as large as seemed to be required in the individual case.

Periduodenal Abscess Secondary to Ulcer of the Duodenum.—Dr. William S. Bainbridge presented this paper with a report of a case. He said that he had been able to find only twenty-seven cases on record. Of this number twenty-two died without diagnosis. In the case reported by the author, the patient had been in good health, and the trouble had been suddenly ushered in by severe symptoms. These were relieved for a short time, and the patient became quite ill, and grew progressively weaker, finally dying in the eleventh week. The diagnosis of perforating ulcer of the duodenum was made, and operation advised, but consent could not be obtained. The autopsy showed a perforating ulcer of the duodenum one-quarter of an inch in diameter, and a periduodenal abscess. The author said that a study of the literature showed only eleven cases in which data were given with sufficient fulness and accuracy to be of service. It was pointed out that when the perforation was in the first

portion of the duodenum the chances were largely in favor of the production of general peritonitis; if in the second portion, the general peritoneal cavity would be walled off for a considerable time by newly-formed adhesions. Perforation of the posterior wall would give rise to retroperitoneal abscess. The anterior wall of the upper horizontal portion was said to be the most frequent site of the perforation. When the latter involved the general peritoneum it was usually acute. The most frequent symptoms were vomiting, pain, tenderness, and resistance in the epigastric and right hypogastric regions, constipation, or obstipation, sudden onset, and shock. Many of the patients could not lie on the right side because of the pain. Usually there was a history of gastric or intestinal disturbance. Melæna and hæmatemesis were not common; they occurred more frequently in ulcer than in abscess. As a rule, if there was any elevation of temperature it was slight, although, of course, fever might occur as a result of various complications. It was found far more frequently in the male than in the female, and occurred at all ages. The conditions which should be thought of were: empyema, pleurisy with effusion, cancer of the pylorus, pyopneumothorax, hydatid cyst, intestinal obstruction, disease of the gall-bladder or its ducts and appendicitis. The diagnosis was always difficult. Exploratory laparotomy should be resorted to when there was a probability of abscess being present.

Additional Cases Reported.—Dr. JOHN F. ERDMANN said that the subject was particularly interesting to him because he had seen five cases altogether. Three weeks ago he had operated upon a case of perforation of the stomach within one-quarter of an inch of the pyloric orifice, which practically brought it into the same field. In the two cases reported in an article by Weir and Foote, the perforation occurred within a week's time in his service at the Gouverneur Hospital. In none of the cases that he had seen had there been any history preceding the perforation which pointed to any digestive trouble. The first case was that of a robust Irishman who was seized with sudden abdominal pain. His abdomen was opened under the diagnosis of appendicitis. It was found to be filled with grumous material, containing some specks resembling pepper. He died in thirty-six hours. The second case was that of a healthy Italian who also had sudden and severe pain, and was subjected to operation for appendicitis in forty-eight hours. In both cases the duodenal ulcer was exactly the same. The third case was that of a man of about forty-two years of age, who came to the hospital with some indefinite abdominal disease. The perforation was found here also within one inch of the pylorus, and on its upper and anterior aspect. It was very easily reached by operation. The fourth case occurred in a woman of fifty-four years, who was practically moribund at the time of doing an exploratory laparotomy. There was general peritonitis. There was a very large perforating ulcer of the duodenum. The fifth case that he had seen, and which did not really come under his own observation, was observed in the dead-house of the hospital. The subject was an Irishman who had died almost immediately after admission. There was a history of illness for three days with sudden and severe pain. From the history duodenal ulcer was suspected, and this was confirmed by the autopsy. The speaker said he was of the opinion that a fairly definite diagnosis could be made in many of these cases; that is, the diagnosis would rest between perforation at the pyloric portion, perforation of the duodenum itself, or perforation of the gall-bladder. He thought acute pancreatitis could be entirely excluded. Attention was called to the fact that four out of his five patients were males.

Dr. C. CARMALT said that he had seen three cases. In all of them there was an abscess, and in two the diagnosis was made. One was a female child with a history of indigestion of about two months' standing; the other two patients were women. In the last case there was considerable nephritis; in one of the others there was pus in the urine and extensive disintegration of the kidney was present.

Dr. BAINBRIDGE closed the discussion. He said that the reports just presented seemed to indicate a confusion of periduodenal abscess with perforating ulcer of the duodenum. Dr. Erdmann had been very fortunate in finding these acute cases, and while they might have become periduodenal abscesses if these persons had lived long enough, the cases could hardly be considered as coming within the scope of his paper. The literature showed very plainly that if a careful history were taken it would be found that previous digestive disturbance was common.

Self-holding Retractors for Use in General Surgery.—Dr. W. S. THOMAS exhibited a simple retractor of this kind that he had devised. It was made of steel spring wire, nickel plated, bent to three-fourths of a circle. It was useful in office practice, and took up no room while in use. It was, of course, not claimed that such a retractor was equal to a trained assistant, but such assistants were not always at hand. The different sizes made gave the necessary variations in the strength of the pull.

A Coring Instrument for Operating upon Varicose Veins.—Dr. FREDERIC GRIFFITH presented this unique instrument. It was a surgical instrument acting upon the principle of the homely tool used for coring apples and other fruit, and was intended for use in connection with the subcutaneous operation for varicose veins. He said that in the removal of the saphenous vein, for example, it was only necessary to make two incisions and then apply this instrument. Traction on the vein made in this way caused laceration of the branches of the vein and allowed of their removal without any bleeding which could not be controlled by bandaging.

SECTION ON PEDIATRICS.

Stated Meeting, Held February 12, 1903.

HENRY HEIMAN, M.D., CHAIRMAN.

Report of a Case of Purpura Fulminans, with Findings of Bacteriological Examinations.—Dr. C. G. KERLEY made this report. The patient was a child seen in the country in consultation. The eruption was most abundant on the hands, wrists, and knees, but was also scattered over the arms, thighs, and feet. Blood was effused under the skin, and there were hæmatemesis and melæna with bleeding from other mucous membranes. The emaciation was extreme. Death in collapse terminated the case. Cultures were taken from the center of the blood clot in the nose and from the serum of one of the hemorrhagic areas under the skin, and from the knee. These cultures were examined by Dr. Martha Wollstein, who reported that the culture from the nose showed a pure growth of staphylococcus pyogenes aureus; that from the serum showed the same growth, together with a contamination, and the cultures from the knee also showed a pure growth of the same staphylococcus. Some of this material was injected into the peritoneal cavity of a medium-sized guinea-pig, and the animal died within twenty-four hours. Microscopical examination showed the epidermis from the deeply-pigmented skin to be normal. The capillaries in the papillæ of the corium contained hyaline thrombi. There was no evident site for the entrance of the infection.

Dr. HENRY KOPLIK said there had been two cases in his hospital wards, and cultures taken by Dr. Libman gave absolutely negative results. The cultures taken in Dr. Kerley's case could hardly be expected to yield scientific results because they came from contaminated areas, and some of them were removed post mortem.

Dr. H. W. BERG commented upon the great similarity in the purpuric symptoms presented by this case and those observed in hemorrhagic smallpox. The effusion of blood under the skin and the bleeding from the mucous

membranes, together with the vomiting of blood and the occurrence of bloody diarrhœa, and all associated with urgent symptoms of collapse, were strikingly similar to those found in hemorrhagic smallpox, and the termination in death from collapse afforded an additional point of similarity. If the whole picture of smallpox were due to a specific germ, it seemed to him strange that the special lesions should undergo change at a special time. He was inclined to think that the clinical picture of smallpox was the result of an infection by the specific germ of smallpox plus a purulent infection. According to such a theory, the hemorrhagic cases of smallpox would be those showing the very marked effect of pus infection.

Dr. Sara Welt-Kakels said that the case suggested acute leukæmia, and she would like to know whether or not a blood examination had been made during life.

Dr. Charles Herrman said that it was interesting to note that the attack had apparently followed "catching cold."

Dr. Kerley, in reply to Dr. Koplik's criticism, said that he did not think if the staphylococcus found in this case had been merely a contamination that it would have been found in pure culture from so many parts of the body.

Buttermilk as an Infant Food.—Dr. Herman Schwartz read this paper. He said that he had observed such excellent results from the use of buttermilk as an infant food in foreign clinics that he had determined to bring the subject to the notice of American pediatricians. That the latter had not taken up this study was quite natural in view of the strong tendency at the present time to approach as nearly as possible to mother's milk. The composition of this buttermilk food was: albumin, 34 per cent.; fat, 0.5 per cent.; carbohydrates, 10.3 per cent.; actual acidity, 0.3 per cent. or more of lactic acid. This high acidity had been found to retard the development of microorganisms. The buttermilk was found to be beneficial in fermentative diarrhœas, and no starch had been found in the fæces, except in the stools of infants under two months old. The loss of heat from the low percentage of fats was compensated for by the high percentage of carbohydrates. A good way of making the buttermilk was to centrifuge it as soon as it was delivered, in order to obtain the cream. It was then infected with lactic acid bacilli and kept in a warm room for eighteen hours before churning. In preparing the food for the infant, to a liter of buttermilk should be added 15 to 20 grm. of wheat, rice, or prepared flour, and 35 to 55 grm. of cane sugar. The mixture should be boiled for five minutes, stirring constantly. It should then be strained through a sterilized cloth and kept in sterilized bottles in the ice-chest until wanted. Curiously enough some of the children taking this food had a slight rise of temperature on beginning this diet, but it had rarely lasted for more than a day or two, and was of no significance. The stools of the children were neutral or slightly alkaline, and were homogeneous and pasty. Such stools contained very few proteolytic bacteria. Buttermilk, the speaker said, was very useful in cases in which the stools were watery and foul-smelling. In cases of fatty diarrhœa it acted extremely well. In acute intestinal disorders it was an excellent food when the acute stage had passed; in chronic intestinal disturbances it was particularly useful, and the results from its use were often surprising. The buttermilk could be used in conjunction with the malt foods. As an infant food, buttermilk was well borne by very many children. It was worthy of note that the casein of the buttermilk formed very fine flocculi, and hence was acceptable to the stomach.

Dr. Henry Koplik said that this paper showed very well how unsettled was the whole subject of infant feeding. He had seen this use of buttermilk while abroad, but while studying the method in Finkelstein's institution he had been impressed with the notion that the indications for this diet had not yet been determined by those using it there. It should be remembered that a great many infants were disturbed by an excess of fats, and the small percentage of the latter in buttermilk would explain the good effect of this diet in such children. The high acidity certainly seemed beneficial in the cases of mycotic diarrhœa which he had treated with the buttermilk food. The latter must be carefully prepared, and it was difficult at present to obtain here a good preparation of buttermilk. It should not, therefore, be condemned until it had been prepared after the manner of those using it abroad.

Dr. C. Herrman said that the fact that it had been employed for so many years in Holland showed pretty conclusively that buttermilk, as an infant food, had more than a theoretical value. The buttermilk found in this market was prepared in a variety of ways, so that it was anything but a constant article. He had found that all children would not take it, and that many parents were averse to giving it a trial.

Dr. H. W. Berg said that he understood that the buttermilk used was made from sour cream. If this practice were followed in this country the food would prove to be very costly instead of cheap, as had been claimed. Moreover, the preparation of the buttermilk food was rather complicated for ordinary domestic use. The carbohydrate in buttermilk was lactic acid, and although not claiming to be a physiological chemist, he could not but feel that if one desired to make a baby fat it would not be desirable to administer lactic acid.

Dr. S. Welt-Kakels said that she had seen the buttermilk used in the foreign clinics, and the chief indications appeared to be gastroenteritis and malnutrition. What she had observed there had impressed her favorably, and if the right kind of buttermilk could be procured here she would be in favor of using it during the summer especially.

An Unphysiological Food.—Dr. J. E. Winters said that he felt quite incompetent to discuss any method which was so unphysiological, and yet as the subject had been presented to the Section on Pediatrics it should be discussed. The first object of the practising physician should be to consult nature, and when the physician at the bedside departed from nature he erred. If there were any physiological basis for the buttermilk feeding, then, indeed, must nature have made a grievous mistake in providing 4 per cent. of fat in human milk. It was a very significant fact that all the babies treated with the buttermilk had previously been made ill by physicians who had ignored physiology, and had improperly fed these infants until they had become ill. It was not at all remarkable, therefore, that in the cases reported there should have been a temporary improvement in nutrition, simply as a result of stopping the improper food and giving the infants better care. Any physician in this city who wished to retain his family practice should be careful about going to an intelligent family and recommending the feeding of infants on sour milk, flour, and cane sugar. With regard to indigestion in infants from fats, he would say that false deductions had been made from observations upon mixtures of cream and milk. No baby could be successfully fed on a mixture of cream and milk; it must be cream only, properly diluted. If one would take the trouble to mix cream with milk one would observe that the cream very quickly separated again.

Dr. Henry Dwight Chapin said he thought the last criticism was too severe, for, apparently, the reader of the paper had not brought forward the buttermilk food as a universal food, and it should be remembered that even the most scientific infant feeding did not invariably yield satisfactory results. If we strictly observed the dictum, "Follow nature," we must never put cow's milk into an infant's stomach. He thought it probable that in a few selected cases, as, for example, cases of indigestion from the use of cow's milk, no matter how prepared, buttermilk might prove useful, and the reason was prob-

ably to be found in the fine breaking up of the nucleo-albumin which resulted from the presence of so large a percentage of lactic acid in the buttermilk.

An Experience with Buttermilk Feeding.—Dr. L. E. La Fetra said that he had tried the buttermilk food last summer in some cases of indigestion in the Nursery and Child's Hospital after the unsuccessful use of the ordinary methods of milk modification. The first obstacle met with was the difficulty of securing proper buttermilk. By boiling the buttermilk with flour the small curds visible to the eye became broken up, leaving a smooth fluid. The greatest difficulty encountered was to find a child who seemed to do well upon the buttermilk food, although care was taken to select cases in which such a diet appeared to be indicated. However, he was free to confess that buttermilk feeding seemed to him logical, for it was well known that for a long time lactic acid had been found beneficial in certain cases of diarrhœa.

Dr. Schwarz closed the discussion. He said that most of the physicians who had actually observed the results of buttermilk feeding abroad admitted that it was certainly beneficial in particular cases. He had not advocated buttermilk as a panacea for infantile ailments, yet he believed it should be useful in some cases, and, according to his experience, it had proved beneficial. It had been shown that a certain amount of carbohydrate could go to form tissue elements. He had seen children do splendidly when fed for four or five months on the buttermilk food. The German physicians had only been trying this method of feeding for a year or two, but the Dutch physicians had employed it for a great many years, and had followed individuals from birth to puberty without observing anything but good results from the buttermilk food. This method of feeding, moreover, had for a scientific basis some carefully made metabolism experiments.

NEW YORK PATHOLOGICAL SOCIETY.

Anniversary Meeting, Held January 14, 1903.

A Case of Bothriocephalus, with Remarks on the Occurrence of Bothriocephalus in America.—Dr. W. N. Berkeley presented specimens from a case of bothriocephalus. The patient was a native of Russia, forty-six years of age, a female, married, and had several children. She came to this country a few years ago. She had been passing segments of the worm for eight years, but had never had medical advice. She was in good health, had no anæmia, and complained only of vague digestive complaints. Treatment was begun, and two days later she brought the worm with the head complete to the dispensary. Dr. Berkeley said that he had been able to find no references in the literature to any cases originating in the United States. Ritchie, in his recent article on "Parasites" (*Encyclopedia Medica*), said that the worm was "seldom seen in England," but made no mention of cases in this country. Dock had observed three cases in this country, one in Colorado and two in Texas, both of which, he was satisfied, were imported. Osler also noted that there were no endemic cases. In the last edition of Braun's *Thierische Parasiten* the name had been restored to its older form, "Dibothriocephalus." Braun could mention only a single case from the United States, not stating whether this was believed to be endemic or imported. Dr. Berkeley had observed three other cases in the last four years, all in the same class of Russian immigrants. In these cases there were no signs of anæmia, and the patients complained only of indefinite digestive disorders. The parents of one patient, a small girl, claimed that she had never passed segments of worm until three months before consulting the doctor and years after her arrival in this country. On examination it was decided, however, that this was probably not correct, and the case was classified as an imported one.

Dr. Theodore C. Janeway said that he had seen a case of bothriocephalus during the week in a woman from Finland. She was in good health; hæmoglobin was 80 per cent. Her symptoms were similar to those of Dr. Berkeley's case. She had noticed passing the first segments of the worm eight years before, but said she had not seen them again until recently. The worm obtained was twenty-four feet in length.

Dr. James Ewing said that some years ago he had presented to the society three large specimens, all taken from the same subject, a Swede, who claimed not to have eaten raw fish for seventeen years. He had been entirely well and had had no signs of anæmia.

On the Nature and Origin of Blood-plates.—Dr. L. B. Goldhorn presented photographs and read a short paper on some observations which he had made on the formation of blood-platelets. After reviewing the literature, especially the work of Deetjen, Dr. Goldhorn said that the reason that there were so many varying opinions on the numbers of the blood-platelets in the blood was that in ordinary methods by heat fixation they were not well stained. Only in preparation in which very little heat was used or in which the fixation was chemical were the blood-plates present in large numbers. They were more noticeable the stronger the dye which was used, and were especially well demonstrated by the chromatin stain mixtures with eosin and methylene blue. One of the essentials was thin smears. With chromatin stains the central body could often be distinguished of a bright red color, sometimes compact, sometimes granular, surrounded by a clear zone, always capable of being stained by basic dyes. Three forms of platelets could be distinguished; one devoid of chromatin granules; one with scattered granules; and one showing many granules. In certain diseases abnormally large platelets were seen, especially in malaria. It appeared that they could undergo degenerative changes. The platelets were regularly found in the blood in intimate relationship with the fibrin; where there was no fibrin, there were no platelets. His conclusions were that the platelets were distinct and independent elements of the blood; they were not of a degenerative nature; there were several distinct types, all circular except for the occasional fusiform variety. The size varied in health and disease. As to the origin of the platelets, the speaker said that he had never had any evidence that they were derived from erythrocytes.

Dr. Ewing said that he had followed the discussion of the origin of blood-plates for a number of years and had come to conclusions contrary in certain respects to those of Dr. Goldhorn. He had found that there was very convincing evidence to show that the blood-plates originated from red blood cells and were sometimes stainable within them. He thought that there was abundant reason to believe that the platelets resulted from the extrusion of a nuclear substance from the red cells. By far the weight of evidence was in accord with this view. He thought that Dr. Goldhorn had brought out some very important facts. It seemed possible that there was more than one variety of blood-plates in human blood, and Dr. Goldhorn's minute descriptions of their morphology were an important contribution favoring this view. He, himself, had been entirely unable to distinguish in human blood more than one variety.

Demonstration of the Hæmosiderin Reaction in Corneal Vaccine Bodies.—Dr. James Ewing said that about six months before he had had occasion to bring together some evidence regarding the nature of vaccine bodies. This evidence pointed to the view that red blood cells sometimes assumed the position and exhibited the staining qualities of vaccine bodies. He had not claimed that all vaccine bodies were of this nature, nor did he wish to go so far yet. He merely wished to present some evidence which he had obtained in favor of this theory. The hæmosiderin reaction he had not been able to get in every instance; in fact, in the majority of cases the stain had been a failure, and in some sections he had succeeded in

getting the blue stain in only a portion of the vaccine bodies. The specimens were hardened in bichloride, saturated in .6 per cent. salt solution, cut in paraffin and allowed to remain twenty-four hours in potassium ferrocyanide, and six hours in hydrochloric acid. The blue color was seen only in the center of the vaccine body, and by staining with eosin or safranin the outer portion of the body took on a red stain. In many sections of human tissues the vaccine bodies gave only a faint diffuse reaction. The meaning of the blue stain thus obtained in the center of the vaccine bodies he was unprepared to discuss. He thought some would regard it as evidence that these bodies contained free iron and were derivatives of red cells. Of course, the fact that the stain was not obtained in every instance was a suspicious circumstance.

Limits of a Specific Reaction in the Serum Test for Blood.—Dr. James Ewing presented tables showing the results of experiments, conducted with Dr. Israel Strauss, relating to the limits of a specific reaction in the serum test for blood; that is, the test by which it was believed to be possible to distinguish between all varieties of blood. He said it was already known that reactions among so-called specific antisera were only quantitative and not strictly specific. The specific antibody developed in the serum of the rabbit treated with human blood would produce a reaction in a variety of other bloods as well as in human blood. Only at a certain point of dilution did the heterologous bloods drop out, leaving the reaction only in the human blood. It was therefore very necessary to determine the solutions of blood with which one worked in order to estimate results correctly. One series of experiments were made on the effects of the serum of a rabbit, which had received multiple injections of beef blood, on various other bloods. The bloods tested were human, goat, cat, chicken, sheep, horse, and beef. Various dilutions were used, from 1–10 to 1–1500. When the serum was added to all these different bloods in a dilution of one part of serum to five parts of blood, practically the same results were obtained in all. At the end of thirty minutes there was a flocculent precipitate in human blood; the reactions in beef and goat blood were more distinct than in the other, and it was not possible to distinguish the beef blood. In a dilution of serum of one to ten, human blood gave little reaction; chicken, horse, and rabbit bloods gave no reaction at all. The beef and goat were about the same. At one to fifteen, human blood dropped out entirely. The sheep still reacted. In the lower dilutions it had been about the same as the goat. Comparison of the beef and goat at one to fifteen showed rather in favor of the goat. At one to twenty, sheep blood still gave a distinct reaction, being turbid at the end of three hours. The beef gave a flocculent precipitate. At one to thirty, the sheep blood dropped out; beef and goat blood each gave a prominent turbidity about equally strong. At one to fifty, the beef blood reacted as strongly as ever, but the goat blood had dropped out almost entirely. This showed that the reaction was specific only in high dilutions. In order to get a specific reaction with the beef-rabbit serum, it was necessary to dilute the serum up to one to fifty. The dilution of the serum added seemed to be more important than the dilution of the blood to be tested. Experiments were then made with humanized rabbit serum. Two sera were tested, one prepared by Dr. Strauss, and one by Dr. Paine. With Dr. Strauss's serum tests were first made at a dilution of one to five. There was no reaction with dog, cat, or horse serum. There was a slight reaction in sheep, beef, and goat bloods. The reaction in human blood, however, was not sufficiently distinct. At one to ten goat blood dropped out. The sheep blood still reacted, but in diminished intensity. Human blood was the same. The beef reaction was slightly diminished. At one to twenty, there was nothing left but the very prominent reaction in human blood. This seemed to be encouraging for the specificity of the test for human blood until the other serum was tested, when different results were found. With this serum at one to five, the sheep, beef, and human bloods showed good reactions. There was nothing with dog, cat, or horse. This serum was evidently stronger than the first. At one to ten, human, sheep, beef, and goat blood still showed about the same reaction. At one to twenty, the reaction in the human blood was much the more distinct, but the reaction in sheep and beef blood was still quite as distinct as some obtained in human blood with the other serum. These results showed that the dilutions of this particular serum must be made above one to twenty before one could eliminate all but human blood. Some of Dr. Ewing's conclusions were: That it was unsafe to give credence to anything except a flocculent precipitate; that the time in which this flocculent precipitate occurred was of the greatest importance. Before two hours it never occurred in his experiments in any blood except that against which the serum was prepared, if the test serum had been diluted at least one to twenty. It would seem that reliable results could not be assured unless the test serum was diluted at least one to fifty.

Dr. W. H. Park asked whether Dr. Ewing knew what the rabbit serum would have done before the injections of human blood. He considered that it was very important to know the agglutinating properties of the blood before treatment, so as to judge how much of the agglutination was due to the normal blood and how much to the influence of the human or other blood injections.

Dr. Ewing said that he realized the importance of Dr. Park's statements. This work had only been done as a beginning. At the time he had himself thought it very important to know what the animal's blood would do before the experiments were made. In the first case, weak dilutions were practically inert in all the bloods tested.

Dr. F. C. Wood asked Dr. Ewing whether the strength of the dilutions of the blood to be tested were determined with accuracy or whether they were merely roughly determined.

Dr. Ewing said that the dilutions of blood had been determined with great accuracy, as was shown by the tables. A more important point, however, was the strength of the serum.

Dr. Otto H. Schultze asked whether in tests made with humanized rabbit serum there had not been some differences which the tables shown had not brought out. Dr Ewing had said that in the various dilutions all the reactions were practically the same. Had there not been some difference in the amount of the precipitate dependent upon the strength of the dilution used?

Dr. Ewing said that the greater the dilutions of the blood the larger in most instances were the amounts of precipitates obtained.

Dr. S. J. Meltzer asked whether Dr. Ewing had followed out these tests with regard to the character of the food of the animals he experimented with. It would appear that his animals could be classified into two groups: carnivorous and herbivorous animals. It appeared to him quite plausible to assume that the proteids of the bloods of animals of the same group had among themselves a greater similarity than that between animals of different groups. It would therefore be not unreasonable to expect to find that the precipitin reactions were less specific with the blood of animals which were fed in the same manner than with the blood of animals which were fed differently.

Dr. Ewing said that he had not yet got to this point. Nuttall, he knew, had attempted to classify animals by the serum reactions. He himself did not believe that the subject was in such a position that it was possible to draw reliable conclusions of this character. Investigators were in no position to eliminate just now all the disturbing results of the peculiarities of the particular animals with which they worked. He had, with the other sera, tested the serum of a chicken immunized against rabbit blood,

which acted so peculiarly that he had thought it best not to tabulate the results.

A Study of a Bacillus Resembling the Bacillus of Shiga, from a Case of Fatal Diarrhœa, with Remarks on the Recognition of Dysentery, Typhoid, and Allied Bacilli.—Dr. Philip Hanson Hiss read a paper by Dr. F. F. Russell, U. S. A., and himself on the study of an organism which had been isolated from the gut contents of a child suffering from an attack of enterocolitis. Several reasons, he said, had led to their presenting this report, chief among them being the vital importance of establishing beyond a doubt the etiology of the various forms of diarrhœas and dysenteries, since upon such establishment must ultimately depend the rationale of hygienic, diagnostic, and therapeutic measures—especially those of serumtherapy, and diagnosis by serum reactions—upon which the recognition and cure of the disease or protection from the infective agent must be based. There was the greatest need, he said, in the present state of the knowledge of the etiology of dysentery, of the most careful study, description, and especially comparison of the bacterial forms supposed in different cases and various localities to be of etiological significance in the same or various forms of this disease. The organisms isolated from cases of dysentery—apart from a determination of superficial resemblance in growth characters on the usual nutrient media and their reactions in the presence of the more commonly employed sugars, dextrose, lactose, and saccharose—had been largely identified by their supposed agglutination reactions in the presence of serum from dysentery patients and immune animals. That there were serious objections to placing too complete confidence in such measures alone the authors thought would appear from their study. The organism was a short, fairly stout bacillus, with rounded ends, and corresponded in staining reactions and morphology to Shiga's bacillus. The organism grew well on the usual culture media and corresponded in all essential respects to Shiga's bacillus. Gelatin was not fluidified, nor was indol produced. On nutrient broth a small pellicle was formed after ten or twelve days. A study of the organism in dextrose, lactose, and saccharose bouillon in fermentation tubes showed a complete correspondence with the bacillus of Shiga; but it was to be differentiated from this organism by its ability to ferment mannit. A differentiation was obtained by the study of the organism in a medium composed of beef serum, one part, and distilled water, two parts. This medium could be boiled without causing coagulation of the albuminous bodies present. The medium after boiling was an opalescent fluid. To this was added the different sugars to be tested, and the medium was rendered distinctly blue with litmus. The sugars which had been tested were dextrose, galactose, mannit, maltose, lactose, saccharose, and dextrin. The bacillus of Shiga was found to ferment dextrose and galactose with acid formation, as was shown by the reddening and coagulation of the medium in the tubes. Mannit, maltose, lactose, saccharose, and dextrin were not fermented by this organism. The bacillus described by Dr. Hiss fermented dextrose, galactose, and mannit with acid production and reddening and coagulation of the medium. The mannit fermentation thus differentiated this culture from the true Shiga bacillus. The bacillus typhosus was found to ferment dextrose, galactose, mannit, maltose, and dextrin. The active motility of the typhoid bacillus as well as its ability to ferment maltose and dextrin differentiated it from the bacillus described. A study of the agglutinating reactions of the bacillus was made with various normal and immune sera and with the serum of an animal immunized against the bacillus itself. It appeared from these tests that this organism agglutinates with dysentery sera from human infections and from immunized animals in most instances quite as well, and in some better, than the bacillus of Shiga. A point of interest was the agglutination of the bacillus in high dilutions of sera from animals immunized against typhoid. This was not true of the Shiga bacillus. The facts brought out in regard to the serum reactions of this organism and Shiga's bacillus had an important practical bearing. Unless careful studies were made of all organisms resembling Shiga's bacillus gross errors might occur in serum diagnoses based upon the use of such organisms in testing reactions; and errors might also occur in identifying such organisms themselves by simple tests against dysentery sera. This was illustrated by the fact that this organism agglutinated better even than the Shiga bacillus in dysentery serum, and unless true Shiga bacilli were tested against its immune serum they might not be differentiated from each other. The authors thought it more than probable that organisms corresponding to theirs had been already isolated and not recognized as distinct from Shiga's bacillus. This might lead to the mistake of establishing the identity of a dysenteric or diarrhœic attack with true dysentery by agglutinations obtained by the use of a bacillus differing from the supposed etiological organism. They considered it fortunate that the study of cultural characters had aided in the recognition of differences in these organisms and might be of further service in the recognition and grouping of new organisms as they were discovered. Formerly this organism could not have been differentiated by culture tests from the bacillus of Shiga and might easily have been confounded with Shiga's organism. The bacillus described was closely related to bacillus typhosus, both in agglutinating reactions and in the usually observed cultural characters, but could be separated from it by its absence of motility and by its reactions in the maltose and dextrin media employed by us. A description of this organism, apart from its connection—which may or may not be etiological—with the case of diarrhœa, had seemed important since the tests of its ability to agglutinate, to often alone relied upon, might lead to its being confounded with Shiga's bacillus. A subsequent use of such an organism for serum diagnosis might give rise not only to confusion in determining the "specific" character of a disease, but to untoward results in the application of serumtherapy. Its etiological significance had not been established, but its close physiological connection with the dysentery bacillus on one side and the bacillus of typhoid on the other make it not improbable that further research will show it to be related etiologically to dysenteric attacks.

Dr. David Bovaird gave details of the case from which the organism described by Dr. Hiss had been isolated. The patient was a child of about one year, who suffered from an attack of enterocolitis. The temperature was not high, never over 100°. There was persistent diarrhœa, from four to six stools every day. For the most part they had been green and contained mucus. There had been no mention of any blood in the stools. The child lost strength progressively and died in two weeks. Dr. Bovaird considered that Dr. Hiss' results were of the utmost importance. He said that it was only a short time since the society had listened to Dr. Flexner describe the finding of the bacillus of Shiga in approximately fifty cases of dysentery in children, and since that occasion there had been numerous reports of the finding of the bacillus in diarrhœas of children in various parts of the country. Efforts had already been made to develop a serum which would be of use in the treatment of these cases. He had but recently read the report of the work of Gay of the University of Pennsylvania, who thought he had been able to produce such a serum. Since, therefore, it was evident that we were approaching the treatment of some of these cases by sera, it became very important that the diagnosis in all cases should be very exact before such treatment was undertaken. Such observations as Dr. Hiss's were, therefore, of great value in indicating a possible source of error. Further investigation would be required to determine the full application of

Dr. Hiss's observations. If the Shiga bacillus were found to be the specific cause of many of the diarrhœas common in children, the association with the term dysentery would be a source of some difficulty and confusion. That term had not been seen in pediatric writings for some years, and there was no clear conception of the clinical picture which it should call up. Certainly there were marked differences between the diarrhœas common in children during the summer and the condition in adults designated as dysentery. If it were consistent with the facts it would be an advantage in discussion to employ the term colitis or enterocolitis, which would be much more definite and clear.

Dr. W. H. Park said that only the night before Dr. Smith had inoculated all these different bacilli in nutrient agar to which litmus and mannit had been added. There was no question that on this medium, which had a trace of meat sugar, the Shiga bacillus and the Flexner New Haven culture stood out perfectly clearly from the rest in not having produced appreciable acid. Although the elimination of the meat sugar might be insisted on, so as to judge what effect the bacilli had on mannit, yet the marked difference between these bacilli and all the others was just as important in showing differences between the bacilli as if the medium had contained only mannit. Dr. Park did not think it correct to speak of developing in this country a new serum for dysentery. Shiga had used the serum in a number of cases, and attempts made here so far had been simply copies of what he had already done. Shiga himself had only employed the usual methods. He thought it was a mistake to go too fast in applying the results obtained by those working under Dr. Flexner at Baltimore to ordinary summer diarrhœas until it was proven whether all these bacilli were really essentially identical, and also whether it might not be true, as seemed probable, that the conditions at the Wilson Sanatorium were unusual in the amount of infection which existed with dysentery-like bacilli.

Dr. Hiss said that the tubes of Lentz's medium shown contained media made according to Lentz's formula, and also mannit media made from sugar-free infusion. If held against the light one could see that the sugar-free tubes showed no growth except at the surface and not along the line of inoculation.

Dr. E. Libman said that he thought there were several points in Dr. Hiss's paper deserving of corroboration. He had noticed, as had Dr. Hiss, that the medium described by Drigalsky and Conradi was not made sugar free, and he had, therefore, hesitated about using it. As regarded the value of agglutination reactions for the diagnosis of dysentery, he had examined a number of bloods from cases not having a history of dysentery to ascertain whether the reaction was specific; for he thought the reaction, if specific, could be used to establish the identity of certain conditions which appeared to be sequelæ of dysentery (the patients at the time of observation not having evidences of dysentery). He had examined the blood from ten cases taken at random in the wards. The reaction was absent with the Flexner bacillus in all but two cases. One case of autointoxication gave a good reaction at 1–50, and a case of rheumatism gave a good reaction at 1–100 in twenty minutes. Possibly in higher dilutions the agglutination tests might have been specific. He was interested in Dr. Hiss's remarks about the occasional absence of clump reactions in low dilutions when present in high dilutions. He had himself observed this with immune typhoid serum. This was an important point practically. He had examined the blood of two cases of typhoid fever, which had given only a slight reaction at 1–20, but a complete reaction at 1–50 and 1–100. As only complete reactions could be considered in making the diagnosis of typhoid fever, he believed that when a blood does not react in low dilutions, higher dilutions should be tried. It seemed probable from the paper just read that just, as in cases of paracolon infection, the organisms showed variations, the same was true of dysentery, and in the same the clinical picture of typhoid fever was due to a variety of organisms. Dr. Libman said he had recently seen a case of typhoid fever with perforation in which the Widal reaction was absent. Typhoid bacilli could not be found, but in the mesenteric lymph nodes, at the autopsy, the bacillus fecalis alkaligenes was found. Serum reactions could not be tried. He did not wish to draw any conclusions from this finding, but believed it was of interest because this organism had been discovered by Petruschky alone or with the typhoid bacillus in cases having the clinical picture of typhoid fever.

A Method of Separation of Colonies of Shiga's Bacillus from the Colon Bacillus.—Dr. E. K. Dunham gave an outline of studies of the influence of the physical properties of gelatin upon the appearance of colonies grown on plates. The physical characters chiefly noted were: The viscosity, the melting point, and the penetrability or spissitude. It seemed to him that a knowledge of the viscosity and the melting point was sufficient for a practical guide to the influence of the gelatin on colonies. To obtain a differentiation of colonies it was found desirable to grow them in a soft jelly, either by making a soft jelly to start with or by using a stiff jelly and incubating the plates at a high temperature. The size of the colonies was smaller if the plate was allowed to stand and harden at the room temperature before being put into the incubator, considerably larger if put at once into the incubator. In twenty-four hours the colonies prepared in the latter way were larger than colonies forty-eight hours old in a similar but softer jelly, grown at the same temperature, but chilled before incubation. In a soft jelly the typhoid bacillus formed threading colonies. The colon bacillus in a very soft jelly does not produce single colonies, but a collection of small colonies. The dysentery bacillus always produced a perfectly spherical colony, except in jelly that was so soft as to be semifluid. For practical purposes the dysentery bacillus produced a perfectly spherical colony, easily distinguished from the colon and typhoid, more difficult to distinguish from the paratyphoid. It seemed, therefore, that in plating fæces it would be very easy to ignore the colon bacillus and pay attention only to the spherical colonies. This would reduce the difficulty of finding the dysentery bacillus, and could easily be done in twenty-four hours.

On the Interpretation of Reactions of Agglutination among the Bacilli of Dysentery.—Dr. William H. Park gave the results of some experiments in agglutination reactions done by Dr. Collins and himself, in the course of which they had struck some things which he considered very remarkable. These were along the lines of Drs. Hiss's and Libman's remarks, except that they were perhaps more striking. He first spoke of normal goat serum and the necessity of knowing the serum agglutination results before the animal was inoculated. The serum from different goats varied widely. Experiments were made with the Shiga, Flexner Manila, and New Haven bacilli, and with the bacillus isolated by himself and Dr. Dunham at Seal Harbor, Mt. Desert, and also with a bacillus furnished by Dr. Wollstein from one of a series of cases of dysentery occurring in the Foundling Asylum in New York City. In normal serum from goat 3 the Shiga, Flexner Manila, and New Haven bacilli agglutinated perfectly up to 1-200 within from one to one and one-half hours, while the Seal Harbor bacillus refused absolutely to clump in any dilution above 1-10. After the goat had been inoculated with three injections of the Seal Harbor bacillus the tests showed that all the bacilli mentioned were clumped in dilutions somewhat above 1-200 except the Seal Harbor. This agglutinated in dilutions only up to 1-50. This at first seemed unexplainable until reference to the results of the normal serum tests already spoken of showed that the slight reaction of the Seal Harbor bacillus in the serum of goat 3, after moderate injections with it, was due to the fact that the goat originally had almost no agglutinating

substance for this bacillus, while having much for the others. Such experiences proved the necessity of knowing the properties of the animal's serum at the beginning, before injections of bacteria or blood were made. After five injections of Fexner's Baltimore cultures, the horse serum clumped all the bacilli except the Shiga and Flexner New Haven cultures, which did not clump at all in dilutions higher than 1-75. All the others clumped up to 1-1,000. A bacillus obtained by Dr. Park from three persons suffering from chronic dysentery, which in sugar fermentation was closely allied to the colon bacillus, clumped in this Baltimore culture horse serum in dilutions up to 1-10,000 Curiously enough, this bacillus had clumped in every dysentery serum in which the Flexner cultures other than the New Haven were clumped. In two human typhoid immune sera the Shiga and New Haven cultures did not clump at all, while the New York, Manila, and Baltimore cultures clumped in 1-50 and pretty well in 1-100. In this serum the Seal Harbor and Tuckahoe bacilli fell into the Shiga group, as did the bacillus from the chronic dysentery case. Tests with serum from a patient with a staphylococcus abscess gave no reaction with the Shiga, New Haven, or Seal Harbor cultures; but an absolute reaction in dilutions of 1-100 with the chronic dysentery, Baltimore, Wollstein, and colon bacilli. Throughout all the agglutination tests the Shiga and New Haven bacilli showed divergence from the others. They had not been agglutinated by the agglutinating substances produced by or acting upon the others. The results of the tests with the colon-like bacillus which agglutinated in dilutions of 1-10,000 in the serum of a horse immunized with Manila and Baltimore dysentery bacilli seemed to show that simple agglutinations, even in dilutions much higher than those effective upon the organism used to immunize the animals, were not enough to prove relationship between bacteria. In alkaline peptone mannit litmus nutrient agar the New Haven, Tuckahoe, and Shiga cultures did not change the blue color in twenty-four hours. In all the other cultures production of acid occurred. The Flexner Manila, Baltimore, Seal Harbor, and New York cultures produced indol in twenty-four hours in peptone water, while the Shiga and New Haven cultures did not, even in fourteen days' growth. Both in indol and acid productions, therefore, as well as in agglutination reactions, the Japan and New Haven cultures were separated from the Manila, Baltimore, New York, and Seal Harbor cultures.

Dr. Charles Norris asked by what method Dr. Park had made these agglutination reactions, and what limits he used in determining them. The results seemed to him very extraordinary. Had Dr. Park used the microscopic method? He had himself got hold of a highly immune serum, but had never been able to obtain higher agglutination reactions than 1-100 or 1-150. By the microscopic method he had got reactions up to 1-300. He had been particularly surprised by Dr. Flexner's remarks that he had got agglutinations in dysentery cases up to 1-1,000. He had never been able to obtain any nearly so high. The thing might depend upon what one called an agglutination reaction.

Dr. Park said that with the goat serum the complete reactions were both in the test tube and hanging drop. The dilutions of the immunized horse serum were mostly tested by the hanging-drop methods. Up to three or four hours the results obtained with the two methods were identical. For longer times the tube method gave the more accurate results. All the results were obtained within two or three hours, when the hanging drop was used, most of them within two hours. The complete precipitation of the bacilli in the tubes when agglutination took place was slow, requiring a number of hours. The cultures used were broth cultures, three to six hours old. Equal parts of the diluted serum and of the broth cultures were mixed together.

Dr. E. Libman asked whether Dr. Park had found any thread reactions. In his own experience, under certain conditions, the same organism, after it had been grown for a length of time in various media, would often change, as regarded its reaction. He had observed a paracolon bacillus which, at first, gave only a thread reaction with the patient's blood, and not with any other blood, but which, after a time, gave a clump reaction with almost any blood tried against it. He asked whether Dr. Park had tried the reactions against any large number of normal sera.

Dr. Park said that in testing blood sera from patients in dilutions of 1-10 to 1-50, he had found a great many thread reactions after twelve to eighteen hours. In high dilutions with the sera of immunized animals he had seldom found any.

Dr. P. H. Hiss said that in connection with Dr. Park's remarks he was reminded of Shiga's latest article, in which Shiga described the growth of his own bacilli in milk, by which means he got precisely the same reaction with the true Shiga bacillus as with the Flexner bacillus. Dr. Hiss said that the results of his serum tests did not seem to show a correspondence between the Flexner bacillus which he had tested and the organism "Y" which he had described. The "Y" had the power of agglutinating in very high dilutions, whereas the Flexner tested by him always agglutinated much less readily in dysentery sera, and in other sera against which it was tested. He also said that the results of serum tests, both in America and Europe, indicated to him that one at least of Flexner's organisms did not react as did the Flexner organism tested by Dr. Park—that usually it showed a markedly less agglutination than "Kruse," "Shiga," and "New Haven" in dysentery sera, from animals not immunized against itself.

Dr. Park said that he thought Dr. Hiss had misunderstood Shiga's article. He had had the same idea after first reading it, but after a careful re-reading, it became plain that Shiga said that the pro-agglutinoid zone was changed by the growth in milk, but not the agglutinating reactions. The Shiga bacillus still failed to remove the substances agglutinating the Flexner Manila culture, and *vice versa*.

Dr. S. J. Meltzer and Dr. Clara Meltzer gave a demonstration of the action of adrenalin injected subcutaneously on the vessels of a rabbit's ear, after section of the nerves.

Dr. Smiles.—Dr. Smiles, the author of "Self Help," who celebrated the completion of his ninetieth year the other day, was a doctor "by first intention." He was born at Haddington in 1812, and educated at Edinburgh, becoming in due course a licentiate of the Royal College of Surgeons of that city. He practised as a doctor in Haddingtonshire for six years, but his tastes lay in another direction. His opportunity came to him earlier than to most men. He was offered the editorship of the Leeds' *Times*, and from the drudgery of editorship he rose to be Secretary of the Leeds and Thirks Railway, and afterward of the South-Eastern. He is best known, however, by his books. In addition to "Self Help" he has produced "Lives of George and Robert Stephenson"; "Lives of the Engineers"; A Life of John Murray"; "Thomas Edward, Scotch Naturalist"; "Robert Dick, Geologist and Botanist"; and a series of works of a homiletic character—Duty, Thrift, Character, Conduct, etc. The publisher to whom Dr. Smiles first offered "Self Help," when the Crimean war was raging, would not look at it. "People won't read anything of this kind," he said. After the book had lain for years on his desk, Dr. Smiles published it at his own expense. It at once became popular. Twenty thousand copies were sold in the first year, and since then its circulation has gone beyond the quarter million mark.—*British Medical Journal.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending February 21, 1903:

	Cases.	Deaths.
Measles	190	7
Diphtheria and croup	386	45
Scarlet fever	262	19
Smallpox	3	..
Varicella	103	..
Tuberculosis	318	195
Typhoid fever	48	9
Cerebrospinal meningitis	..	..

Nomenclature of Malaria.—(1) It would seem that the time has arrived when the diagnosis of cases of malaria must aim at giving the name of the species or variety dealt with, and not merely one of the general terms—intermittent or remittent fever—as laid down in the last edition of the *Nomenclature of Diseases*. (2) Information is wanted as to the geographical distribution of the various kinds of malaria, and this can only be arrived at by recognizing them in the new edition of the *Nomenclature*. (3) The demonstration of the species of malarial parasite which is the infecting agent in a particular case will necessitate the use of the microscope. This routine microscopical examination of the blood will, it may be presumed, bring about a more correct diagnosis of fevers in malarious countries, and assist toward rational treatment. Malta fever was treated until lately with large doses of quinine, on the supposition that it was malarial in origin. In the same way it is too often assumed that any fever occurring in a malarious locality is malarial in character, and quinine is given in enteric fever, tuberculosis, liver abscess, etc., when a blood examination might have prevented the error. (4) The nomenclature I would suggest for the three well-recognized species of malaria is the following: Malarial Fever: Synonyms—Ague, intermittent and remittent fevers (*a*) Tertian synonyms—Hæmamœba vivax, simple or benign tertian; (*b*) Quartan synonyms—Hæmamœba golgii; (*c*) Crescent tertian synonyms—Laverania laverani, estivo-autumnal fever, malignant tertian, tropical tertian, remittent fever. I have left out the commonly used terms, simple, benign, malignant, pernicious, as they are misleading. The so-called simple tertian may often be more severe than the so-called malignant tertian. Estivo-autumnal is a term which may be applied appropriately enough to the fever as it occurs in Italy, but in other parts of the world it is also misleading. In regard to the scientific names, I think Golgi, who discovered that the parasite consisted of more than one species, should be commemorated, and also Laveran, whose epoch-making discovery of the malarial parasite has, it seems to me, never been sufficiently appreciated.—Lieut.-Colonel David Bruce, R.A.M.C., in *British Medical Journal*.

Odd Tea-drinking.—When the natives of Paraguay drink tea they do not pour it from a tea-pot into a cup, but fill a goblet made out of a pumpkin or gourd, and then suck up the hot liquid through a long reed. Moreover, the tea which they use is altogether different from that which comes from China, being made out of the dried and roasted leaves of a palm-like plant which grows in Paraguay and Southern Brazil. The natives say that this tea is an excellent remedy for fever and rheumatism, and chemical tests which have been made by German physicians seem to show that there is good ground for this statement. Certain it is that tea is widely used throughout Paraguay in cases of illness, and that, so far as has been observed, the effects produced by it are highly beneficial.—*New York Herald*.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending February 21, 1903:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS
California, Fresno	Jan.	1–31	15	..
Los Angeles	Jan.	31–Feb. 7	2	..
Sacramento	Jan.	31–Feb. 7	1	..
San Francisco	Jan.	24–Feb. 8	13	..
Colorado, Colorado Springs	Jan.	31–Feb. 7	1	..
Denver	Jan.	31–Feb. 7	8	..
Illinois, Belleville	Jan.	31–Feb. 7	1	..
Galesburg	Jan.	31–Feb. 14	7	..
Indiana, Elwood	Feb.	8–15	3	..
Evansville	Jan.	31–Feb. 14	9	1
Indianapolis	Jan.	31–Feb 14	121	24
South Bend	Jan.	31–Feb. 7	1	.
Iowa, Davenport	Jan.	31–Feb. 14	12	..
Ottumwa	Jan.	3–10	1	..
Kentucky, Lexington	Jan.	31–Feb. 14	4	..
Newport	Jan.	31–Feb. 14	2	..
Louisiana, New Orleans	Jan.	31–Feb. 12	3	Two cases imported.
Maine, Biddeford	Feb.	7–14	12	..
Eastport	Feb.	7	8	..
Eastport	Feb.	10	5	..
Portland	Jan.	31–Feb. 7	1	..
Maryland, Baltimore	Feb.	7–14	1	..
Massachusetts, Boston	Feb.	7–14	4	2
Haverhill	Feb.	7–14	1	..
Lynn	Jan.	31–Feb. 7	1	..
Michigan, Detroit	Feb.	7–14	38	1
Flint	Jan.	31–Feb. 14	4	..
Grand Rapids	Feb	7–14	10	..
Port Huron	Feb.	7–14	12	..
Nebraska, Omaha	Jan.	31–Feb. 7	7	..
New Hampshire, Manchester	Jan.	31–Feb. 7	10	..
New Jersey, Camden	Feb.	7–14	1	..
Jersey City	Feb.	8–15	3	1
Newark	Feb.	7–14	1	..
Plainfield	Feb.	7–14	1	Imported.
New York, New York	Feb.	7–14	3	..
Ohio, Chillicothe	Jan.	24–31	8	..
Chillicothe	Feb.	7–14	3	..
Cincinnati	Feb.	6–13	7	..
Cleveland	Jan.	31–Feb. 14	16	4
Dayton	Feb.	7–14	..	1
Hamilton	Jan.	31–Feb. 14	2	..
Toledo	Jan	31–Feb. 14	15	1
Pennsylvania, Butler	Jan.	17–Feb. 7	2	..
Erie	Jan.	31–Feb. 7	4	..
Johnstown	Jan.	31–Feb. 14	5	Three cases imported.
Philadelphia	Feb.	7–14	30	2
Pittsburg	Jan.	31–Feb. 7	18	3
York	Jan.	1–31	1	..
South Carolina, Charleston	Jan.	31–Feb. 7	14	1
Utah Ogden	Jan.	1–31	17	..
Salt Lake City	Jan.	31–Feb. 7	21	..
Wisconsin, Milwaukee	Jan.	31–Feb. 14	9	..

SMALLPOX—FOREIGN.

Austria, Prague	Jan	17–24	7	..
Barbados	Jan.	16–30	8	..
Belgium, Antwerp	Jan.	17–24	4	2
Brussels	Jan	17–24	..	1
Canada, Amherstburg	Jan.	24–31	1	..
Winnipeg	Jan.	31–Feb. 7	1	..
Canary Islands, Las Palmas	Jan.	17–24	33	2
Colombia, Cartagena	Jan.	26–Feb. 1	..	1
Ecuador, Guayaquil	Jan.	24–31	..	1
France, Rheims	Jan.	18–24	1	..
Germany, Hamburg	Jan	24–31	1	..
Leipsic	Jan.	17–24	..	1
Great Britain, Dublin	Jan.	17–31	1	1
Leeds	Jan.	24–31	4	..
London	Jan.	24–31	6	..
Manchester	Jan.	17–31	27	1
Nottingham	Jan.	17–31	14	..
India, Bombay	Jan.	6–20	61	..
Calcutta	Dec.	13–Jan. 17	2	..
Madras	Dec.	20–26	..	2
Italy Palermo	Jan.	10–31	15	5
Mexico, City of Mexico	Jan.	26–Feb. 1	4	4
Russia, Moscow	Jan.	10–24	7	4
Odessa	Jan.	17–24	2	..
St. Petersburg	Jan	10–24	71	21
Straits Settlements Singapore	Dec.	27–Jan. 3	..	3
Turkey, Constantinople	Jan.	18–25	..	1

SMALLPOX—INSULAR.

Philippines, Manila	Dec.	13–27	2	..

YELLOW FEVER.

Colombia, Panama	Jan.	26–Feb. 0	5	2
Ecuador, Guayaquil	Jan.	17–24	..	20
Mexico, Vera Cruz	Jan.	31–Feb. 7	2	2

CHOLERA—INSULAR.

Philippines, Manila	Dec.	13–27	16	10
Provinces	Dec.	13–27	1130	813

CHOLERA—FOREIGN.

India, Bombay	Jan.	0–20	..	1
Calcutta	Dec.	13	..	152

PLAGUE—INSULAR.

Hawaii, Honolulu	Feb.	5	..	1
Philippines Manila	Dec.	13–27	..	1

PLAGUE—FOREIGN.

India, Bombay	Jan.	6–20	..	818
Calcutta	Dec.	13–Jan. 17	..	85
Karachi	Dec.	28–Jan. 11	53	52
Madras	Dec.	20–26	..	1
Mexico, Mazatlan	Feb.	4–12	11 (new)	23

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Original Articles.

RADIO-PRAXIS.*

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"Science ought to teach us to see the invisible as well as the visible in nature; to picture in our mind's eye those operations that entirely elude the eye of the body."—TYNDALL.

MANY years ago, probably twenty-five, the writer employed sunlight, concentrated by means of a glass lens, in the treatment of a few cases of lupus, and other semi-malignant lesions of the skin. In these instances the active rays comprised those belonging to the visible spectrum, together, of course, with such of the invisible rays as were capable of traversing the lens. While glass is exceedingly transparent to the visible rays from red to violet, it has long been known to present a serious obstacle to the passage of the invisible rays beyond the red. More recently it has been learned that it is an almost impossible barrier to some of the rays that fall below the other end of the visible spectrum, the ultra-violet rays as they are called. These rays cannot be assigned to any definite wave-length, but may be approximately grouped about a wave-length of, say, 0.25 of a micron.

The red light waves are largely accompanied by heat waves, but still the other light waves, even to violet, possess some caloric properties, as was first ascertained by the late Prof. John W. Draper.

In the writer's applications, therefore, the waves emanating from the entire spectrum were employed, but the most noticeable effects were clearly those due to the heat rays. In other words, the lesions were simply burned out. As there were other simpler and more convenient methods of burning, the sunlight burn was discarded for that of the galvano-cautery. The use of the solar-cautery, however, has been recently revived in Italy.[1]

A few years since, Finsen of Copenhagen again took up the question of utilizing the sun's rays in the treatment of superficial malignant affections, but instead of depending on the caustic rays as I had done, sought to exclude them, and to employ the so-called chemical or actinic rays, namely, visible rays of short wave length, and the invisible ones of still shorter. In this he was measurably successful, using the customary ammonio-sulphate of copper solution as a ray-filter, and to absorb the heat.

That the original Finsen method was effective in many cases of malignant diseases admits of no doubt, but its practical use was accompanied with serious inconveniences, namely, the length of the individual exposures (an hour or more), their necessary frequency (in many cases daily), and the great cost of the installation and maintenance.

It was altogether probable, however, that the chief efficacy of the treatment was due to the ultra-violet rays, and Finsen decidedly increased the efficiency of his apparatus by substituting the electric arc for sunlight, and quartz for glass as the medium through which the rays are transmitted. This materially shortened the length of the necessary exposures.

It was, of course, to be expected that others would seek to improve on Finsen's apparatus, both as to cost of installation and maintenance, and efficiency in action. The Lortet-Genoud and the Bang Lamps[2] were constructed to accomplish these ends. With these lamps the time of exposure, it is stated, has been materially decreased.

Of all the low tension arc lamps that I have seen or heard of, a recent French model appears to me as being the most practical. It has twin arcs connected in series, and so arranged that the light from both is projected to the same point.

By connecting these arcs in series we obtain nearly double the effect at the same expenditure for current, as with a given amperage and voltage we are thus utilizing twice as much of the available electric energy as if we used a single arc, and wasted an equivalent amount of energy in uselessly heating the rheostat.

It has long been known that the light from the ordinary electric arc is accompanied with a much larger proportion of ultra-violet radiations than sunlight, but Görl[3] of Erlangen has availed himself of the fact that the condenser spark is still more richly endowed with these rays, and has devised a lamp for their utilization, a point to which I will again refer.

The wonderful discovery of Röntgen that certain radiations would readily traverse many bodies that are absolutely opaque to luminous rays, naturally led to an investigation of their influence on the human tissues on which they might impinge, and it was soon learned that undue exposure to these rays led to more or less injury, and, in fact, destruction of the tissues subjected to their influence. From this it was but a step to an experimental research into their therapeutic uses, and it was found that they could be used to advantage in many of the cases in which the ultra-violet rays had already been found useful by Finsen and others, namely, superficial lesions of a more or less malignant character. That there was a notable difference between them, however, was early apparent, as in many of their physical manifestations their behavior was totally unlike.

If we assume the truth of the wave theory of light, we may assert with extreme probability that the ultra-violet rays are etheric vibrations with wave-lengths approximating 0.25 μ. On the other hand, there is but little if any evidence that the x-rays have any relation whatever to etheric vibrations, or if, perchance they do, there is absolutely no clue to their wave-length. In fact their very name x, used in its algebraic sense, indicates how little we really know about them.

If we compare the Röntgen rays with the ultra-violet radiations we will note some resemblances,

*Read before the New York Academy of Medicine, February 19, 1903.

but still some notable differences in their physical manifestations:

X-Rays.	Ultra-violet Rays.
1. Cannot be reflected refracted, or polarized.	1. Can be reflected, refracted, and polarized.
2. Can penetrate and traverse many bodies that will not permit the passage of luminous rays: *e. g.* wood, aluminum, etc.	2. Will not traverse many bodies that are perfectly pervious to luminous rays, *e. g.* glass.
3. Will readily traverse the superficial tissues and influence the nutrition of the deeper ones.	3. Will not influence the deeper tissues, nor even the superficial ones, unless they are deprived of their usual blood content; that is, dehæmatized.
4. Will traverse a thick book.	4. Will be stopped by a single leaf of the same book.
5. Have no appreciable effect on the vitality of bacteria.	5. Will rapidly destroy the vitality of bacteria.
6. Will discharge an electroscope either positively or negatively electrified.	6. Will discharge an electroscope if electrified negatively, but not positively.
7. Will excite bright green fluorescence in Willemite, and induce *white* phosphorescence in polysulphide of calcium.	7. Will excite bright green fluorescence in Willemite, and induce *blue* phosphorescence in polysulphide of calcium.
8. Rock salt is *opaque* to *x*-rays.	8. Rock salt is *transparent* to ultra-violet rays.

The differences here pointed out indicate the fact that we are dealing with agents of totally dissimilar nature, although in certain forms of disease they may both be used to effect the same end; that is, the treatment of cutaneous affections of an extremely superficial character, while *x*-rays may further be used for the successful treatment of deeper lesions.

So much has been recently published concerning the therapeutic uses of the *x*-rays that I will leave them from present consideration, and turn more particularly to the later developments in actinic therapeutics, referring the reader more particularly to a paper by Walsham,[4] and a recent work by Turner.[5]

As already stated, Finsen's original installation has been supplanted by modified forms of apparatus, in part devised by Finsen himself and in part by others.

Of those employing the usual low potential arc, the lamps of Bang and of Lortet-Genoud are the ones that have received the most notice. In the Bang lamp the terminals are of iron instead of carbon.

The Lortet-Genoud, slightly modified, is known in London as the "London Hospital Lamp." It has the arc so arranged that it can be brought into close proximity to the affected part, and has a special cooling device and a quartz compressor.

The Görl lamp differs radically, both in principle and in construction, from the Finsen and the other lamps that have been mentioned. Instead of using the commercial low tension current with carbon or iron terminals, he employs an extremely high tension, high frequency current obtained from an inductorium or *x*-ray coil in connection with a condenser and metallic (aluminum) terminals.

He chose aluminum under the supposition that the passing spark would be richer in ultra-violet rays than if the terminals were of carbon, as in the Finsen arrangement for low-tension current.

This lamp, somewhat modified by the substitution of iron terminals and in some other points of detail, has been specially experimented with in London, where it is known as "St. Bartholomew's Hospital Induction Coil Arc Lamp."

With the Görl or St. Bartholomew's lamp, as employed abroad, a compressor, to render the part bloodless, is employed in the same manner and for the same purpose as in the later low-tension outfits, quartz, rock-salt or ice being used. This lamp being comparatively new has, of course, not been used to anything like the extent that the Finsen and its modifications have, but the results obtained appear to have been equally as good as with the low-tension arc or the Röntgen ray, and have been secured more promptly, and with vastly less inconvenience to the patients.

It must be understood, however, that the Finsen and the Görl appliances are adapted to superficial lesions only, while the Röntgen ray is capable of directly influencing the deeper structures. There is one notable difference, however, between the action of the Röntgen and the ultra-violet rays. This relates to the inflammatory and congestive reactions. With the latter the reaction appears promptly and disappears rapidly, and with no permanent ill effects other than a possible tanning of the skin. With the former the reaction is tardy, disappears slowly, and sometimes results in very serious ulcerations.

The chief difference between the original Görl lamp and the London imitation lies in the fact that the former has four spark gaps, while the latter has but one. The advantage, it appears, rests with the original. I have obtained one of the London lamps and am not disposed to speak favorably of it, as regards either design or mechanical construction, and I give decided preference to a modified Görl lamp that has been made for me here by the Waite & Bartlett Mfg. Co. It has three spark gaps, and is much more efficient than the London lamp.

A very convenient and accurate method of testing the comparative efficiency of two or more of these lamps, is to connect them in series with each other and with the electric source. In this way each lamp receives exactly the same amount of current. If we now arrange them face down on a piece of sensitized paper (preferably solio), and turn on the current for, say, a couple of minutes, we will be able at the end of that time to perceive readily the effect each lamp has produced. This effect, however, is not wholly due to ultra-violet rays, but is in part due to the chemical B-V rays. In order to ascertain the part that each set of rays plays in darkening the paper, we may take a fresh piece and interpose a thin piece of glass between the lamp and the paper. Let the current pass for two or three minutes, and then quickly shift the lamp to a fresh piece of the paper and expose for the same time without the intervention of the glass. This experiment exhibits, in a very striking manner, the vastly superior efficiency of the ultra-violet rays over the blue-violet elements of the spectrum.

As already stated, the ultra-violet rays will not traverse blood or tissues in which blood is circulating, and it is necessary, therefore, to dehæmatize the tissues, and the only practical method so far proposed is by means of a compressor with which to mechanically squeeze the blood out of the parts. This compressor must, of course, be permeable to the rays, and quartz, therefore, is the material commonly employed. In some lamps this compressor is lenticular, in others simply a plane quartz plate of circular form. To obtain any benefit, therefore, from the apparatus, firm pressure must be made on the part. This is tiresome, to say the least, but in most cases may be left in the hands of the patient himself, with the assurance that the harder he presses the greater will be the effect. With the newer devices, whether employing the low or the high-tension arc the seance rarely exceeds ten or fifteen minutes, and may be repeated daily.

If any reaction results, it will probably subside if the use of the rays be discontinued for a few days.

The most annoying part of the procedure is the maintenance of the compression, and yet there is an exceedingly simple means of dispensing with it altogether, namely, by the use of suprarenal extract. If the lesion be open and ulcerated, a little of the extract, preferably in the form of adrenalin chloride, applied directly to the part promptly bleaches it and permits the ultra-violet rays to act. If the lesion, however, be still covered by epithelium, the adrenalin may be injected either pure or diluted with a deci-normal salt solution. This same idea appears to have occurred independently to Jamieson, who says:[6]

"When adrenalin in the 1-1000 solution is closely applied for ten or fifteen minutes to such a patch, by means of a piece of absorbent cotton moistened with it, the effect produced is a distinct paling of the skin around the lupus spot. Strange to say, no great diminution of redness occurs in the lupus area itself, which is still quite conspicuous in the center of the whitened area; yet the effect produced by light is certainly greater than when adrenalin has not been used."[6]

I have found, however, that altogether the most satisfactory method of using suprarenal extract is in the form of a solution of adrenalin chloride, introducing it by cataphoresis. The cataphoric electrode, covered with a thickness of lintine, or similar material saturated with adrenalin, is connected with the positive pole of the battery, or other electric source. It should then be applied to the part that we desire to dehæmatize, using a current of about 3 or 4 m.a. If the electrode is maintained in contact with the part for four or five minutes, it will thoroughly bleach it, and make it ready for the application of the ultra-violet rays.

The quartz compressor may still be used, but without compression, but simply to protect the part from bulging up too near the spark-gaps, that is, when using the high-tension arc. When using the low-tension arc, which is usually some inches from the affected part, this protection is unnecessary.

So far as I am aware, the condenser-spark lamp has been used by others only in connection with a coil as practised by Görl and in London. Personally, I use the static machine as the source of high-tension electricity, and as condenser use Leyden jars having about 100 square inches of internal, and the same area of external foil surface in connection with each pole of the machine. The lamp is then connected by its conducting cords to the outer surface of the jars. The poles of the machine when in action are separated about one inch, but the spark-gap between the terminals of the lamp is only about one-eighth of that distance. The minute size of this spark, as compared with that of the ordinary low-tension arc, might lead us to doubt its possible efficacy, but the clinical experiences thus far reported seem to justify the belief that in this spark we possess a very valuable therapeutic resource, and every probability points to the ultra-violet rays as being the active agent. Finsen at an early day arranged his low-tension arc so that two or more patients could be treated simultaneously, but in the lamps recently devised this is not practicable. With the high-tension arc, however, whether actuated by coil or static machine, two or three, or for that matter a dozen, lamps may be connected in series, and may be used to treat an equal number of patients simultaneously.

Insomuch as the ultra-violet rays are invisible, it may be asked how we determine their presence. In other words, is there any convenient test by means of which their existence or absence may be readily ascertained. One test mentioned by many writers is that performed with the aid of the electroscope. If a goldleaf electroscope be charged with negative electricity, the ultra-violet rays will discharge it; but if charged positively, they do not affect it. The most convenient test, however, for the presence of the ultra-violet rays, that is known to me, is by means of the mineral Willemite; this is a silicate of zinc ($ZnSiO_4$), and when exposed to the ultra-violet rays exhibits a beautiful greenish fluorescense. If, however, a thin piece of glass, as an ordinary spectacle lens, be interposed between the rays and the mineral, the fluorescence instantly disappears, showing, as already stated, that the rays do not traverse this medium. If, however, a thin quartz plate be substituted for the glass, the fluorescense again becomes apparent.

If we now exposed a piece of Willemite to the *x*-rays it will fluoresce as before, but the fluorescence will persist even if glass be interposed.

Another silicate of zinc (H_2ZnSiO_5), the mineral calamine, does not fluoresce when exposed to either the ultra-violet or the *x*-rays.

Nearly two years and a half ago[7] I called attention to the use of an up-step transformer in connection with the static machine, whereby the static induced current was passed through the coil of coarse wire and induced a current of higher potential in the secondary coil. An electrode was connected with one of the terminals of this latter coil and brought near the cutaneous surface that I desired to influence. When near enough (one or two centimeters), a spark jumped from the electrode and impinged on the skin. The electric current then traversed the body, seeking the most convenient path to earth. To this spark I later gave the name "hyperstatic," to imply that the potential of the static current had been raised, and to the instrument the term "hyperstatic transformer" has been applied. The results obtained by the use of this spark in a variety of cutaneous lesions were surprising, surpassing by far those obtainable by the usual dermatological applications. As noted in my previous paper, the application of the sparks, which are not very painful, for a period of four or five minutes, results in a prompt hyperæmia, which usually subsides in a day or two. If we are, for instance, dealing with an infiltrated eczema, the infiltration subsides *pari passu* with the induced reaction, and a complete disappearance usually follows a very limited number of applications.

In my early experiences I attributed the reaction to the electric bombardment, and the ultimate results to the same agencies that are involved when we apply an ordinary cutaneous irritant. When, however, I became cognizant of the effects of the ultra-violet rays from the condenser spark it seemed probable that we had not only these but much more besides. To test the matter, I darkened the room and held a piece of Willemite near the spark. It immediately fluoresced. If the electrode be now withdrawn a little beyond the sparking distance, a spray of violet light will be observed, accompanied with ultra-violet radiations, as made manifest by the fluorescence. If we analyze the phenomena connected with the hyperstatic spark, we find we have (1) electric bombardment of the tissues, with probably ionization; (2) projection of metallic particles from the electrode (if of metal); (3) ultra-violet rays; (4) dissociation of the oxygen atoms, and their rearrangement as ozone; (5) destruction of bacteria.

I was by no means the first to adopt an up-step

transformer to a high-frequency current, as Oudin has preceded me by connecting his "resonator" with a D'Arsonval high-frequency apparatus. On the other hand, Sharpe,[8] at a date subsequent to the publications of my own observations, has connected a "resonator" with the static machine.

Still another source of ultra-violet rays has been observed by Leduc,[9] who found that they emanated from the negative end of a Geissler tube. I have found that if a piece of Willemite be placed at the negative end of the tube it will fluoresce, though not very vividly, but this phenomenon is rather puzzling, in view of the fact that the ultra-violet rays are not supposed to traverse glass, and if it, indeed, be those rays that have induced fluorescence, they must have been generated outside the tube and due to the electric stress, with, of course, the possibility that they are not ultra-violet rays but *x*-rays or cathode rays.

So much has of late appeared in print in relation to the treatment of cutaneous affections by *x*-rays that it would be a waste of time to exploit the matter further, other than to remark that many of the cases treated could have been handled to much better advantage by means already well known to the profession. I allude more particularly to cases of lupus and epithelioma. In the vast majority of these cases, excision, curettage and actual cautery, potential, caustics, etc., will yield equally good results and do so more quickly and economically; and good surgery and common honesty demands that they should be employed when available rather than the tedious, expensive, and, sometimes, dangerous application of the *x*-rays. In this respect I am in full accord with the recently expressed views of Robinson.[10] I am further confirmed in this by the opinion of Walsh,[11] who is a dermatologist as well as an experienced *x*-ray worker.

He writes as follows:

"It is evident, then, that we have in the focus-tube rays an agent capable of acting powerfully upon the skin and its appendages. At the same time, while similar effects can be obtained by simpler and safer means, the action is so uncertain, so difficult to regulate, and so apt to be attended with serious complications, that it is not likely to have any but an extremely limited application to the therapeutics of the cutaneous surface."

There are many cases, however, in which few surgeons would have the hardihood to use either the knife, the actual cautery or caustics. To these, therefore, the *x*-ray applications should be confined.

The terms "chemical" rays and "actinic" rays are nowadays frequently met with, and I regret to say are not always used by writers with discriminating accuracy, and some I find have but a vague conception of their true meaning. It is an old observation that if hydrogen and chlorine be brought together in a free state they will instantly combine to form hydrochloric acid if exposed to sunlight, and it has been found that this combination is much more readily brought about by the blue-violet rays with wave-lengths of, say, 0.48μ to 0.40μ than with the red-yellow rays with wave-lengths of 0.75μ to 0.58μ. The blue-violet, therefore, were termed "Chemical" rays. In the early days of photography when iodide of silver collodion plates were alone in use, it was found that the rays of shorter wave-lengths (blue-violet) were alone capable of impressing the photographic plate, that is, with any exposure of reasonable length, and hence these rays were termed "actinic." The same is true of the ordinary bromide of silver plates in use to-day. It is not a difficult matter, however, to prepare plates that will be as fully sensitive to the yellow rays as to the blue, and they can even be made extremely sensitive to red. All the visible rays, therefore, are to a certain extent actinic, and this term can no longer be applied with propriety to any definite or restricted portion of the spectrum.

The terms "phototherapy" and "light treatment" when applied to the Finsen methods are, strictly speaking, inaccurate, insomuch as the efficient agent is the non-luminous ultra-violet radiations. There is, however, a perfectly proper use of these names, that is to say, when they are used in connection with the luminous and colored rays. These radiations may be placed in two distinct groups, one consisting of the less refrangible rays including red to yellow (R-Y rays), and those that are more refrangible the blue to violet (B-V rays).

It will be noted that there is a gap between these two groups, namely, the green portion of the spectrum. I have failed to find that the green rays have any friends, and I am, therefore, unable to say anything in their favor or otherwise. As regards the two groups above mentioned it is claimed that the R-Y rays exert a calming effect in conditions of mental excitement, and that they also exercise a very beneficial action in exanthematous diseases, and more especially in smallpox, reducing the fever and lessening the suppuration.

These rays are most readily obtained by passing sunlight or strong artificial light through a variety of red glass known as "ruby," which permits but few if any of the more refrangible rays to pass.

The B-V rays appear to act as a general tonic and energizer, and to be specifically useful in tuberculosis. Sciascia[1] reports the following:

"A child of nine years of age had suffered for two months with low fever, anorexia, vomiting, wandering pains in the abdomen, and intestinal disturbances, and for the last forty days notable distension of the abdomen. There were also lymphatic engorgements in the cervical, axillary, and inguinal regions, with nodosities among the abdominal lymphatics. The diagnosis was tuberculous peritonitis.

"No treatment was employed, except daily exposure to condensed chemical rays from the sun. At the end of three months the symptoms and physical signs had disappeared, and the patient was again in good health. This history is accompanied with two photographs, one showing the child with marked distension of the abdomen, but otherwise in a state of extreme emaciation, while the second photograph, taken three months later, represents a child entirely free from the former evidences of ill-health."

I must confess that this case has made a strong impression on me, as it shows conclusively, assuming the facts to be as stated, the powerful influence of the B-V rays on tuberculosis. There is beside this considerable evidence from other sources as to the beneficial action of these rays, and it certainly seems that a thorough and exhaustive trial of the "blue-light treatment" should be made by those who are in the way of meeting with cases of this disease. Before doing so, however, the observer should make himself thoroughly familiar with the physical behavior of the colored rays, and their already ascertained action on plants and animals, and I would strongly advise him to consult the recent essay by Bleyer.[12]

Under the title radio-praxis the physiological and clinical phenomena of radiant heat deserve notice, but neither space nor time are at my command for this purpose, and I believe that I cannot do better than refer the reader to the carefully conducted experiments of Kellogg.[13]

Returning now to the therapy of certain cutaneous lesions, it may be said that we already have a pretty clear idea of the realm occupied by *x*-rays, and a very satisfactory knowledge of the proper technic, but we cannot say quite the same concerning the ultra-violet radiations. A number of points still need further elucidation:

1. Are the ultra-violet radiations as effective as the *x*-rays in the treatment of superficial malignant lesions?

2. Is the low-tension arc the most effectual means for generating the ultra-violet radiations and whatever goes with them?

3. Is the high-tension arc or condenser spark equal or superior to the low-tension arc in its therapeutic effects?

4. Is the spark from a coil more effective than that from a static machine, or *vice versa?*

5. Is the hyperstatic spark with its ultra-violet accompaniments equal in therapeutic efficacy, or superior to the other devices for the production of ultra-violet radiations?

To these problems we must look to the future for an answer.

There is still another class of radiations which during the last few years has excited the profound interest of chemists and physicists. I refer to the so-called Becquerel rays. It has long been known that preparations of uranium emitted actinic rays; that is, radiations capable of affecting photographic plates. Later it was observed that pitchblende, one of the uranium ores, possessed this faculty to a higher degree than uranium itself. It was then naturally inferred that pitchblende contained some definite radio-active substance that could possibly be isolated from the pitchblende and obtained in a state of greater or less purity. Further research led to the separation of three substances, each possessing intense radio-activity, but differing from each other in some minor respects. These have received the names radium, polonium, and actinium. At the present time one can obtain a "radio-active sodium" said to be twenty-five times as active as pitchblende for twenty-five cents a gram; also a "radio-active calcium" at the same price, and also a "radio-active *substanz B*." two hundred times as active as pitchblende. This costs four dollars and a half a gram. A still more refined preparation, said to be five or six thousand times as active as pitchblende is quoted at $200 a gram, equivalent to more than $5,000 an ounce.

The rays emitted from these bodies will pass through glass and even thick paper, so that a photographic plate protected by a double thickness of non-actinic paper will be affected by the radiations from the substance contained in a vial laid upon the plate. Preparations of thorium in like manner are capable of emitting these rays. It has been found that the Becquerel rays from the specially active preparations will exert a destructive action on the skin, even when not in actual contact with it, and without any appreciable loss of substance.

In a recent article, referring to the effects of the Becquerel rays on the tissues, Oudin[14] expresses the opinion that they are in reality *x*-rays, and bases his view on the following reports, and his own personal observations:

In October, 1900, Walkhoff (*Phot. Rundschau*) published a note stating that after the application of a radio-active substance he had an erythema similar to that produced by Röntgen rays. Giesel, in December, 1900 (Deutsche chem. Gesellschaft), stated that he applied a celluloid capsule containing 0.27 gram of bromide of barium and radium for two hours to the inner surface of his arm. After a few days an erythema appeared and increased for two or three weeks, became pigmented and was a long time in disappearing.

Early in the year 1901 M. Becquerel placed a small glass tube containing a few decigrams of radioactive substance in his vest-pocket and kept it there about two hours. Two weeks later an erythema appeared on the abdominal walls, corresponding to the position occupied by the glass tube. The erythema increased slowly and was followed by an ulceration.

M. Curie kept a small quantity of the same substance, wrapped in guttapercha, in contact with his arm for two hours. This was followed by erythema and ulceration.

Mme. Curie held a small quantity, sealed in a glass tube and covered by a metal case, in the palm of the hand for half an hour. Two weeks later there appeared an intense erythema, followed by a large bulla.

Oudin states that in the three cases seen by him, the lesions were markedly similar to those produced by *x*-rays. In the case of M. Curie it was six months before the ulceration was completely healed. A year later, after working for some time in the preparation of radio-active substances, he again suffered from their effects, the lesions exactly resembling those frequently met with in *x*-ray workers.

It is, however, by no means certain that the radium emanations are composed entirely of *x*-rays, but it is believed by some that they are a mixture of *x*- and cathode-rays.[15]

Knowing the powerfully destructive effects of these radiations on normal tissues, we are naturally fascinated by the thought that we may be able to utilize their powers for the modification of carcinomatous and lupoid processes, and thus avoid the inconvenience and expense of the present *x*-ray technic. There is, however, one serious difficulty in the way, namely, our inability to determine the precise amount of radiant energy exerted by any given preparation. In other words, we cannot exactly dose the application. Great as is the difficulty in dosing an *x*-ray exposure, it is vastly greater when we undertake to utilize the radio-active substances that at present are furnished commercially.

Concerning these rays, Ramsay,[16] in a recent article, concludes as follows:

"Whatever may be the true explanation of these mysteries, it cannot be denied that they form the beginnings of what may, and most certainly will, affect the material welfare of the human race. When we consider the beginnings made by Gilbert, by Franklin, by Volta, and by Faraday, and contrast them with the outcome of their discoveries, the electric telegraph and the dynamo machine, we cannot avoid the inference that the future has in store even greater developments than these. It is true that investigators like Hertz, Lenard, Becquerel, and the Curies do not make practical application of their discoveries; but there is never any lack of men who discover their practical value and apply them to ends useful to mankind; all the more reason, therefore, that every encouragement should be given to the investigator, for it is to him that all our advances in physical and material well-being are ultimately due."

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256 WEST FIFTY-SEVENTH STREET.

FEEDING IN EARLY INFANCY.
HOME MODIFICATION OF MILK.

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OF children born, one-third die within three months.* This startling fact makes improved methods of feeding in early infancy mandatory. That such improvement is not difficult of attainment will be made conclusive.

For a new-born child there is but one perfect food, the milk of a healthy mother. Attentive elaboration of two physiological facts precedes consideration of a substitute: (1) Difficulty of supplying a substitute adapted to existing conditions at birth. (2) Benefit to mother of lactation for a short period after child-birth.

Inherent Difficulty of Providing a Substitute for Mother's Milk, at the Beginning of Lactation, Adapted to the Peculiarities of a New-born Child.—Proteid is the nitrogenous constituent of milk on which growth and development depend, and which contains, in organic combination, minerals for construction of bone. No formation of tissue for fresh growth can occur without proteid.

Woman's milk and cow's milk contain two proteid constituents, albumin and casein. Albumin is not coagulated in the stomach by rennet. It is readily absorbable. Casein is coagulated into firm, compact masses. It is not digestible for a young child.

Albumin forms two-thirds of the proteid of woman's milk.

Casein forms four-fifths of the proteid of cow's milk.

WOMAN'S MILK.		COW'S MILK.	
Albumin	1.23	Albumin	0.53
Casein	0.50	Casein	2.88
Proteid	1.82	Proteid	3.41

Diluting cow's milk so as to bring casein within the digestive limits of a new-born child, causes deficiency of proteid for growth.

Woman's milk at the beginning of lactation (colostrum) is rich in readily absorbable proteid. Colostrum contains little or no casein. Change from colostrum to milk takes place ten days to two weeks after birth. Now, readily absorbable proteid decreases in quantity. As the milk becomes older, less easily absorbable proteid augments. This proteid calls forth considerable digestive effort.

The stomach of an infant increases rapidly in size during first two months of life, slowly in next two months; it is then comparatively quiescent until after the sixth month.

Capacity of stomach: Birth, 1 ounce; one month, 2½ ounces; two months, 3½ ounces.

At the end of the second month of life an infant's stomach is not only a more perfect receptacle for food, but its function has correspondingly developed. With increase in size and function of the stomach, a child becomes adapted to digestion of food other than breast milk. After the second month, a child can readily digest properly modified cow's milk.

Mortality in infants under one year is so great, that an equally high death rate is not again recorded until about the age of eighty years!

Seventy-five per cent. of deaths in first year occur in first half. Of these a large proportion die in first month. Mortality is highest in first week, falls enormously in second week, remains nearly stationary through third, and shows a considerable decline in the fourth week. Mortality in second month is only a small fraction of that in first month.

The astounding mortality in the first year of life proceeds from disease which had its inception when the stomach was unequal to any function except that of absorption. It results from improper methods of feeding.

During the siege of Paris (1870–71), while the general mortality was doubled, that of infants was lowered 40 per cent., owing to mothers being driven to suckle their infants!

In a new-born babe there is marked loss of weight the first day of life, a slight loss the second day, the greatest loss being reached at the beginning of the third day. This, for the most part, is due to discharge of meconium and urine, and evaporation from cutaneous surface. The third day there is slight gain. This gain coincides with an abundant secretion of breast milk. Initial loss is eight to ten ounces. At the end of the seventh day a child should have regained its birth weight, showing immediate assimilation of proteid-rich food.*

Increase in length and weight of a child should progress steadily from the beginning of the third day. Length increases most rapidly the first week of life.

Maximum gain is in the second month, when it is four to seven ounces each week, often averaging an ounce a day.

During the period of rapid growth a child's food

* *Journal of the American Medical Association*, August 2, 1902, p. 252.

* There is a definite and unfailing relationship between growth and percentage of proteid in milk. The calf doubled its weight in forty-seven days with 4 per cent. of proteid in milk; the lamb in ten days with 7 per cent.; the puppy in eight days with 8.28 per cent.; the kitten in five days with 9.33 per cent. of proteid in milk. The first and second days after child-birth the secretion of the breasts contains 8.6 per cent. of *albumin;* from the third to the seventh day 3.4 per cent.; from the eighth to the fourteenth day 2.5 per cent. (London *Lancet*, 1898.) If the above percentages are even approximately true, it is impossible to duplicate the first secretion of the breasts. The sooner after birth a child is put to the breast the less will be the loss in vigor. Immediate nursing saves many lives.

should be rich in proteid and minerals—building materials.

Intrauterine development is on proteid and minerals from blood of mother. At delivery, the blood stream is diverted to the breasts. Milk-proteids are derivatives of blood-proteids. Lactalbumin is similar to serum-albumin of blood. The breasts extract minerals from the blood in the proportions contained in tissues of child.

To a child beginning an independent existence, a food which is readily absorbable and rich in components for growth is of propitious issue.

Observe Nature's sublime purpose in providing for the new-born babe a food absorbable without digestive effort, and rich in proteid and minerals for immediate development!

The calcium phosphate, magnesia, sodium, and potassium chloride, contained in greater quantity than in milk of a later period, has a laxative effect and causes discharge of meconium.

With maternal nursing mortality is lower than with wet nursing, owing to the peculiar properties of colostrum milk.

Analysis and synthesis cannot provide a substitute having the composition and properties of mother's milk, at the beginning of lactation; a food adapted to the undeveloped and functionless state of the digestive organs, the immediate nutritive and developmental needs of a child at the threshold of life.

Our first proposition, inherent difficulty of providing a substitute for mother's milk at the beginning of lactation, adapted to the peculiarities of a new-born child, is clear and conclusive. During the period of rapid growth; of undeveloped digestive organs; of greatest danger of death from asthenia, a child's food should be that which Nature provides.

Lactation for a Short Period after Childbirth Exerts Salutary Influence on Mother.—Before impregnation the uterus measures 2¾ inches in length, 1¾ in breadth at its upper and wider part, less than an inch in thickness; its weight is from an ounce to an ounce and a half.

At the end of pregnancy it measures 14 inches in length, 10 in breadth, 9½ inches in thickness, and weighs 2 to 2½ pounds.

Blood vessels, formerly microscopical, are large, tortuous canals, size of extremity of little finger. The organ has increased in size twenty-five times.

After labor it should diminish in weight one pound in two weeks. It should be restored to its normal size six weeks to two months after delivery. Restoration is brought about by uterine contraction.

Muscular contraction, by obliterating vascular canals and cutting off blood supply, causes fatty degeneration and absorption of superabundant tissue. If the contractions are not sufficiently powerful, the blood channels are not obliterated: Each time the infant seizes the nipple the uterus contracts powerfully—it is perceptible to the hand applied to the abdomen. This reflex stimulation is applied ten times every twenty-four hours. It is maintained each time one-third of an hour. When the reflex stimulation of suckling is lacking, resolution is delayed. Delayed resolution and subinvolution, are the initial causes of the majority of the diseases of the uterus.

Lactation for a short period after child-birth forestalls congestion, enlargement, and displacement of the uterus. Uterogestation and delivery are but half the process of generation to a mother: To complete this process a brief period of lactation is an essential supplementary.

The time required for uterus, vagina, and articulations of pelvis to recover from changes induced by pregnancy and labor, should be the lying-in period. This coincides with the time of proteid-rich secretion of breasts; of undeveloped digestive organs and functions of child; of rapid growth; of greatest danger of death from asthenia.

During regeneration a mother should be in a state of physical and mental repose and comparative seclusion; free from care, anxiety, and excitement—no visitors, no discussion about her child, conditions favorable to successful, healthful lactation.

With proper regulation of diet before confinement, and during lying-in period, every mother can nurse successfully during the weeks when it is of so much moment to herself and her child that lactation should be stimulated.

There is much positively erroneous belief regarding inability of mothers to nurse, and much mistaken practice founded on it.

Weaning at the actual commencement of lactation, through misapprehension, is not uncommon. A child has frequent green stools; without reflecting that richness in salts of first secretion of the breasts is for clearing out meconium, it is concluded that the milk disagrees, and the child is weaned. An infant has discomfort from one cause or another, often from superficial soreness and tenderness, consequent on having been forced through a narrow, bony outlet. This is misinterpreted colic, and hot water given. It next cries from hunger, but refuses to nurse. Nursing is laborious and fatiguing. As long as a child can get anything, even water, from a bottle, it will not nurse.

A muscular cushion exists in the cheek for drawing the breast. This is a large, well-developed, strong muscle at birth. How marvelous is Nature! A child nurses for a few moments and becomes fatigued; it stops to rest fatigued muscles and falls asleep, or closes its eyes to exclude light, and this is mistaken for sleep. It is removed from the breast. Soon it is restless from hunger; but colic is suspected, hot water dispensed, and again the breast is refused.

That a new-born babe may be made to nurse by rule five or ten minutes, and no longer, should not be considered seriously by those responsible for its life.

To weigh a child, put it to the breast ten minutes, remove it while nursing greedily, and by again weighing, decide that it has nursed two ounces or three ounces, and when it cries from hunger that the milk disagrees, is well-nigh incredible, yet not infrequently practised. Under such regimen a child was failing alarmingly. Permitted to nurse until sated, it gained thirteen ounces the first week, twelve the next, and fourteen ounces the third week. With nursing abridged to two minutes (!) a child had scarcely slept for days and nights. After nursing until it would take no more, it slept uninterruptedly from 8.40 P. M. until 5 A.M.

Nursing by clock and scale is the culmination of absurdity.

Leave a child at the breast until satisfied, even if it falls asleep several times. When satisfied, it drops the nipple, and its head falls away from the breast. A little thought and tact will enable anyone to induce a child to nurse.

Because a child does not nurse by rule and with avidity, it should not be concluded that it has colic and that the milk disagrees. The milk of every healthy mother agrees with her child. When it disagrees, the fault lies not with mother or child.

Misguided solicitude is common. Officiousness and fussiness concerning the baby may arouse unnecessary anxiety and limit secretion of the breasts. An outsider who should not be admitted to the mother's chamber may be accountable for disturbed secretion. Inconsiderate comments on small deviations—curds,

green stools, colic, sleeplessness, lack of gain, deficient milk supply, and similar remarks, create great alarm in a young and inexperienced mother, and have sacrificed many lives. It is not allowable or tolerable to advert to one of these in the presence of a mother.

Place the child in a darkened room apart, where there is absolute quiet, that it may sleep uninterruptedly except when taken to the mother for nursing, after which replace it immediately in its bassinet. It should not be handled, fondled, or talked to. Nature's demands alone should be attended to.

Where the nipples are small or inverted, they should be drawn out and formed before accouchement. With this preparation and putting the child to the breast at once, nursing is feasible even under these discouraging conditions.

How Long after Birth Is Mother's Milk a Perfect Food for a Growing Child?—Its composition as lactation advances, and the physiological necessities for growth are competent criteria.

Proteid diminishes with advancing lactation. At end of colostrum period there is a marked decrease. It then lessens slowly and steadily until end of second month. After the second month there is decided and rapid diminution. Minerals share the impairment. Proteids and inorganic salts are organically combined. Their ratio is unchangeable. Woman's milk as it becomes older is impaired in materials for growth.

In a child exclusively breast-fed maximum gain is during the second month. Growth languishes with diminution of proteid content. Proteid and minerals are no longer adequate to demands for growth. It is physiological to wean as soon as practicable after the second month.

Conclusions.—Mortality at the very commencement of life in infants artificially fed; its obvious connection with the undeveloped and functionless state of the digestive organs; the inimitable composition of the first secretion of the breasts; the physiology of restoration of the uterus to its pristine condition after pregnancy and child birth, implant an ineradicable conviction, that lactation admits of no dispensation during the period of uterine regeneration.

It is likewise manifest that nature did not purpose protraction of lactation eight to ten months. Unnatural extension has been deterrent of lactation.

For two months from birth mother and child are mutually dependent. Advantage is equal. Severance impairs both. Observance of interdependence for two months would lower infant mortality to minimum; postpartum ailments of mothers would disappear.

The poorer classes should not be counseled to wean at end of second month, for economic reasons, and owing to difficulty of securing pure, fresh, sweet milk for feeding during heated term. Even with them nursing should not be extended beyond five to six months. A child born in the spring should be weaned in the early autumn, and one born in the autumn should be weaned before the summer.

The impression that lactation is unfavorable to health and exhausting, is erroneous. The strongest, healthiest, longest lived, youngest in appearance for their years, are women who have had many children, and have nursed them. This may be verified in prominent families in all parts of the world.

Artificial or Substitute Feeding.—It is natural that bottle feeding should begin in early infancy, and in a large number of cases there is no alternative but artificial feeding from birth. The physician has constantly to face the question of a substitute for human milk.

A fac-simile of woman's milk is its only substitute.

Unfaithfulness in copying defies physiology—Nature.

A Duplicate of Woman's Milk Must Conform Unerringly to the Appended Laws Prescribed by Nature:

First—The constituents must be identical with those in human milk: They must be proportionate to the demands for growth.

Second—These constituents must be of animal origin: Constituents other than those from an animal source are deficient in qualities essential for growth and development.

Third—Vitality of mineral and proteid constituents must be unimpaired: A temperature much above that of blood impairs vitality, by dissolving the loose chemical union of mineral and proteid in milk. In this state minerals are not assimilated.

Fourth—It must contain nothing foreign to milk: Anything adventitious vitiates the substitute.

These are laws of Nature, inflexible, unalterable, infallible, eternal. Infringement of them is the cause of the infamous, the shameful, the humiliating mortality from artificial feeding.

The only food which can be made to fulfil Nature's laws is cow's milk. Human milk and cow's milk contain the same constituents. They differ in their proportions.

Human milk has a low percentage of proteid, a high percentage of fat. In cow's milk these constituents are in nearly equal proportions. The perplexing, troublesome characteristic of cow's milk is the indigestibility of its proteid for a new-born child. During first three days of life a child cannot digest more than one-fourth of 1 per cent. of the proteid of cow's milk; during succeeding days of first week, one-third of 1 per cent. In second week, one-half of 1 per cent.; in third week, three-fourths, and in the fourth, fifth, sixth, seventh, and eighth weeks, 1 per cent.

Relative Proportion of Fat to Proteid.—Of equal importance with a low percentage of proteid at the outset of a course of artificial feeding, is the relative proportion of fat to proteid.

With one-fourth of 1 per cent. of proteid there must be 2 per cent. of fat; with one-third of 1 per cent., 2½ of fat; with one-half of 1 per cent. of proteid, 3 per cent. of fat; with three-fourths of 1 per cent. of proteid, 3½ of fat, and with 1 per cent. of proteid, 4 per cent. of fat. Failure due to wrong relative proportions of these constituents is constantly confronted.

Conformation of proportions as indicated converts failure into success.

For low proteid combinations cream is necessary. Market cream is mostly centrifugal. An infant does not thrive on centrifugal cream. The centrifuge makes 6,700 revolutions per minute. Trituration alters cream.

Contrast it with cream of Nature's formation. Fat being lightest part of milk, tends to rise to surface, and forms a layer which is known as cream. This contains not fat alone, but all the constituents of milk, and is therefore simply milk containing an excessive amount of fat. Each fat globule by molecular attraction is surrounded by a stratum of proteid. This prevents them from uniting with each other.

Centrifugalization destroys the normal cohesive attraction of fat globule and proteid.

The stratum of proteid is wanting, fat globules become coherent.

Centrifugal cream must be nearly proteid-free.

As proteid contains the mineral bodies, centrifugal cream is deficient in inorganic elements. Skimmed

milk added is so beyond the digestion of a young child, that the percentage of proteid cannot be increased to requisite proportions.

Machine-made Cream.—In centrifugal cream, coherent fat globules are indigestible for an infant, and it is deficient in proteid and minerals for growth and development. Machine-made cream should not be used in feeding infants.

Like human milk, gravity cream has a low percentage of proteid, a high percentage of fat.

A fac-simile of woman's milk is readily produced from it.

The percentage of proteid and fat in cream is contingent on the length of time milk stands before removing cream, and the quantity taken from each quart bottle.

To insure correct percentages of proteid and fat for early infant feeding, cream must be sixteen hours old, and only top *half* ounce removed. Removal without displacing is made practicable by keel-shaped dipper of "Noël Nursery Table." With no other device is this feasible.

The subjoined table shows the percentages of proteid and fat in different cream layers, and the ratio of proteid to fat, from actual analyses of milk as sold in New York City (about twenty-four hours after bottling) in September and October, 1902. The analyses were made at Havemeyer Hall by Mr. Henry C. Sherman, Ph.D.

FAT AND PROTEID AS FOUND IN SERIES OF ANALYSES, SEPTEMBER TO OCTOBER, 1902.

PORTION TAKEN	FAT	PROTEID	RATIO
Upper ½ ounce	24.8	3.1	8:1
Upper 1 ounce	23.1	3.2	7.2:1
Upper 2 ounces	21.4	3.3	6.5:1
Upper 4 ounces	20.1	3.4	5.9:1
Upper 6 ounces	18.6	3.5	5.3:1
Upper 8 ounces	16.7	3.6	4.6:1
Upper 12 ounces	12.1	3.7	3.3:1
Upper 16 ounces	9.4	3.8	2.5:1

The *ratio* of proteid to fat in different cream layers is of great practical importance for feeding in early infancy, where the proteid must be low, and the fat relatively high. *In the upper half ounce*, 1 to 8; *in the upper eight ounces*, 1 to 4½.

A young child cannot be successfully fed on modification of upper eight ounces—excess of proteid or deficiency of fat is unavoidable. Here has been a universal pitfall of physicians. To those who have been in the dark, this luminous ratio column shows the way to successful feeding.

To avoid disorder of digestion in a new-born child upper half ounce must be used. Fat indigestion in infants, so much prated about, is a myth. Properly modified cream is always well borne by the youngest and most delicate infant.

For young infants, milk should not be added to cream. Milk and cream do not unite. If shaken together, and then allowed to stand for a short time, separation is complete. The same occurs in the stomach. The stomach has practically to cope with whole milk. Many failures are due to this prevalent error.

The following percentages and relative proportions of fat and proteid must be adhered to for successful feeding:

	FAT	PROTEID
First three days	2.00	0.25
Succeeding days—first week	2.50	0.33
Second week	3.00	0.50
Third week	3.50	0.75
Fourth to eighth weeks	4.00	1.00
Ninth to twelfth weeks	4.00	1.25
Fourth month	4.00	1.50
Fifth and sixth months	4.00	1.75
Seventh, eighth and ninth months	4.00	2.00
Tenth and eleventh months	4.00	2.50
Twelfth month	4.00	3.00

In summer the strengthening must be more gradual, as follows:

	FAT	PROTEID
First week	2.00	0.25
Second week	2.50	0.33
Third and fourth weeks	3.00	0.50
Fifth and sixth weeks	3.50	0.75
Seventh week to end of third month	4.00	1.00
Fourth month	4.00	1.25
Fifth and sixth months	4.00	1.50
Seventh month	4.00	1.75
Eighth and ninth months	4.00	2.00

Formulæ for Home Modification of Bottled Milk (from actual analyses).—The percentage of proteid is higher in the autumn, hence the formulæ formerly published have been recast to conform to this.*

FORMULA NO. 1.

		COMPOSITION.
First, second, and third days:	Upper ½ ounce from each of two quart bottles of milk. Milk-sugar ⅚ ounce (about 3⅓ teaspoonfuls). Lime water, 1½ ounces. Filtered water, 9 ounces.	Fat, 2.00; Milk-sugar, 7.00; Proteid, 0.25.

Quantity at each feeding: First and second days ½ ounce; third day, 1 ounce.
Ten feedings, at 6, 8, 10, and 12 A.M., 2, 4, 6, 8, and 12 P.M., 4 A.M.

FORMULA NO. 2.

Fourth, fifth, sixth, and seventh days:	Upper ½ ounce from each of three quart bottles of milk. Milk-sugar, 1 ounce (about 4 teaspoonfuls). Lime water, 2 ounces. Filtered water, 10½ ounces.	Fat, 2.50; Milk-sugar, 7.00; Proteid, 0.33.

FORMULA NO. 3.

Second week:	Upper 2¼ ounces from one quart bottle of milk. Milk-sugar, 1 ounce (about 4 teaspoonfuls). Lime water, 2 ounces; Filtered water, 10 ounces.	Fat, 3.00; Milk-sugar, 7.00; Proteid, 0.50.

For chemical accuracy, the upper 7 ounces should be used in making Formula No. 4. Clinically, the upper 6 ounces proves better.

FORMULA NO. 4.

Third week:	Upper 6 ounces from one quart bottle of milk. Milk-sugar, 1.8 ounces (about 7 teaspoonfuls). Lime water, 4 ounces. Filtered water, 18 ounces.	Fat, 3.50; Milk-sugar, 7.00; Proteid, 0.75.

* For complete, detailed instructions consult "The Feeding of Infants; Home Guide for Modifying Milk." E. P. Dutton & Co., New York.

FORMULA No. 5.

Fourth to eighth weeks:	Upper 9 ounces from one quart bottle of milk. Milk-sugar, 2 ounces (about 8 teaspoonfuls). Lime water, 4 ounces. Filtered water, 19 ounces (or enough to make one quart).	Fat, 4.00; Milk-sugar, 7.00; Proteid, 1.00.

FORMULA No. 6.

Ninth to twelfth weeks:	Upper 11 ounces from one quart bottle of milk. Milk-sugar, 1.9 ounces (about 7½ teaspoonfuls). Lime water, 4 ounces. Filtered water, 17 ounces (or enough to make one quart).	Fat, 4.00; Milk-sugar, 7.00; Proteid, 1.25.

FORMULA No. 7.

Fourth month:	Upper 13 ounces from one quart bottle of milk. Milk-sugar, 1.8 ounces (about 7 teaspoonfuls). Lime water, 4 ounces; Filtered water, 15 ounces (or enough to make one quart).	Fat, 4.00; Milk-sugar, 7.00; Proteid, 1.50.

FORMULA No. 8.

Fifth and sixth months:	Upper 15 ounces from one quart bottle of milk. Milk-sugar, 1.7 ounces (about 6⅔ teaspoonfuls). Lime water, 4 ounces. Filtered water, 13 ounces (or enough to make one quart).	Fat, 4.00; Milk-sugar, 7.00; Proteid, 1.75.

FORMULA No. 9.

Seventh, eighth, and ninth months:	Upper 17 ounces from one quart bottle of milk. Milk-sugar, 1.4 ounces (about 5½ teaspoonfuls). Lime water, 4 ounces. Filtered water, 11 ounces (or enough to make one quart).*	Fat, 4.00; Milk-sugar, 6.50; Proteid, 2.00.

FORMULA No. 10.

Tenth and eleventh months:	Upper 21 ounces from one quart bottle of milk. Milk sugar, 1.1 ounces (about 4⅓ teaspoonfuls). Lime water, 4 ounces. Filtered water, 7 ounces (or enough to make one quart).	Fat, 4.00; Milk-sugar, 6.00; Proteid, 2.50.

FORMULA No. 11.

Twelfth month:	Upper 25 ounces from one quart bottle of milk. Milk-sugar, 0.7 ounce (about 2¾ teaspoonfuls). Lime water, 4 ounces. Filtered water, 3 ounces (or enough to make one quart).	Fat, 4.00; Milk-sugar, 5.50; Proteid, 3.00.

Formulæ for Home Modification of Bottled Milk for Feeding During Summer Months (from actual analyses).

FORMULA No. 1.

		COMPOSITION.
First week:	Upper ½ ounce from each of two quart bottles of milk. Milk-sugar, ⅚ ounce (about 3⅓ teaspoonfuls). Lime water, 1½ ounces. Filtered water, 9 ounces.	Fat, 2.00; Milk-sugar, 7.00; Proteid, 0.25.

Quantity at each feeding: First and second days, ½ ounce; third day, 1 ounce. Ten feedings, at 6, 8, 10, and 12 A.M., 2, 4, 6, 8, and 12 P.M., 4 A.M.

FORMULA No. 2.

Second week:	Upper ½ ounce from each of three quart bottles of milk. Milk-sugar, 1 ounce (about 4 teaspoonfuls). Lime water, 2 ounces. Filtered water, 10½ ounces.	Fat, 2.50; Milk-sugar, 7.00; Proteid, 0.33.

FORMULA No. 3.

Third and fourth weeks:	Upper 2¼ ounces from one quart bottle of milk. Milk sugar, 1 ounce (about 4 teaspoonfuls). Lime water, 2 ounces. Filtered water, 10 ounces.	Fat, 3.00; Milk-sugar, 7.00; Proteid, 0.50.

For chemical accuracy, the upper 7 ounces should be used in making Formula No. 4. Clinically, the upper 6 ounces proves better.

FORMULA No. 4.

Fifth and sixth weeks:	Upper 6 ounces from one quart bottle of milk. Milk-sugar, 1.8 ounces (about 7 teaspoonfuls). Lime water, 4 ounces. Filtered water, 18 ounces.	Fat, 3.50; Milk-sugar, 7.00; Proteid, 0.75.

FORMULA No. 5.

Seventh week to end of third month:	Upper 9 ounces from one quart bottle of milk. Milk-sugar, 2 ounces (about 8 teaspoonfuls). Lime water, 4 ounces. Filtered water, 19 ounces (or enough to make one quart).	Fat, 4.00; Milk-sugar, 7.00; Proteid, 1.00.

* The age at which cereal should be added to the food was considered last year: "Adaptation of Food to the Necessities of the Growing Organism."—MEDICAL RECORD, January 25, 1902, page 121.

FORMULA No. 6.

Fourth month:	Upper 11 ounces from one quart bottle of milk. Milk-sugar, 1.9 ounces (about 7½ teaspoonfuls). Lime water, 4 ounces. Filtered water, 17 ounces (or enough to make one quart).	Fat, 4.00; Milk-sugar, 7.00; Proteid, 1.25.

FORMULA No. 7.

Fifth and sixth months:	Upper 13 ounces from one quart bottle of milk. Milk-sugar, 1.8 ounces (about 7 teaspoonfuls). Lime water, 4 ounces. Filtered water, 15 ounces (or enough to make one quart).	Fat, 4.00; Milk-sugar, 7.00; Proteid, 1.50.

FORMULA No. 8.

Seventh month:	Upper 15 ounces from one quart bottle of milk. Milk-sugar, 1.7 ounces (about 6⅔ teaspoonfuls). Lime water, 4 ounces. Filtered water, 13 ounces (or enough to make one quart).	Fat, 4.00; Milk-sugar, 7.00; Proteid, 1.75.

FORMULA No. 9.

Eighth and ninth months:	Upper 17 ounces from one quart bottle of milk. Milk-sugar, 1.4 ounces (about 5½ teaspoonfuls). Lime water, 4 ounces. Filtered water, 11 ounces (or enough to make one quart).*	Fat, 4.00; Milk-sugar, 6.50; Proteid, 2.00.

* The age at which cereal should be added to the food was considered last year: "Adaptation of Food to the Necessities of the Growing Organism"—MEDICAL RECORD, January 25, 1902, page 121.

Pasteurization; Proprietary Foods; Cereals.—Animals in which milk alone is a sufficient food die of inanition when the minerals are extracted, and the result is the same with the minerals added to the other constituents, after the organic union of mineral and proteid has been broken up.

Minerals to be Assimilated Must be in Organic Combination with Proteid.—Proteid for Organization and Formation of Tissue Must Have Minerals in Chemical Union.†

In every part of the organism, minerals are united to the proteids. If this union is dissolved, the structure is dead. If mineral and proteid are not in organic combination in food, no formation of tissue for fresh growth can occur.

Pasteurization dissolves the loose chemical union of mineral and proteid in milk.

Obedient to this invincible, this inexorable law of chemical physiology, it is a duty incumbent on every physician to discard the pasteurizer absolutely and forever. What God hath put together let not the pseudo-scientist cut wide asunder!

Food in which the chemical union of mineral and proteid has been dissolved will not sustain life, and food in which this union is partially dissolved, only half sustains life.

Much obscure undefined derangement of health in children is traceable to this fault of diet.

Proprietary foods, pasteurized and sterilized milk, constantly furnish conspicuous, typical, sad examples of this food disorder.

Destitution of vitalized mineral and proteid is insuperable in manufactured food.

These foods are all misleadingly advertised as substitutes for milk. Milk is a living fluid—blanched blood. A substitute is as impossible as artificial blood.

Were a vitalized substitute for milk possible, it is uncalled for. With present enlightenment, by modification of cow's milk, an exact counterpart of human milk is made with facility.

Failure with cow's milk is due to faulty modification; the palpable error of adding milk to cream (see page 16); the incongruous combination of centrifugal cream and skimmed milk; lack of individualization in feeding; mixing foreign material. Intolerance of milk, the so-called "milk idiosyncrasy" of infants, is not *bona fide*. This absurd sentiment comes from lack of ability to modify milk properly.

A cereal, or a proprietary food added to milk, curtails supply of vitalized mineral and proteid.

Deprivation of mineral and proteid is the cause of rickets. When destitution is extreme, scurvy complicates rickets. Scurvy and rickets are identical. Both originate from this sole cause, and, according to the degree of impairment, will one or the other result. Coexistence is usual, scurvy supervening.

Deficiency of fat; presence of starch; mal-hygiene; climate; race; effect of northern climate on natives of tropical countries; heredity; concurrent disease—syphilis; tuberculosis, are not etiological factors of scurvy rickets. *Inadequacy of mineral and proteid as vitalized by the hand of nature is the sole factor.*

Physiological chemistry forbids the use of manufactured food, and of pasteurized milk, for infant feeding; or the deterioration of milk by barley or other cereal, for feeding in early infancy.

A fac-simile of woman's milk—a vital living fluid—is its only substitute. Unfaithfulness in copying vitiates the substitute.

When a child is nursed by mother six weeks to two months, and then weaned, artificial feeding should begin the fourth week, by the use of one feeding a day of two ounces of Formula No. 1. The second half of week, Formula No. 3, the same quantity. During fifth week, two feedings of 2½ ounces of formula No. 4; the sixth week, three feedings of Formula No. 5. From this time onward the food is strengthened as in a child artificially fed from birth.

Weaning, irrespective of the age of the child, should always begin with Formula No. 1. The amount is determined by the age. In a well-developed child of several months, strengthening may be rapid, especially in cool weather. In summer, strengthening must always be gradual.

Over-feeding is the most frequent difficulty in bottle feeding. Many mothers have an immoderate desire for an unusual child, and imagine a food strong in quality, or excessive in quantity, will compass this. To every such mother it should be made clear that when her child is thriving on a food, one-fourth of 1 per cent. more of proteid, or an additional half ounce, without strengthening, may cause serious and dangerous disturbance of digestion—so delicate are the digestive organs in young infants. Avoid-

† This chemico-physiological fact lays bare the absolute inanity of split proteid feeding.

ance of disorder of digestion is paramount in artificial feeding—the younger the child the more commanding its importance. For amendment, return to Formula No. 1 is indispensable. Priceless time for nutrition and growth has been sacrificed needlessly.

Acute illness in a bottle-fed child necessitates recourse to a weaker formula until the eve of convalescence. Digestive disorder is obviated, and clamoring for some innutritive patent food forestalled.

In acute diarrhœa, at once clear the bowels thoroughly with castor oil; for twenty-four hours after this is *completed*, give nothing but water, and then begin with Formula No. 1. Keep to this formula until looseness and fermentation have ceased. Then strengthen gradually until the formula in use before the illness began is reached.

With the above simple management, diarrhœa in a young infant is always promptly checked. Barley water, dextrinized gruel, and all unphysiological foods, are more baneful than in the normal state. Commendations of them are ungrounded and unscientific. The preposterousness of a diseased digestion being benefited by what is universally conceded to be pernicious in health! Giving cereals before the seventh month, in health or disease, is running counter to all the laws of physiology. He who flies in the face of physiology, places himself above Nature's laws; above the evident design and purpose of the Creator.

Sophists perpetuate unphysiological feeding, and the patent foods, their illogical writings being seized upon by traffickers and sent broadcast. Would that these prolific superficialists could rest from their pen long enough to meditate on the harm they are doing. Doctrinaires obscure a subject of perfect simplicity and clearness—feeding and its disorders—and send the death rate in young infants skyward every summer.

The most monstrous and singular anomaly is to withdraw the breast from a child with an acute diarrhœa. Diarrhœa in a breast-fed infant is never serious. With regulation of the habits and diet of the mother; freedom from care and anxiety, and proper intervals between nursing, it ceases at once. The devious practice of substituting for this physiological secretion some concoction of human device and fallible professional judgment, is the direct outcome of the dissemination of the writings of faddists.

With correct feeding (breast or bottle) diarrhœa (an[3] cholera infantum) never arise. Dietetic error is the sole cause. This shuts out the theory of specific germ origin. In its incipiency, diarrhœa is always absolutely controllable by the simplest management, which sets at naught all speculation as to serum treatment. Is it possible that practical physicians will ever seriously contemplate the control of a process of fermentation in twenty feet of intestine by serum treatment?

25 West Thirty-seventh Street.

The Microscopic Findings in Four Gasserian Ganglia Removed for Trigeminal Neuralgia.—Sidney I. Schwab says, that from the result of his researches, the following conclusions seem to be justified: (1) In six ganglia removed for trigeminal neuralgia, anatomic changes were found of sufficient importance to bring them in relation with the symptoms of this disease. (2) These changes in the cells do not point to them as the primary cause of neuralgia, but they may be taken to represent the effects of abnormal cell activity, the origin of which we are not able to point out. (3) The Gasserian ganglion is the anatomical seat of the chief symptom of trigeminal neuralgia, that is, the attacks of neuralgic pain.—*The Journal of Nervous and Mental Disease.*

PLASTIC ARTIFICIAL VITREOUS IN MULES' OPERATION.

REPORT OF CASES IN WHICH PARAFFIN HAS BEEN USED.*

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After the removal of an eye, the efforts of the ophthalmologist are put forth to mitigate, so far as possible, the subsequent effects of the operation. If an enucleation has been performed, the orbital contents will ultimately shrink so as to form but a poor support for an artificial eye. The severed ocular muscles, having nothing on which to exert their power, undergo atrophy. Little or no motion remains to the stump, while the immovable glass shell but emphasizes the defect it was designed to conceal. The play of all the facial muscles is so intimately associated with the movements of the eye, that when the influence of the ocular muscles has been eliminated by an enucleation, that side of the face will soon become flat and expressionless.

The primary cosmetic effect of an evisceration may be better than that of an enucleation, but it is far from being a satisfactory operation.

In 1885 Mules† of Manchester introduced to the profession a method that promised better results than has previously been obtained by either of the above operations. Briefly stated, it consists in removing the cornea, eviscerating the contents of the scleral cavity, into which a glass ball is inserted. The scleral opening is then closed over the ball, which, if it is retained, gives to the stump the form and motion of an eye. When the operation is successful its results are certainly almost ideal, the most important being, that by preserving the functions of the ocular muscles, mobility of the entire countenance is retained. It was soon discovered, however, that this artificial vitreous was sooner or later very apt to be extruded, the final result being similar to that obtained by an evisceration. Balls made from all sorts of material have been substituted for those of glass, but the results have not been materially modified, their final expulsion appearing to depend upon conditions other than their composition. At the present time the prevalent feeling among ophthalmologists regarding the operation of Mules is one of disappointment.

When, from any cause, a fistulous opening has once formed over an artificial vitreous, it resists all attempts at repair until the foreign body has been expelled. Under these circumstances it has always appeared to me that if a portion of the ball could be removed and the tension on the scleral walls relieved, we might hope for closure of the wound over the remainder.

The following plan of using some material for the artificial vitreous that can, if necessary, be removed piecemeal, has not, so far as I am aware, been previously employed.

Paraffin was selected as the most available material for carrying out this principle, which I applied in the case of Louisa K., age twenty-seven, who entered the Manhattan Eye and Ear Hospital January 17, 1902. The right eye was atrophic, with conical staphyloma of the cornea. An unsuccessful attempt to remedy the deformity had been undertaken in Germany. As the eye was irritable and unsightly, she asked for its removal.

The Mules' operation was performed in the usual

*Read before the New York Academy of Medicine, Section on Ophthalmology, November 17, 1902.

†P. H. Mules, *British Medical Journal*, December 19, 1885, page 1453.

manner, except that instead of glass a ball of paraffin was used to fill the vitreous cavity. The paraffin employed had a melting point of 120° F. The wound apparently closed satisfactorily; but it was soon discovered that a small fistula existed through which the plastic paraffin was slowly oozing. With a Daviel spoon, warmed in hot water, a considerable quantity of the paraffin was easily extracted through the opening, the edges of which were then freshened and sutured. No success attended this procedure, the fistula remained patent and the paraffin continued to escape. Two subsequent attempts to close the hole were followed by failure, and it was decided that paraffin was an unsuitable material for this purpose. No change for the better occurred until the paraffin had been discharged down to the level of the fistula, which, as the sclera had been stitched transversely, was about the center of the ball. When this point had been reached and about one-half of the paraffin had leaked away, the opening closed spontaneously and has remained closed since, a period of about ten months. The remaining paraffin forms an excellent cushion for a shell, and the stump has good motility. My colleague, Dr. Neil Hepburn, mentioned this case in the last meeting of the American Ophthalmological Society, and it was suggested there that the paraffin would gradually be absorbed. I doubt if any absorption has occurred, as I am unable to discover any change in the shape or size of the stump since the fistula closed.*

In preparing the ball the paraffin was first brought to the boiling point and then cooled very quickly, as in histological work, to prevent crystallization and the formation of bubbles. A ball was then roughly shaped with a knife. This was brought to the required size by placing it on a long needle and rotating it in the flame of an alcohol lamp, the action of the flame being controlled by occasionally dipping the ball into a cold bichloride solution.

Dr. Edgar S. Thompson, at my request, has since used a paraffin bead in one case. This paraffin had a melting point of 135° F. I understand, from Dr. Thompson, that the subsequent history of his case was similar to my own. There was an incomplete closure of the scleral wound, through which paraffin was discharged until it had sunk to the level of the fistula; then spontaneous healing occurred, and a very satisfactory stump remains.

Dr. D. Foster, House Surgeon of the Manhattan Eye and Ear Hospital, has also employed paraffin in one case when no glass ball of the proper size was at hand. In this case no fistula formed, and the result, four months after operation, is as good as can be expected in these cases.

The principle involved in this modification of Mules' operation requires a more extended trial before its value can be estimated.

The following immature conclusions may, however, be drawn from these three cases:

When fistula follows the Mules' operation it will close spontaneously if a sufficient quantity of the artificial vitreous can be removed. That which remains will form a good support for an artificial eye.

Paraffin used for this purpose is prone to produce fistula by softening and getting between the lips of the wound, or into the track of a suture. These accidents are to be avoided by using paraffin, or some modification thereof, that will not soften at body temperature; also by so suturing † the scleral wound that no aperture remains through which paraffin can exude.

A plastic material like paraffin will adapt itself to any inequalities on the surface of the glass shell, and ulceration from pressure is not apt to occur.

Paraffin beads are easily prepared, and may be used in special cases in which glass beads of the required shape or size are not obtainable.

*This criticism was based on the fact that the paraffin used in plastic nasal surgery is removed by absorption. The conditions, however, are hardly analogous. The paraffin mixtures used to supply subcutaneous loss of substance are very soft, so as to be injected by the hypodermic method. Owing to their semi-fluid consistency, they are eventually absorbed. The paraffin which is recommended for an artificial vitreous should have a very high melting point. Unless it can be sufficiently softened by body temperature, it is unlikely that absorption will occur.

† The scleral opening should be closed with silk sutures. Catgut has not proved satisfactory in this operation.

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CLINICAL RESULTS WITH ANTI-STREPTOCOCCUS SERUM IN SCARLET FEVER.

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In 1896 a series of clinical investigations were commenced with Marmorek's serum, by Professor Baginsky of Berlin. Mild and malignant cases were chosen, and large and small doses were injected. The results, which were published at that time in a paper read before the Berlin Medical Society,[1] were disappointing, and the serum treatment was abandoned by him.

My own experience I owe to the courtesy of Baginsky during the summer of 1896, while abroad, and to continued experience in this city. In a paper read by me[2] before the Section of Pediatrics, New York Academy of Medicine, entitled "Clinical Experience with Antistreptococcus Serum," my conclusions were: "That we are not justified in either using or recommending the use of the antistreptococcus serum, and that the indiscriminate sale of this serum should be prohibited, until clinical experience established the true therapeutic value of the serum."

William H. Park, discussing my paper at that time, said that "the streptococcus serum differs from the antitoxin serum of diphtheria in one important feature—the bactericidal action of the streptococcus serum. The virulent streptococcus makes no more toxin than one that is not virulent; the ability to grow alone is what makes it virulent. It is, unfortunately true that the streptococcus serum is still very weak, but it is certainly a protective serum, as has been abundantly proved in the experiments at the laboratory of the health department, where a rabbit has been protected from septicæmia by sufficiently large doses of this serum. If, however, a rabbit became so septicæmic that the streptococcus could be obtained from the blood of the animal, the result of the injection of the serum was negative. It should always be born in mind that the streptococcus serum cannot be of any value except in inflammation due to the streptococcus."

In a study of 701 cases of scarlet fever, by Professor Baginsky associated with Dr. Sommerfeld, the streptococcus was demonstrated in 696 cases.[3]

The streptococcus was found on the pharyngeal mucous membrane, intra vitam.

About 100 cases were studied post mortem, and the streptococcus was found in the various organs in the heart blood, in the bone marrow, and so on. The constant presence of the streptococcus, although associated frequently with other germs, requires careful consideration. Because of this constant presence of a streptococcus its association with scarlet fever might be inferred.

Thus the conclusions of Baginsky and Sommerfeld

were that *the streptococcus is a distinct etiological factor in scarlet fever.*[4]

Reasoning by analogy, these investigators determined to produce a powerful serum. The standard adopted was to be on lines similar to that used in producing concentrated antitoxin for diphtheria.

Dr. Hans Aronson utilized a streptococcus taken from a child with a scarlatinal angina. From this germ he cultivated pure cultures. He also utilized a streptococcus taken from the bone marrow of a child that died of scarlet fever. From the cultivation of these germs Aronson was able to produce a very active and efficient immunizing serum.

A series of preliminary experiments were first tried on animals before Baginsky consented to its use in children. He found that "when mice were injected with a very virulent streptococcus bouillon, which usually $\frac{1}{100}$ millionth of a cubic centimeter proves fatal, it was found that they could easily withstand an infection of 0.000015 c.cm. of a most virulent streptococcus bouillon, if they were previously injected with 0.03-0.1 c.cm. of antistreptococcus serum."

Control mice, which were not previously injected with this new Aronson serum, all died when injected with the same fatal dose of streptococcus bouillon. Mice which were first injected with Marmoreck's serum and later received a fatal dose of the streptococcus bouillon all succumbed, proving that there was no healing property in Marmoreck's serum.

Aronson[5] used horses to produce immunity. The cultures of streptococci injected by him were derived from cases of scarlet fever.

In Germany, serum of which 0.01 c.c. when injected into mice will prevent septic infection of hog erysipelas is designated as a "normal serum." One c.c. contains one immunizing unit. The serum produced by Aronson, and utilized by Baginsky and myself, is equivalent to twenty times the strength of normal serum.

A series of interesting animal experiments are described in detail by Aronson. After an intra-abdominal injection with at least ten times as much as the ordinary fatal streptococcus quantity. The bacteria enter the circulation very rapidly, frequently in one hour, but positively after two hours the bacteria can be demonstrated in the blood.

Aronson advises amputating the tail and using the blood oozing therefrom for inoculating the nutrient bouillon. Aronson was able to save most of the animals by injecting five times the ordinary immunizing dose, two hours after a general infection had taken place. He also reports a series of successful results by injecting this healing serum even twenty-four hours after their infection.

It is interesting to note that in a series of animals which had first received a fatal injection of streptococcus culture, and on the following day an injection of a curing dose of serum, "living germs could be demonstrated in the blood at least twenty-four hours after such injection of serum." Thus Aronson reasoned that as long as the streptococcus could be demonstrated in the blood of these animals, that curing injections of antistreptococcus serum were indicated.

Aronson maintains in a paper read by him[6] *that an important therapeutic indication for the use of antistreptococcus serum was apparent to him as long as streptococci could be demonstrated in the blood of animals. He also insists that this point should be used as a guide in the determination of when to use and when to discontinue serum.*

How Is the Action of Antistreptococcus Serum Brought About?—Aronson maintains that even very powerful serum has no direct influence on streptococci. He has found that when virulent cultures of bouillon containing streptococci are inoculated into antistreptococcus serum, that they multiply, so that, although the serum seems to inhibit the growth of these germs slightly, there is *no direct specific destruction* which could be attributed to the serum. There is therefore something else in the animal body in addition to the serum, which stimulates cell activity, or probably by the direct cellular action, produces both an immunizing and a healing action. Another important point gleaned from the experiments of Aronson, shows that *when an animal was first injected with healing serum, the bacteria remained local and did not enter the general circulation, whereas in animals which were not previously injected the bacteria could be demonstrated in the blood, usually in one or two hours.*

This certainly proves that there are anti-bodies in the serum which prevents this general infection. These anti-bodies belong to a class called by Ehrlich amboceptors.

Another property of this new serum is that it produces typical agglutination of the streptococcus. This has never before been possible with antistreptococcus serum. Aronson insists that the agglutination described by him should not be confounded with microscopical agglutination. *The agglutination with this antistreptococcus serum is macroscopical, absolutely typical and is only possible when a concentrated serum is used.*

The identity of the various kinds of streptococcus found in man and in animals has been made the subject of an extensive study by Marmorek[7]. His conclusions based on his experiments show that the streptococci are all identical. Aronson maintains the same. The pneumococcus, which is morphologically similar to the streptococcus, *does not show agglutination properties.*

Baginsky's cases and their result with the new serum:

First group of cases treated	19 in all	—1 death = 5.3	per cent.
Second group	5 cases	—0 death = 0	"
Third group	18 cases	—1 death = 5.5	"
Fourth group	16 cases	—1 death = 6.2	"
Total	58 cases	—3 deaths = 4.2	"

Baginsky injected a series of moribund cases which proved fatal, thus he could increase his total by adding four more cases with four more deaths. One of these cases had tuberculosis, and another had pneumonia of a gangrenous type. Taking at random a series of two groups which were not treated with serum, he finds the following results:

First group	31 cases	—3 deaths = 9 .7	per cent
Second group	32 cases	—6 deaths = 18.7	"
Total	63 cases	—9 deaths = 17.3	"

Case I.—D. F., born September 28, 1898. Was prematurely born in the seventh month of pregnancy. She is an only child. Her parents are healthy. The family history is good. The mother has had one miscarriage at three months. This child was nursed at the breast about four months, and then put on Mellin's food. She has always had dyspeptic difficulties associated with continuous constipation.

Her teething began when nine months old. Her walking commenced at seventeen months. She then had pneumonia. Is susceptible to bronchitis and tonsilitis. Had a very bad attack of dysentery in the summer of 1901. Has a large hernia, for which she is treated by Dr. De Garmo. She had a second attack of pneumonia in October, 1902.

Adenoid vegetations were recently removed by Dr. H. Jarecky, after which the child's condition was normal. She is a very nervous child, and has always

CHART 1.—CASE I. FIRST WEEK AFTER SERUM INJECTION.

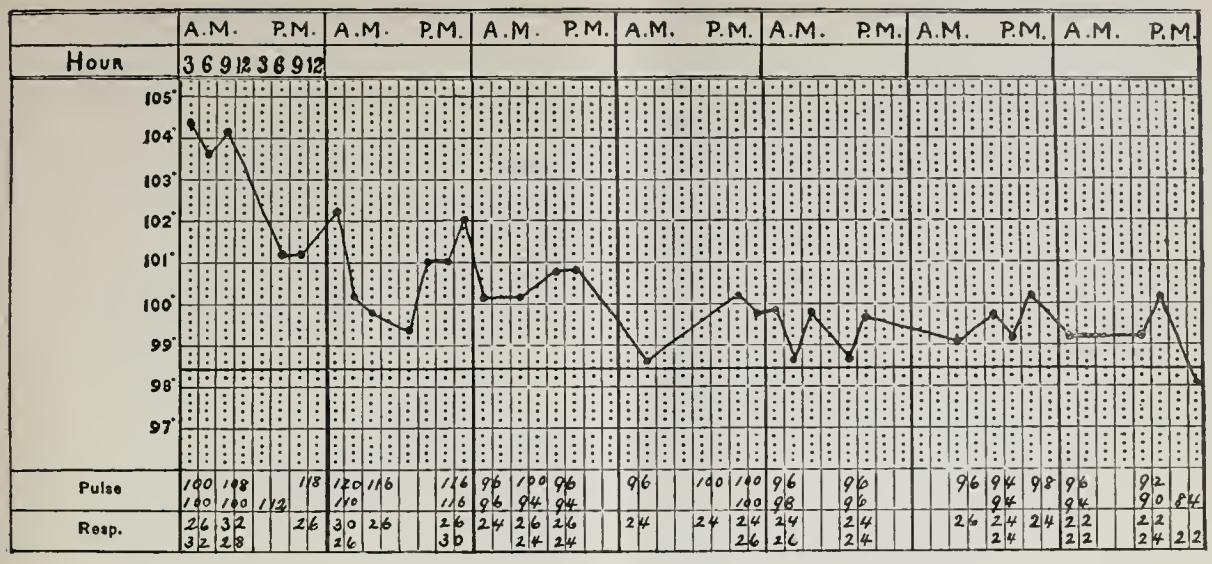
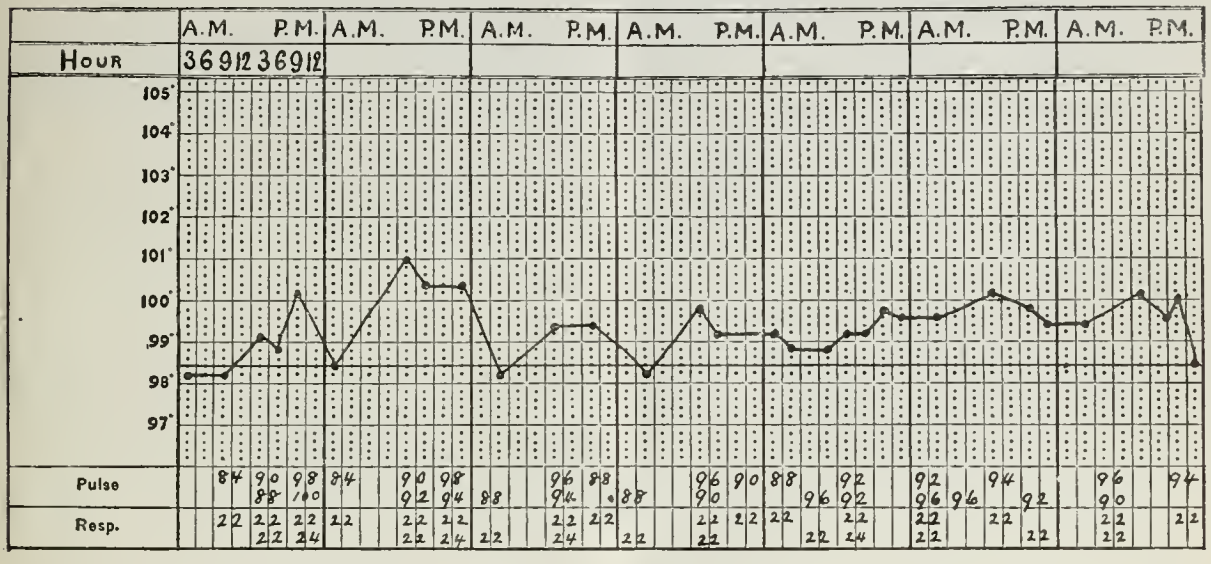
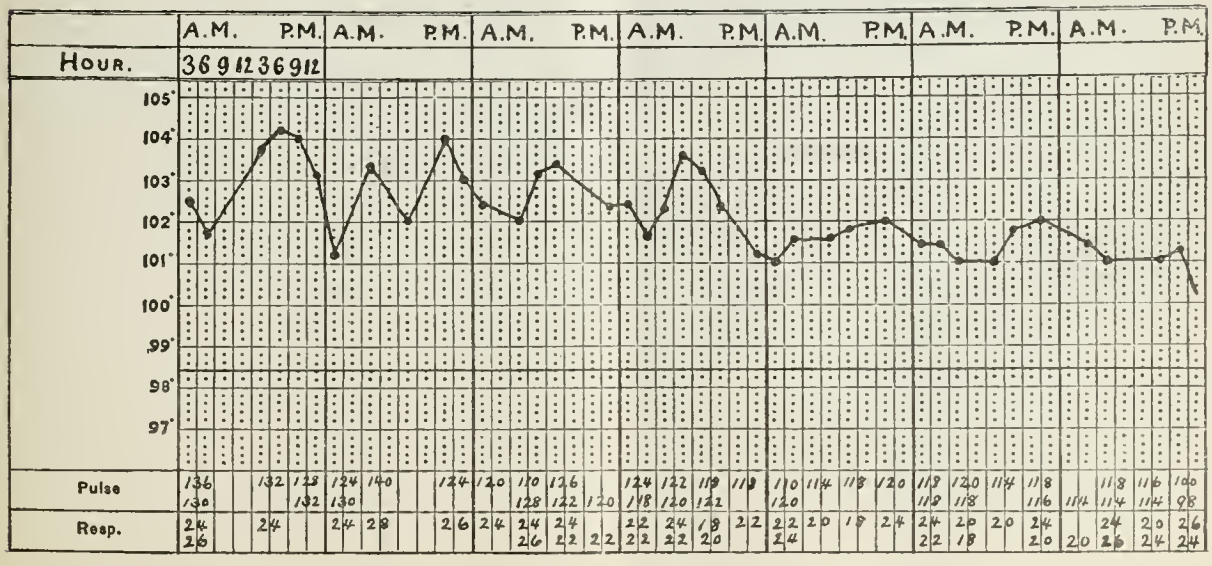


CHART 2.—CASE I. SECOND WEEK AFTER SERUM TREATMENT.



The author's case of scarlatina, with pseudomembranous (necrotic) patches on pharynx and tonsils.

CHART 3.—CASE II. FIRST WEEK AFTER SERUM TREATMENT.



Scarlatina maligna; extensive necrotic patches in the pharynx—both tonsils—with enlarged lymphatic glands.

had marked evidences of rickets. Carious teeth, Harrison's grove, and the funnel-shaped depression of the thorax is well marked. Her present illness began with vomiting and a temperature of 104°F. An exanthematous rash covered the entire body. Several membranous patches were plainly seen on the pharynx and tonsils. A culture taken showed the absence of Klebs-Loeffler bacilli. The glands of the neck were enlarged. A diagnosis of scarlet fever was made. Owing to the weakened state of the child, sepsis was feared, and hence I injected 20 c.c. of Aronson's antistreptococcus serum on February 15, 1903.

The usual aseptic method was thoroughly carried out to avoid local infection. The child's condition improved gradually and continuously. The most marked effect in this case was apparent, first, in the reduction of the temperature by lysis, and, secondly, in the gradual melting away of the pseudomembranes (scarlatinal necrosis).

At the time of writing (it is now the commencement of the third week) there *has been no disturbance nor complication*. The kidneys are active. There is no evidence of nephritis. Daily examinations of the urine have been made. As this child has rickets and is in a subnormal condition, I would not have been disappointed to find some toxic disturbances. I therefore feel inclined to give the serum the credit for this convalescence. Desquamation appeared about the fifth day after the injection.

Case II.—Hannah S., eight years old, was first seen by me February 20, in consultation with Dr. L. Kohn. The history given me by Dr. Kohn was that the child had been sick three days with a temperature of 104°F. the day previous and 104⅕° F. to-day. The pulse was weak and rapid. Large necrotic patches covered the entire surface of the pharynx, tonsils, and uvula. There was a marked fetor of breath. A very intense eruption covered the entire body. There was loss of appetite and a general apathetic condition. At the time of the injection of the serum, the following condition was noted: Temperature, 104⅕° F; pulse, 158; respiration, 26.

Owing to the severe general infection, I decided to give an injection of 20 c.c. of antistreptococcus serum.

On February 23 I saw the case a second time with Dr. Kohn and noted the entire disappearance of the necrotic patches in the throat. This condition is identical with that noted in Case I.

Dr. Kohn told me that this condition was already apparent on the third day after the serum injection.

The deductions after Baginsky's experience with this new serum were that "no secondary ill effects were noticed." The fever, even in severe forms of the disease declined steadily and continuously without interruption by complications.

Baginsky reported a series of observations, and demonstrated fever charts showing the gradual decline after comparatively small doses of serum. In some instances, two, rarely three doses of 20 c.c. each caused the gradual decline of the disease.

All in all, Baginsky maintains that with the exception of "serum rashes," there are no disagreeable effects from this new serum. Great care should be exercised in judging this new serum from a small, although a successful, series of cases.

The specific action of antitoxin in diphtheria is far greater comparatively than the action attained from the use of this antistreptococcus serum.

It is too soon to formulate definite conclusions based on an experience of two cases. The clinical results were certainly striking. The effect of the serum on the temperature shows that it did inhibit bacterial products. Another interesting observation in both cases is the disappearance—*almost melting* away—of the necrotic membranes after the fourth day. The temperature came down gradually by lysis. There was no crisis which could be distinctly noted, although Case I showed a marked antithermic result of the injection. The glands of the neck in both cases were swollen and subsided with the disappearance of the throat manifestations. The vital point consisted in a strengthening diet in addition to strict hygiene.

Thus I feel warranted in indorsing the view expressed by Baginsky, advocating the use of this new serum in the treatment of scarlet fever.

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5. Aronson, "Antistreptokokken-Serum." *Berliner klinische Wochenschrift*, October 27, 1902.
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65 East Ninetieth Street.

Kidney Complications in Æstivo-Autumnal Fever.—Ira R. Bartle reports cases of nephritis directly referable to attacks of malaria. So much have kidney complications in connection with this disease forced themselves on his notice, that he now never treats a case of even simple malaria without at least an every other-day examination of the urine, and he is satisfied that this precaution has saved the lives of at least a half-dozen patients. The greater the number of crescents and flagellated parasites present in the blood, and the more free pigment, the more does he deem necessary the daily microscopic examination of the urine, for with an excess of malarial infection, there is an excess of toxins producing inflammatory changes, or later, granular degenerative changes in the interstices of all glandular elements of the body, and especially the excreting organs. In the author's experience, blackwater fever has followed the administration of quinine in three instances of this complicating nephritis, with death in two, hence he follows the rule of using the remedy with extreme caution in cases of over five or six days' standing, when the infection is virulent, and follows the treatment used by the practitioners in the Yazoo and Red River Valleys in cases of pernicious malaria—namely, the use of hyposulphite of soda in ten to twelve-grain doses.—*Memphis Medical Monthly.*

The Treatment of Traumatic Gangrene of the Extremities.—Van Buren Knott recommends the following procedure. Being confronted with a case of traumatic gangrene of an extremity, estimate as exactly as possible the line between the deceased and healthy soft parts, and having first, under anæsthesia, made a most careful and complete disinfection and cleansing of the skin, puncturing all bullæ and removing all discharges, envelop the gangrenous area in a sterile towel up to the line selected, and at this point make a circular amputation, cutting through soft tissues and bone at the same level. Ligate carefully all bleeding points, including none of the perivascular tissue in the bite of either the forceps or the ligature. Leave the wound absolutely open, not introducing a single suture, and apply moist dressings of gauze saturated with salt solution, these dressings to be changed from two to four times in twenty-four hours. After seven to ten days, if the wound is perfectly clean and the condition of the patient favorable, the classical circular amputation may be made by dissecting up the flap already outlined and sawing the bone at the proper level. The author has in four cases had the best of results by this method. He enumerates its advantages as compared with the old method.—*The Railway Surgeon.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

THOMAS L. STEDMAN, A.M., M.D., ASSOCIATE EDITOR.

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New York, March 7, 1903.

ATTACK ON TENEMENT-HOUSE REFORM.

OWING chiefly to the efforts of the New York Charity Organization Society, laws were recently enacted by the State Legislature whereby tenement-house builders were compelled to conform to certain conditions in the erection of such structures in New York City. Tenement buildings under the new regulations have to be properly ventilated and efficiently lighted. In short, the dwellings of the poor must, in some degree, be fit for human habitation.

Senator Marshall and Assemblyman Dale have just introduced bills, now pending before the Cities Committee of the Legislature, which if passed will sweep away not only the reforms accomplished in recent years, but many of the alterations for the better which have been brought about in the past forty years. According to a pamphlet published on the matter, the bills would have the following effects:

They change the definition of a tenement-house so as to exempt from the operation of the law all buildings which contain less than five families. This would mean that more than 25,000 buildings would be left without any law at all, and without any supervision in regard to sanitary conditions, and without means of escape in case of fire, and prostitutes could ply their business in such houses without fear of being disturbed.

These bills would permit the erection of new four-story tenement-houses, containing as many as sixteen families, with wooden stairs, wooden floors in the public halls, and wooden partitions enclosing the public halls, and with the cellar stairs inside the house directly underneath the main stairs, making a continuous flue in case of fire, instead of having fireproof stairs, fireproof floors in the halls, and the halls enclosed entirely with brick walls, with the cellar stairs outside of the building, and no opening between the cellar and the first story. They would permit 75 per cent. of the lot to be covered in new buildings, instead of 70 per cent., thus diminishing the amount of space left for light and air. They would permit once more, in new houses, the construction of the old, dark, unventilated air-shaft, with all the sanitary, moral, and social evils that it produces, and in new four-story buildings public halls and stairs without any windows to the outer air whatsoever.

With respect to the old buildings, the bills would do away with all the improvements introduced and would leave the old houses as they are and would repeal nearly every section of the law which requires any alteration in an old house which costs money.

The attempt to repeal the present tenement-house legislation and to revert to the old order of things is dictated solely by interested motives. The New York Academy of Medicine has recently passed the following resolutions:

"*Whereas*, Strenuous efforts are being made to induce the Legislature to utterly undo the great advances made in recent years in tenement-house reform and sanitation, and to prevent the permanent carrying into effect the great improvements in the construction and management of tenement-houses in New York and Buffalo, which have been made possible by the recent Tenement-house law, and

"*Whereas*, Pulmonary tuberculosis is practically epidemic in the city of New York, there being eight thousand deaths and twenty thousand cases annually, and

"*Whereas*, The lack of light and air in the rooms of the great masses of the people is one of the most potent causes in increasing the prevalence of this and other communicable diseases, and constitute serious menaces to health and morality,

"*Be it resolved*, That the New York Academy of Medicine deplores any weakening of the present tenement-house laws, and urgently requests the Legislature to permit no changes to be made that will in any way decrease the amount of light and air available for the people living in such houses, or in any way take a backward step in regard to their sanitary condition."

The pressure of public opinion will—it may be hoped—be exerted to such an extent that the Governor and his advisors will be guided by the advice of the medical profession and sanitarians rather than allow themselves to be persuaded into an action harmful to the whole community, merely to satisfy a body of men solely actuated by a policy of greed.

As a matter of fact, the law with regard to tenement-houses instead of being weakened should be made much stricter. The increase of tuberculosis alone is a sufficient cause for steps in this direction. If the bills before the Legislature are passed, a further increase in consumption and other communicable diseases may be anticipated.

INFECTIVITY OF TUBERCULOSIS.

SIR HUGH R. BEEVOR, M.D., F.R.C.P., gave an address a few weeks ago in England in which he delivered himself of some eminently sage remarks with regard to the infectiousness of tuberculosis.

It has become almost an article of faith that tuberculosis is infectious to a very considerable degree, and many physicians spread the doctrine that it is extremely dangerous to live in the vicinity of those suffering from the disease. The menace to public health afforded by the consumptive dwelling among his sound fellow men has been probably exaggerated. Of course it would be much better for all concerned if phthisical subjects could be removed to a locality where they could have plenty of fresh pure air, and the diet most suitable to their condition, but, failing this, there is no need to create

a panic concerning their association with other persons.

Sir Hugh Beevor, speaking on the matter, said: "The term 'infection' is too loose a term to apply to both measles and tuberculosis. When its use does damage to the workman's prospects, it is perpetrating an injustice upon him. 'Sub-infectious' is a more proper term to employ in public health."

The author, after alluding to the poor results obtained by the isolating of infective fevers in hospitals for fever, says that "those who rank tubercle as most highly infectious must seriously doubt if it is a right policy to apply such a system to tubercle. He then ends his paper with these words: "I earnestly hope that the medical profession at large will not encourage the public to avoid their tuberculous fellow creatures. Such a course will not, in my opinion, diminish the amount of tubercle. It will, however, infallibly swell the ranks of the unemployed, it will depress the phthisical wage-earner's spirits, it will empty his pockets, and ultimately, by want and distress, reduce his family to that condition of low vitality which the tubercle bacillus requires for a successful invasion."

The wisest manner of regarding tuberculosis, after all, may be to look at it not as a highly infectious disease, but as communicable under certain conditions of receptivity, and as requiring only reasonable precautionary measures to prevent its spread.

It is not difficult to understand that much of the present scare concerning the communicability of tuberculosis has been the result of over-zealous efforts on the part of health boards to magnify their functions and increase public patronage. While this may be natural, under the circumstances, reasonable discretion should be used in not attempting to prove too much for the bacteriological as against the purely clinical side of the question. In the determination to kill the bacillus at all hazards we may lose sight of the patient. What is more needed now than extra appropriations for health board laboratories are greater efforts in improving the sanitary conditions of the tenement districts, thus rendering the soil of disease unfit for the seed. There is, of course, no argument against destroying tuberculous sputum and instituting proper sanitary precautions against the possible spread of any disease, but the tubercle bacillus is not the sole factor in the great problem of disease prevention.

THE GERMAN MEDICAL CURRICULUM.

Within the past fifteen years there has been much discussion in Germany as to the requirements for the right to practice medicine. After a thorough consideration of the matter by the universities and principal medical authorities of the country, a decision was come to, and the new regulation went into effect on the 20th of May, 1901.

The German methods of training, and testing by examination the knowledge gained by the student, are as uncompromisingly severe in the sphere of medical as in the other branches of education. Slipshod ways are an abomination to the disciplined and painstaking Teuton, and it may be confidently asserted that a man who has graduated in medicine in Germany knows his work at any rate by rote—as well if not better than the medical graduate of any other country. Only two examinations are required, but before going in for the first, candidates must present the certificate of a gymnasium or a real-gymnasium, and must have spent at least five semesters in medical study in one or more of the universities. This examination includes anatomy, physiology, physics, chemistry, zoology, and botany.

The second examination cannot be taken until ten semesters, including the half year of military service, have been passed in the study of medicine. This examination includes general pathology and pathologic anatomy, medicine and surgery, psychiatry and hygiene. The course throughout is severe and searching, and the latter examination is a good test of a man's practical knowledge.

After all this time has been spent in medical study, and after the two examinations have been passed, the successful candidate is not yet allowed to practise, but has to spend a year in hospital. The institution of this "practical year" is the most notable feature of the reforms introduced into the German system of medical education. The candidate has to spend the time in a university clinic, a university polyclinic, or a specially designated hospital may be selected, and is under the supervision and instruction of a director, a third of the year or more being devoted to internal diseases. The would-be medical man has to convince the authorities that he has increased his medical knowledge and ability and must show a sufficient understanding of the tasks and duties of the medical profession. If he fails in accomplishing this, he is compelled to continue for a period to be decided by the authorities. When he has successfully passed through the ordeal, and has furnished testimonials of good moral character, and has exhibited certificates showing that he has attended at least two public vaccination and revaccination periods, he is given the license to practise medicine in any part of the German Empire.

Whether the medical curriculum of most of the European countries is unnecessarily long and severe is a disputed point with Americans. There is little doubt, however, that in many States of this country the medical course is too short. The tendency on the other side of the Atlantic has been of late to lengthen the time of medical education and to make the examinations more severe. Even in Great Britain, it requires five years of medical training before a man can become qualified, and, as in Germany, the last year is taken up with practical work. Perhaps a native of this country would not care to spend so much time in mastering the details of the medical profession, regarding the matter from a material point of view.

An infusion of the German spirit of thoroughness in medical training might not, however, be amiss in many of the American medical schools.

Schleich's Methods for the Treatment of Wounds.

Dr. Philipp Bockenheimer gives (in No. 344 of the *Sammlung klinischer Vorträge*, 1902) an extended report on his apparently careful studies of the methods recommended by Schleich for the treatment of wounds. Since his introduction of glutol serum in 1894, Schleich has maintained that he no longer had progressive suppuration, and Bockenheimer considers that Schleich's acquisition of adherents in

various quarters has been not a little due to the enthusiasm with which, in his book, "Neue Methoden der Wundbehandlung" (Berlin, 1900), he points out his new ways of handling wounds and their brilliant results. Schleich's theory that the ideal dressing would be one which is aseptic and is like in kind to the normal, plastic, intermediary substance (composed of serum, fibrin, and cellular substance), in which healing takes place in wounds by organization, Bockenheimer endorses. Believing that he has found this, Schleich recommends three substances, pulvis serosus, glutol, and glutol serum, the last a combination of the other two. In Bockenheimer's hands, however, all three either failed signally in practice, or where, exceptionally, one succeeded other ordinary methods did equally well as regards the direct effects on the wound, and were, besides, much more convenient. Schleich's methods were very much more costly (which, considering that they offered no compensating advantage in the way of shortening the time of healing, or of greater ease in manipulation, was an important consideration), and were, moreover, very difficult for a beginner to learn, and even for a practiced dresser were hard to carry out.

All three powders formed, when dusted over a wound, a closely-adherent scab, which, being almost impervious, retained under it the accumulating secretion, thereby necessitating frequent removals and renewals. The condition of the wound was also not open to inspection. The adhesiveness of the scab necessitated the giving of much more time to the dressing, and almost always resulted in the tearing away of bits of new-formed tissue, thus causing bleeding and retarding healing. In small aseptic wounds, with little or no secretion, the powders did well, but no better than the usual methods. In suppurating cavities it was impossible to get the powders into all the pockets, and they formed hard cakes, that could not be gotten out entirely, which resulted in retention in the wound of the decomposing secretion, which saturated them. Indeed it was found possible to prolong suppuration at will by the glutol serum treatment. Used in gauze, the powders simply acted to clog the gauze and hinder its power of absorbing the secretions. In phlegmonous cases the powders were positively dangerous by their retention of infected secretions. Bockenheimer also tried Schleich's pastes, pasta serosa, and pasta peptonata. He found them, however, either of no value, or of no greater value than the more convenient and cheaper methods in ordinary use. The preparations are, besides, difficult to keep. The pastes get dry, and have to be re-prepared before use, and, with constant opening, it is simply impossible to keep the powders aseptic. Bockenheimer concludes that Schleich's methods can never be of general utility, and that they will never find a permanent place in our treatment of wounds.

Rigor Mortis in the Fœtus.

In the *Sammlung klinischer Vorträge* (No. 343; 1902), Ludwig Seitz gives an exhaustive critique of this subject, supporting his conclusions with abundant evidence. In the adult rigor mortis bears the closest relation to normal muscle activity. The results of the latter are the production of lactic and carbonic acids. Probably the only differences between the two conditions lies in the non-removal, in the dead body, of the acids from the muscle. At any rate, their accumulation is the cause of rigor mortis by the production of coagulation of the myosin. This involves shortening, and the stiffness is due to simultaneous contraction of opposed groups. Rigor mortis is hastened by previous muscular exertion, and it can be produced by the injection of acids and chloroform. It has two stages, a preliminary waxy rigidity, and the well-established stiffness. Turning to fetal life, the best-known textbooks of the day, physiological and medicolegal, state that rigor mortis does not occur before the seventh month, which is, beyond question, erroneous. The author gives eleven cases observed by him of fœtuses in more or less general rigor mortis, the length ranging from 18 to 36 cm., the weights from 130 to 1,800 grams; the temperatures from 1 to 8° C.; and the time of examination (where known) from seven to forty-eight hours after death. The rigidity was true rigor mortis, and not a desiccation effect, as it occurred equally when the fœtuses were wrapped in wet cloths and was present in one fœtus still in the amnion. As regards fetal rigor mortis in utero (or at the moment of delivery), since 1894 twenty cases have been reported by three observers. The author adds four of his own, making twenty-four in all. But why do we only know these few cases? The chief reason is that rigor mortis is passed through, to the subsequent relaxation, in utero. It could occur there, inasmuch as, though the subsequent relaxation is generally regarded as a decomposition effect, L. Herrmann has shown that it can occur when decomposition is excluded, the continued action of the acids present leading to the formation of acid albumin. That it actually is passed through there is, moreover, indicated by those cases in which the recently dead fœtus (in which no maceration is visible) is born relaxed, and is incapable of passing into rigor mortis. Of this the author gives a case in which, during forty-eight hours, no rigor mortis set in, and the injection of acids and chloroform failed to bring it about. Further, when the child dies during birth, the length of time after death is, in an average parturition, not sufficient for rigor mortis to develop, and after extracting a dead child, the accoucheur having much else to engross his attention, usually pays no further attention to it. Besides rigor mortis, especially in its first stage, can be broken up by the movements impressed upon the child during parturition, especially if manipulative assistance is given. And actual cases are cited in which unusual difficulties in operative procedures have been reported as due to unusual stiffness of the fœtus; in which, at birth, rigor mortis was present everywhere except just in the parts manipulated, and in which no one of a number of physicians had noticed anything peculiar in a child in which, when extracted, the arms were stiff, and five minutes later rigor mortis was thoroughly established. The second case shows that, as might be expected, in its second stage also, rigor mortis in the fœtus can be broken up during parturition.

In at least one case fetal rigor mortis has assumed medicolegal importance (*British Medical Journal*, 1874, p. 772): a woman was acquitted of murder on expert testimony that, as rigor mortis had occurred, the child must have been born alive.

A Patent Medicine Bill.

A bill has been introduced into the Assembly of the State of New York to prevent frauds in the advertisement and sale of patent medicines, medicinal foods and beverages and merchandise. The act in question provides that no advertisements of any patent medicine or its like shall be circulated in the State of New York, unless the same shall previously have been examined, approved and certified by the local Board of Health, with regard to the truth of the representations made as to its medicinal

properties; and, further, that the person alleged to have made a representation shall verify the fact of having done so under oath. Every certificate thus granted to be valid for one year only, and every person, corporation or association violating any of the above provisions to be liable to a heavy fine. This bill is comprehensive and drastic, and will be deemed by those engaged in the manufacture of proprietary medicines as decidedly too sweeping in its provisions. Indeed, it is declared that the enactment of such a measure would destroy the business of makers of patent medicines. There is, however, no doubt that many of the highly lauded so-called specifics which are widely sold are useless, when not deleterious. On the other hand, there are proprietary medicines which do good. Those who manufacture the latter should not fear the examination of their products by an unprejudiced body of men, while those who attempt to foist spurious articles upon a gullible public will be justly driven out of business.

New Methods of Medical Treatment.

In the report of the recent Egyptian Congress, sent by our special correspondent, mention was made of the novel therapeutical suggestions contained in the address of Professor Bouchard. He suggested that, in both local diseases and in general diseases which are localized, if a general drug treatment exercising a specific cure could be replaced by the confinement of the remedy to the diseased area by direct injection, we might attain results hitherto unreached in the cure of disease. Acting on this idea, he has found acute articular rheumatism disappearing after the injection *in situ* of extremely small quantities of sodium salicylate. In some instances the joints were rapidly cured by the injection of half a grain, and he found it exceptional that a synovitis did not clear up after the use of from two to three grains dissolved in a drachm of water.

In a translation of the address, published in the *Lancet* of February 7, 1903, a number of the results obtained by this method are recorded. Several times injection into the painful thoracic muscles had stopped an early pleurisy, and in rheumatic pericarditis he has seen an injection of one and one-half grains lower the fever from 102° to 100°; then a second injection was made, and in three days friction sounds had disappeared. In endocarditis he failed and said that he could not pretend to attain the success of Moritz Benedikt, who, with a solution of carbolic acid (2 per cent.), had seen cardiac affections disappear without leaving any trace behind. He has, however, cured cases of painful muscular contraction of the adductors of the thigh, and has seen good results in neuritis, such as sciatica. In these cases he injected in the neighborhood of the diseased tissues, not in the tendons or nerves. In the same way, when it is a question of inflammation of the serous linings of joints or of internal organs, he has not introduced the drug into the affected cavities, but into the neighboring tissues as near as possible to them.

In tabes dorsalis the salicylate injections failed. Iodide injections, thirty minims of a three-per-cent. solution permanently eased the pains in some cases of ataxia. The combination of mercuric iodide with potassic iodide benefited some cases rebellious to the latter alone.

These results led him to try a similar therapy in a case of ulcerating gumma of the back in which the usual methods of administering mercury and the iodide had failed to produce any result. He then injected one grain of the iodide near the gumma, which promptly healed. In another case, after unsuccessful general treatment and its being relinquished, the gumma disappeared under the influence of three injections each of one grain of iodide of potassium. A woman suffering from severe syphilis had on several parts of her body deeply ulcerating condylomata. He gave her mercury and iodide in the ordinary way, but at the end of a month her stomach could no longer take the iodide; the injections of benzoate, and later of cyanide of mercury, produced lumps of the size of a nut, and her general condition was no better. He therefore stopped the former treatment and experimented on some of the tumors by injecting into them iodide of potassium and biniodide of mercury. In three days a condyloma, into the base of which he had made two injections was cured. Another ulceration was healed after six injections. During this time the other condylomata were not treated at all and showed no improvement. The patient's weakness increased and her hair again began to fall out.

Bouchard admits that it is not quite certain how these infinitesimal doses produce their action. Local treatment, because it is local, brings the drug into the affected area and makes it antiseptic without a general toxic diffusion in the whole body. Concerning the question in general, he says that without neglecting general treatment local means are becoming more and more employed, sometimes by setting up an antiseptic action, sometimes by awakening antitoxic processes by which methods the treatment becomes a cure.

Establishment of a Laboratory of Criminology.

Mr. Arthur McDonald, the well-known authority on criminology, requested some time ago that the Warren County Bar Association should pass a resolution recommending the establishment by Congress of a laboratory in the Department of Justice, for the study of the criminal, pauper and defective classes. Accordingly, a committee of this association was formed and recently has sent in a report on the matter through its chairman, Mr. Edward Lindsey, which report has been adopted as that of the committee to the association. The report gives a good sketch of the science of anthropology, and concedes that investigations into the subject are of high value and importance, but fails to perceive the direct relation of criminology to jurisprudence. Mr. Lindsey states his opinions on the matter as follows: "In apportioning its punishments the criminal law cannot look to the deterrent effect upon one individual, but upon every individual in the State. The science of criminology should be cultivated for the knowledge that may be obtained, but it should be pursued as a scientific investigation and not as a branch of jurisprudence, with which it has no direct relation." The passage of the following resolution by the association was recommended by the committee: "*Whereas*, This association has been requested by Mr. Arthur McDonald to pass a resolution favoring the establishment in the Department of Justice, at Washington, of a laboratory for the study of the criminal, pauper, and defective classes; and *Whereas*, While recognizing the usefulness of the study of the aforesaid classes by exact methods, we are not, as lawyers, concerned with the advisability of its being undertaken by the Government, and we believe that it has no direct relation to jurisprudence, to the law, or to the administration thereof; Therefore be it *Resolved*, That without expressing any opinion as to the advisability of establishing the aforesaid laboratory, we most earnestly recommend that it be not established in

the Department of Justice, where, in our opinion, it would be foreign and conflicting with the aims, subject-matter, and method of the Department."

From a purely legal and educational standpoint the scientific study of the criminal or of other abnormal classes may not be desirable, but at the same time, judging from results reported from some European countries, the study of man conducted upon scientific lines has been useful and successful.

A Chance for Wholesome Legislation.

It has been suggested that the passage of the Nurses' bill, introduced this week in the New York State Legislature, should make it possible in another year to settle the question of midwives and their legal recognition. Why wait another year? We would suggest a "rider" to the Nurses' bill as follows:

On and after September 1, 1903, no person, unless previously registered as a midwife in the Health Office of the city in which she resides or in the city nearest to her residence, or in the County Clerk's Office, said registration bearing with it the attest of two duly licensed physicians vouching for the good moral character of such midwife and testifying to the knowledge of said physicians that the said midwife has to their knowledge attended at least five cases of midwifery, each such case to be enumerated and verified by the Health Officer from the records in the health department where such services as midwife were rendered, shall be permitted to practise as a midwife or to advertise herself as a midwife unless holding the title of Registered Nurse, as provided for in this article. All such registered nurses desiring to engage in the practice of midwifery shall register their names in a book kept for that purpose in the County Clerk's Office, for which said County Clerk shall charge a fee not greater than one dollar. Nothing in this act shall be construed as giving said registered nurses or midwifes any of the rights or privileges of a licensed practitioner of medicine excepting as to exercising their energies in caring for the pregnant woman during the progress of a normal labor. This act shall not apply to licensed practitioners of medicine in the State of New York.

We would suggest the above, possibly modified in verbiage here and there, to the counsel and legislative committees of the various State societies. The midwifery evil is a condition not a theory, and every day of delay in correcting or mitigating the evil is an added indictment of criminal neglect against the medical profession. Almost one-half the cases of birth in New York City are, and have been for years, presided over by uneducated midwives. The resultant evils, too often pictured in daily practice to need more than passing mention here, are so great and so numerous as to call for legislative interference. "Now is the accepted hour."

A Contemporary's Fears Allayed.—A stirring editorial protest appeared recently in the *Lancet* against the establishment in London of American "quick lunch" places, and physicians were adjured to warn their patients against the pernicious habit of eating on the run. One of the promoters of the scheme, moved by this published appeal, has now gone to the trouble of informing the perturbed editors that "quick lunch" is short for quickly-served lunch, and does not at all imply quickly-eaten lunch. Here is an opportunity for another and commendatory leader in which physicians will be urged to drive their patients to the "quick lunch" places. For surely, if the lunch hour is at all restricted, the more rapidly the luncheon is served the more leisurely may it be eaten.

News of the Week.

The Fourteenth International Medical Congress.—The social side of the Madrid Congress will not be neglected. It is announced that the King and the Queen Mother will give a garden party and a general reception at the palace, and the municipality is organizing a general fête with possibly a special play at one of the theaters. There will also be a bull fight in honor of the congress, and there are to be a number of special excursions organized by the various sections. The Spanish railways announce that at Madrid, from April 3 to May 24, special tickets will be issued to members of the congress who may wish to visit Granada and other cities of Southern Spain; these tickets may be had at the same reduction of 50 per cent. as is allowed on round-trip tickets from other cities of France and Spain to Madrid.

A New Bellevue Hospital.—The Board of Estimate and Apportionment of this city has taken action looking to the construction of a number of new public buildings, among them a new Bellevue hospital, at a cost of $3,000,000, and new buildings for Fordham Hospital to cost $500,000. In addition to these hospitals, the Board will authorize the construction of eighteen new free baths in Manhattan and three in Brooklyn, to cost $90,000 each; one very large public bath and laundry at Twenty-third street and East River, Manhattan, to cost $200,000, eighteen public comfort stations in Manhattan, to cost $540,000, and six public comfort stations in Brooklyn, to cost $25,000 each.

New Harvard Medical School Buildings.—It is announced that work will begin soon on the proposed Harvard medical school buildings in the Back Bay Fens. The architects are completing the plans, several changes having been found necessary since the project was first planned for. If there are no serious delays in securing the necessary building material, it is believed that the buildings will be completed in about a year. The work will be pushed forward with all possible rapidity as soon as an actual start has been made. The proposed buildings will occupy a twenty-six acre lot. The cost of the entire group of buildings is estimated at more than $2,000,000, of which J. P. Morgan contributed one-half. The medical school will use five of the buildings, the dental school one, and there will be a large power-house. It is expected that the original plan will be carried out, that of having the five buildings surround three sides of an open court, 520 by 215 feet in dimension, the entrance to which will be through a gate from Longwood avenue.

Tent Life for Tuberculosis on Blackwell's Island.—It is proposed to move the consumptive patients now under the care of the Commissioners of Charities at the Kings County Hospital to Blackwell's Island and house them in tents.

Bellevue Nurses Unjustly Accused.—The charges recently made against certain of the Bellevue Hospital nurses that they had maltreated a patient in the alcoholic ward, have been dismissed at the request of the district attorney, who says that the charges were unfounded, and that the patient was in no way maltreated.

Public Moneys for Private Hospitals.—A bill has been introduced into the Assembly of this State, making it lawful for the town board of any town in which the yearly assessed valuation of real estate is over $10,000,000 to vote any sum of money not exceeding one thousand dollars in any year for the maintenance of a hospital located in said town, which is supported, in part, by charity, and which

gives medical aid and treatment and surgical advice to poor patients without pay.

Trouble in the Jersey City Hospital.—There has been war for some time in the City Hospital, Jersey City, between the nurses and the house surgeon, and this culminated last week in the presentation of an ultimatum by the nurses. They notified the warden that they would resign in a body unless the house surgeon was removed, and this threat won them the first battle, as the house surgeon has been suspended pending an investigation of the complaints of his actions made by the nurses.

A Legacy to the New York Hospital.—Mrs. James H. Banker, widow of a former director of the New York Hospital, died a short time ago, leaving by will $25,000 to the society of the New York Hospital with which to build on the new grounds of the asylum in White Plains a villa for the accommodation of insane patients, and to bear the name and be in memory of her deceased husband.

Philadelphia Neurological Society.—At a stated meeting, held February 24, Dr. Chas. Lewis Allen read a paper entitled "The Changes Found in the Central Nervous System in a Case of Rabies with Symptoms of Acute Mania." He related the case of a man bitten by a dog supposed to be rabid, and who became greatly alarmed and gave himself up to alcoholic excess. Death resulted and post-mortem examination revealed the lesions of meningomyeloencephalitis. The changes in the Gasserian and the spinal ganglia described as characteristic were but slightly marked. Inoculation of lower animals with some of the nervous tissue resulted in the development of paralysis of the hind legs and other symptoms characteristic of rabies. Dr. Harvey Cushing of Baltimore read a paper entitled "The Surgical Treatment of Facial Paralysis by Means of Anastomosis." He reported the case of a man in whom the facial nerve was severed by a bullet directed with suicidal intent against the mastoid region, but penetrating only to the base of the skull. After an interval of about six weeks the peripheral extremity of the divided nerve and also the neighboring spinal accessory nerve were exposed, the latter divided and the proximal extremity of the spinal accessory united by suture with the distal extremity of the facial. As time went on, there was marked restoration of motor power and of electric reactions on the previously paralyzed side of the face, although for a time there was some degree of association in the movements of the muscles supplied by the spinal accessory and those supplied by the facial. Dr. W. W. Kenn read a paper entitled "Anastomosis of the Seventh and the Spinal Accessory Nerves for Traumatic Facial Palsy." The patient was a man who had been struck on one side of the face by a beer-bottle, with resulting division of the branches of the facial nerve. With some difficulty a portion of the spinal accessory nerve was united by suture to a portion of the facial nerve upon the same side, but the patient was indifferent to the result, and hence the outcome was unknown, although it was feared that it would not be successful. Dr. Alfred Gordon read a paper entitled "Remarks on Primary Neurotic Atrophy (Charcot-Marie-Hoffman type), with the Report of a Case in Which There Was Excessive Indulgence in Tea and Coffee." He also exhibited the patient, who was an adult male, presenting weakness and wasting in the lower extremities, more marked on the right, with fibrillary twitching, foot-drop, diminution in electric irritability, abolition of knee-jerks, unsteadiness of station, some wasting of the intrinsic muscles of the hands, slight optic atrophy, and nystagmus. The case was considered one of mixed peripheral neuritis and chronic anterior poliomyelitis.

Philadelphia County Medical Society.—At a stated meeting, held February 25, Dr. L. J. Hammond reported a case illustrating the importance of operation in certain forms of facial paralysis. Dr. G. Betton Massey read a paper entitled "The Treatment of Cancer of the Rectum by Mercuric Cataphoresis." Dr. C. E. deM. Sajous read a communication entitled "The Ductless Glands as Organs of the First Importanee in Vital Functions, and Their Relationship to Disease and Therapeutics." He expressed the belief that the secretion of the adrenal glands is carried to the lungs, where it plays an important part in the process of oxygenation. The glands are supposed to be connected by nerves with the anterior pituitary body and controlled by the latter, which also regulates the amount of oxygen absorbed from the air. Disease-poisons that stimulate this body cause an increased in-take of oxygen, with increased combustion in the tissues and consequent destruction of the poison. Vulnerability to disease is due to deficient functional activity on the part of the pituitary body, with imperfect oxidation in the tissues and lowered vitality. The pituitary body is susceptible to the influence of various medicaments, and in this way the morbid effects of its deranged activity can be counteracted.

Columbus Hospital.—At a meeting of the Medical Board of the Columbus Hospital of New York, held on February 2, the following appointments were made: Dr. Farquhar Ferguson was transferred from visiting to consulting physician to the hospital; Dr. Frederick C. Keller was appointed attending physician, and Dr. Henry Hazen, attending physician in diseases of children.

Appendicitis Ruled Out.—Mr. Murray, editor of the New English Dictionary, has condemned the word "appendicitis," refusing it a place in the dictionary. His explanation of this action is that words ending in *itis* are not English, and therefore do not come within the scope of an English dictionary, unless they happen to be in English use, like "bronchitis." He does not condemn it because of its uncouthness and barbarity, as such, and would probably fire out even more rapidly the more legitimate word, "ecphyaditis," which some would-be purists have tried to substitute for it. "Appendicitis" is without doubt an offensive word, or was at first, but custom is giving it the right of citizenship, and the purists must yield. Mr. Murray should recall the unequal struggle of Dame Partington of Sidmouth with the waters of the Atlantic.

The Samuel D. Gross Prize of the Philadelphia Academy of Surgery.—The conditions of this prize of $1,200 are that it shall be awarded every five years to the writer of the best original essay, not exeeeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded upon original investigations, the candidates for the prize to be American citizens. It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery. The essays, which must be written by a single author in the English language, should be sent to the Trustees of the Samuel D. Gross Prize of the Philadelphia Acad-

emy of Surgery, care of the College of Physicians, 219 S. Thirteenth Street, Philadelphia, on or before January 1, 1905. Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay. The Committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year. The Committee reserves the right to make no award if the essays submitted are not considered worthy of the prize. The trustees are Drs. John B. Roberts, William L. Rodman, and William J. Taylor.

Dr. Robert G. Le Conte has been appointed by Governor Pennypacker Surgeon-General of the National Guard of the State of Pennsylvania to succeed Dr. John V. Shoemaker.

Resignaton of Prof. George L. Peabody.—Dr. George L. Peabody, for seventeen years professor of Materia Medica and Therapeutics in the College of Physicians and Surgeons, has resigned in order to gain additional time for his private work.

Obituary Notes.—Dr. Alexander Stanley Hancock of this city died on February 28 of laryngeal tuberculosis. He was born in Derbyshire, England, sixty-five years ago, and went to Canada at the age of forty years. He was graduated in Medicine at Toronto, and for five years was surgeon to the Allan line of steamships. He then moved to Buffalo, and subsequently came to New York, where he practised for ten years, until illness compelled him to retire.

Dr. George Clarence Gage died last week at his residence in this city, at the age of fifty-two years. He was a graduate of the College of Physicians and Surgeons, Class of 1872. For some time he was assistant surgeon in the New York Eye and Ear Infirmary.

Dr. David A. Kappes died at Philadelphia on February 14, at the age of forty-four years, as a result of pneumonia following septicæmia. He was a graduate of Jefferson Medical College in the Class of 1884.

Dr. Cochran McClelland died at Philadelphia on February 16 at the age of fifty-nine years, as a result of pneumonia. He was graduated from Jefferson Medical College in 1873, and was for a time assistant in gynecology in that institution.

Dr. David M. Anderson died at Venetia, Pa., on February 16, at the age of sixth-five years, as a result of pneumonia. He was a graduate of the medical department of the University of Michigan in 1866, and he served as cadet assistant surgeon during the Civil War.

Obituary.

THEODORE GAILLARD THOMAS, M.D.,

NEW YORK.

With the death of Dr. T. Gaillard Thomas, which occurred suddenly from disease of the heart on Saturday, February 28, one of the most noted of the great New York physicians of a generation ago has passed away. Dr. Thomas was born on Edisto Island, S. C., November 21, 1832, and was educated in Charleston, graduating in medicine from the college of that city in 1852. Soon after graduation he came to New York and became a resident physician at the Emigrant Refuge Hospital on Ward's Island. Upon leaving that institution he went abroad with Dr. Cornelius Agnew and studied in various cities in Europe for eighteen months, at the end of which time he returned and started in practice in this city. In order to eke out the scanty income of a beginner in medicine he established a quiz class in obstetrics in partnership with Dr. Donagee. This quiz was especially for students of the New York University, but soon became so popular that students from other institutions flocked to it in great numbers. His success in this field was for him recognition from the faculty of the University and he was appointed in 1855 to succeed Dr. Bedford as lecturer on obstetrics. Here he remained eight years, going then to the College of Physicians and Surgeons to accept the professorship in obstetrics offered him by the faculty of that institution. This he retained until the new chair of gynecology was established when he was transferred to the latter. The same year he was appointed physician to the out-patient department of the Woman's Hospital, and ten years later was made attending surgeon to the same institution. He was one of the members of the first board of attending physicians to Roosevelt Hospital and served in the same capacity at various times at St. Luke's, Bellevue, the French Hospital, and the Nursery and Child's, and also at St. Mary's Hospital in Brooklyn

Early in his professional life Dr. Thomas had the good fortune to become associated with Dr. John T. Metcalfe, then the favorite physician of the wealthy class in New York, and his material success was immediate. His practice soon became very large, but his preference was for obstetrics and the diseases of women, and he devoted more and more of his time and study to those branches, especially the latter. His work on the "Diseases of Women," published in 1868, was the most complete and advanced treatise of the subject then in existence, and it soon attained a very large sale, establishing the reputation of its author once for all as one of the greatest authorities in gynecology in the world. The book went through seven editions in America, and was translated into five languages. This was his *magnum opus*, but he was for many years a frequent contributor to medical periodicals, both special and general. He was an honorary member of all the leading obstetrical and gynecological societies of Europe.

Dr. Thomas was a bold and skilful operator. In obstetrics he was an advocate of laparo-elytrotomy as a substitute for cæsarean section, and in gynecology his specialty, if so it might be called, was laparotomy, in which operation he had an enormous experience. As a clinical teacher and lecturer he was unrivaled in his day, though it is related of him that his first lecture at the New York University was a dismal failure; he was seized with stage fright, hesitated and stammered, forgot his subject, and finally gave it up and dismissed the class. He manfully returned the following day, began to speak quietly, and soon had his auditors spell-bound. As a diagnostician few could equal him. He seemed to seize at a glance the salient features of the case and to arrive by intuition at a true knowledge of the condition present. In private life he was most genial, beloved by patients and colleagues alike; a man of honor, of high culture, and of innate refinement, whom to know was an honor and an education. In November of last year a dinner was given to him in honor of his seventieth birthday, when some two hundred friends and admirers gathered to wish him all good things. That was the last time many of his friends saw him, for he went south for the winter to Thomasville where he was when the final summons came.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE KING'S HEALTH—HOSPITAL FUND—ROYAL MEDICAL BENEVOLENT COLLEGE — ST. BARTHOLOMEW'S WAR OFFICE ON NURSING—OBSTETRICAL SOCIETY; PRESIDENT'S ADDRESS—PUERPERAL INSANITY—GYNECOLOGICAL NURSES—THE ASYLUM FIRE, VERDICT—PROFESSOR CUNNINGHAM.

London, February 13, 1903.

The King progressed so rapidly that on Tuesday he returned to London. He had taken drives in Windsor Park on the previous Saturday and Monday.

Yesterday the Prince of Wales received a deputation from the Worshipful Company of Musicians, who presented him with £866 2s. for the King's Hospital Fund. This sum was realized by sales of Mr. Percy Godfrey's Coronation March, which was awarded the Company's Prize.

The Prince has consented to take the chair at the festival dinner of the Royal Medical Benevolent College, which was opened in 1855 by the late Prince Consort, accompanied by his present Majesty.

Yesterday a petition, signed by above six hundred citizens and residents, near St. Bartholomew's Hospital, was presented to the Court of Common Council praying that the corporation would take steps to prevent the removal of that charity to another site. The petition declared such removal would be a calamity to all dwellers in the city and all whose occupation brought them within its boundaries. That seems a rather strong statement although the facts adduced in its support cannot be gainsaid. It was said that the hospital is the only large general one within the city, that it is surrounded by markets, railways, the General Post Office, and many large establishments. It was further said that out of the thousands of patients relieved there many would be fatal but for its help. After some discussion the council decided to ask the Lord Mayor to lay the petition before the Mansion House Committee on the hospital.

Of late the War Office has been striving after a reputation for incubating schemes of "reorganization" which some of its irreverend critics call "tinkering." Buttons and boots having for the moment been insufficient to exhaust its reorganizing energies, the Royal Army Medical Corps has been taken in hand and a new scheme propounded. This is that the non-commissioned officers and men should be divided into four sections, viz., (1) Pursing, (2) cooking, (3) clerical, (4) general duty. To the last will be allotted hospital duties only indirectly connected with the care of the sick. Advancement to higher grades and promotion will be through Section 1, and an attempt will be made to render nursing more attractive by revised pay, etc. The Queen has expressed a wish that the best-conducted men nurses shall be admitted to H. M. nursing service, and a badge denoting this distinction is proposed for those who obtain it.

The President of the Obstetrical Society (Dr. Peter Horrocks) delivered his annual address on the 4th inst. He mentioned the changes in the society's laws by which legally qualified women became eligible for admission, and stated that ten had already joined the society. The rule permitting authors of papers to publish them in other journals than the *Transactions*, he said, had worked satisfactorily. The Pathological Committee had done excellent work, no less than fifty-nine specimens of more than average interest and importance being exhibited during the year. A brief notice of the papers read and the discussions following them was given, and the president then mentioned the Fellows who had died during the year. Of these his most interesting notice was that of Dr. Oldham, whose death at eighty-seven years of age I have previously mentioned with most of the others. Dr. Horrocks had obtained some notes of Dr. Oldham's career from Sir S. Wilks, who was a colleague, and from others. Dr. Oldham was one of the founders of the society, a V. P. from the first, president in its third year, and one of the trustees for above forty years. He was a very popular lecturer at Guys' Hospitals—"one of the best Guys' ever had." The president concluded by thanking the honorary secretaries, Drs. Herbert Spencer and Amand Routh, for the able assistance they had rendered him during his two years' presidency.

Is there such a disease as puerperal insanity? This question, followed by half a dozen others, was asked by Dr. Robert Jones by way of bringing on a discussion at the Obstetrical Society. His own views on various points concerning the disease were stated in a series of propositions drawn from his experience of 250 cases; of these 120 began during the actual puerperal period, eighty-three during lactation, and fifty-six during pregnancy. He estimated that insanity occurred in one out of 700 confinements, and that it was so characteristic as to amount to a nosological entity after delivery, but was far less definite during pregnancy or lactation. About 33 per cent. of the cases were in the first puerperism and came on suddenly. Insomnia and headache were early symptoms and should be a warning of danger. Prognosis was that recovery might occur in three months, but oftener took four or five. As to treatment, Dr. Jones said it was best at home when practicable, and comprised absolute rest and quiet; sleep must be procured and the patient watched to guard against sudden impulses to suicide or infanticide. A number of other points were mentioned, and Dr. Jones succeeded in eliciting a full discussion, of which I add some notes.

Sir John Williams commented on the peculiar condition of the nervous system during pregnancy, parturition, and the puerperal state.

Dr. Blandford said the earliest sign of danger was unquestionably loss of sleep, and this demanded the most careful watching and precautions against noise or any disturbance. Absolute quiet was necessary—no talking or even whispering in the room.

Dr. Herman said the main duty as to insanity was to prevent it, and for this food and sleep were necessary. He preferred alcohol in spite of obvious objections to morphia, chloral, or other hypnotics. He did not consider medical men were justified in discountenancing a projected marriage further than expressing their fears as to a possible or probable result.

Dr. Mercier did not think headache so important, but that the only trustworthy indications were sleeplessness and loss of appetite. He protested against the idea that home treatment could be satisfactory.

Dr. Champneys agreed with previous speakers as to the significance of sleeplessness. He also thought alcohol the best hypnotic in these cases. Mental distress in illegitimate pregnancy he did not think could be reckoned an important factor; it varied so much with the moral standard in different countries.

Dr. Andriezen estimated that mental disorder followed illegitimate births twice as often as legitimate.

Dr. Mott mentioned gangrene as an occasional sequelæ. He had seen a case in the county asylum which developed symmetrical gangrene of the feet. There was septic endometritis, and when this was treated the mental condition improved.

Dr. Percy Smith thought restlessness and confusion of thought the most important symptoms next to insomnia. There was no definite form of disorder characteristic of the disease; it might be delirious, confusional, maniacal, melancholic, stuporous, or delusional. Alienists often found a previous history of hysteria in cases admitted to asylums, and many of these were really mental attacks, euphemistically termed hysteria. Such patients ought not to marry.

Dr. E. W. White thought the estimate of 1 in 700 much too low and that probably 1 in 400 would be nearer. Many cases were treated at home, so that asylum statistics did not express the facts.

Dr. W. S. A. Griffith regarded with great suspicion cases of great fear on the part of a woman that she would become insane unless the pregnancy could be terminated; there were sometimes attempts to induce the doctor to procure abortion.

Dr. Tuke insisted on good feeding—artificial if necessary. He urged the danger of forming the alcohol habit.

Dr. Claye Shaw said mental disorder was often associated with sexual excitement at certain periods apart from pregnancy and even in both sexes. In acute mania, coming on soon after parturition, there was probably a connection between the mental and physical state, especially if the temperature rose.

Dr. A. Routh advocated the establishment of intermediate homes for treating these cases. The plan would avoid the stigma of the asylum, and friends would more readily agree to removal.

Dr. Horrocks said obstetricians saw these cases earlier than alienists. He thought refusal of food a more dangerous sign than sleeplessness.

The Gynecological Society is about to follow the bad example of its elder sister and rival—the Obstetrical. You know how the last trafficked in diplomas for midwives. The Gynecological now proposes to take nurses in hand and certify those she finds fit for monthly or for gynecological nursing. A board of examiners is already nominated, but the society has no right whatever to assume any such position.

The coroner's inquest on the bodies of the victims of the fire at Colney Hatch Asylum concluded yesterday. The jury found that "notwithstanding the fact of the

plans being sanctioned by the County Council, the Lunacy Commissioners and the Home Office, those authorities are greatly to blame." They say the building was unfit for its purpose, both in construction and materials, and could have been constructed of non-combustible materials in an equally short time. Some sensible recommendations are added and the highest commendation expressed of the heroic conduct of Dr. Seward, the nurses, and staff.

Prof. D. J. Cunningham, F.R.S., leaves Dublin for Edinburgh, having been invited to succeed to the Chair of Anatomy on Sir Wm. Turner being elected to the principalship.

OUR PARIS LETTER.

(From Our Special Correspondent.)

PASTEUR'S MONUMENT—DECREASE OF CRIMINALITY IN FRANCE—ROTHSCHILD'S CLINIC FOR CHILDREN—STATISTICS OF BARLOW'S DISEASE IN FRANCE—ROBIN'S REMARKS ON BOUCHARD'S COMMUNICATION TO THE CAIRO CONGRESS—EFFECT OF HEAT ON THE LECITHIN IN MILK—DEATH OF PANAS; OF VARNIER—THE USE OF IODIDES IN CANCER OF THE SKIN—POIRIER'S FIRST TWO LECTURES—LANNELONGUE AND LANDOUZY DECORATED BY THE GERMAN EMPEROR.

PARIS, February 18, 1903.

PASTEUR is, of course, to have a monument in Paris, but the place where it is to be erected has not yet been chosen. It was at first decided that it should be erected on the Place de Médecis, opposite the Pantheon, then opposite the Lorbonne, lastly in the avenue de Breteuil, opposite the dome of the Invalides. Just as work was to begin on the foundations, it was stopped, as the monument might impede the view of the Invalides.

It has been generally thought that criminality was increasing in France, and especially among the young men under twenty. The newspapers publish so many accounts of murders and thefts, that one is apt to get an erroneous impression. Reliable statistics furnished by the official journal of the French Republic show, on the contrary, that criminals have decreased in number steadily, and at all the periods of life.

A new polyclinic for the treatment of children's diseases was opened last month in one of the poor quarters of Paris. The establishment has been built by Dr. H. de Rothschild, one of the members of the millionaire family of that name. All the specialties, such as ophtalmology, laryngology, orthopœdic surgery, radiography, are represented. A large library, containing 10,000 volumes on children's diseases, is also a part of this dispensary. At a recent meeting of the Society of Obstetrics Dr. de Rothschild remarked that statistics showed that Barlow's disease was quite rare in France, only twenty-three cases having been seen so far. But it is frequently observed in Germany, where Baginski of Berlin sees eight or ten cases a year. Its maximum of frequency would seem to be in America, where already four hundred cases have been observed. This disease has been found by Baginski even when the child was fed at the breast. Professor Budin, said he had never seen a single case of Barlow's diseases, and as he employed sterilized milk, he considers that some other cause must be found. A report was made recently to one of the medical societies of Paris in which a certain variety of milk was spoken of as having been given to a child suffering from Barlow's disease. It is a noteworthy fact that in the reports that appeared even in the medical papers, no mention was made of this.

At the Cairo Congress of Medicine Dr. Bouchard made a communication on the modern tendencies of therapeutics, and declared that local treatment was apt to be even more beneficial than general treatment, and cited the advantages of treating, for instance, rheumatic arthritis by hypodermic injections of salicylic acid or one of its salts. Dr. Bouchard did not seem to wish to convey the idea that he was the inventor of this method, which has been used more or less in different ways. However, Prof. Albert Robin has written a letter to the *Presse Médicale* in which he remarks that he is astonished that Dr. Bouchard should not have mentioned the work he had carried out before him on this very subject. He then quotes a passage from his "Treatise of Diseases of the Stomach," in which he speaks of the use of drugs locally and of the small doses which can therefore be employed. Though Dr. Robin's recriminations hardly seem justified, the fact of his having seized this occasion to give them sufficient notoriety is not a cause for astonishment.

At a recent meeting of the Academy of Sciences, Bordas and Rackowski described the results of heat on the amount of lecithin contained in milk. It would seem that milk heated directly over a fire contains less lecithin than that which is heated in a bain-marie, or a vessel containing hot water, the amount lost in the first case being a third of the total amount, whereas in the second it is only a sixth.

The Paris Faculté de Médecine has lost two prominent men during the last month, Panas and Varnier. Professor Panas was a Greek, born in 1831 in Cephalonia, who came to Paris when he was a child, and was a naturalized Frenchman when he began his medical studies. He became an interne of the hospitals in 1854, the same year as Peter, Luton, Lécorché, Fournier, Marey. He was named surgeon of the hospitals in 1863, but did not begin teaching ophthalmology until 1873, as specialties were not highly considered in France until about that period. In 1873 he published his lessons on strabismus; in 1876 those on keratitis, in 1877 on affections of the lacrymal apparatus, and in 1878 those on retinitis and kindred diseases. On the 2d of February, 1879, Panas was installed as professor of clinical ophthalmology at the Hotel Dieu, a position which he kept until last year, when he was replaced by de la Personne of Lille. Dr. Panas was not only a skilful operator, but also a good lecturer, and his arguments were well chosen and clearly exposed.

Dr. Varnier was only forty-three years old when he died. He was known already outside of France as a man who had studied obstetrics in a thoroughly scientific manner. He was never satisfied with *à priori* doctrines or anatomical reasonings which were not founded on clearly recognized facts, and his works show his desire to be always accurate and painstaking. His latest work, "l'Obstetrique Journalière," is a finely illustrated work. Among his other works the best known, though unfortunately out of print, is "Introduction to the Clinical Study and Practice of Midwifery," which he wrote with Professor Parabeuf.

At a recent meeting of the Society of Dermatology, Dr. Salmon spoke of a treatment he had carried out for epithelioma of the nose, and which consisted in the use of tincture of iodine. There was steady amelioration. Dr. Darier, who is well known for his works on this subject, remarked that the patient who had been presented to the society was not cured, and said that he felt that practitioners could not sufficiently be warned against the use of drugs containing iodine, such as iodoform, and the like. The usual effect of such drugs is to whip up epithelial lesions. He had seen die, after four months, a patient who had a small epithelioma of the cheek, which was treated by a daily dose of 12 grams of iodide of potassium. Dr. Boudouier remarked that he had used erythrol, which is the iodide of bismuth and of cinchonidine. This drug disinfects the tissues, but does not hasten or retard the progress of the tumor.

Dr. Poirier, who has succeeded to Dr. Parabeuf as Professor of Anatomy, pronounced his first lecture on the 7th of January. The opening of his course was the cause of a good deal of excitement, as Dr. Poirier is a great favorite among many students. He is an excellent speaker, and generally manages to make witty remarks, when occasion requires it. Professor Debove, the dean of the faculty, is not so keenly appreciated, and as both men were present, the applause was mixed with signs of protest. At the second lecture the crowd was so great that it was found necessary to shut the doors of the lecture room, a measure which caused a certain amount of uproarious behavior on the part of the students.

Professor Lannelongue and Professor Landouzy, who are members of the Academy of Medicine, have been named knights of the royal order of the Crown of Prussia, as a consequence of the recent Congress on Tuberculosis held in Berlin.

OUR ALBANY LETTER.

(From Our Special Correspondent.)

ALBANY, February 26, 1902.

THE legislative mill is grinding, however little of grist, in the nature of new laws, is yet in evidence—accordingly the score or more of bills bearing directly and indirectly on medical matters are still in the throes. Wednesday the "Coroner's bill" had its inning before a legislative committee. Representatives of various medical interests advocated the abolition of the coroner's office and the substitution of the "medical examiner" as previously outlined in the MEDICAL RECORD, and as provided in the bill. The coroners and their friends vigorously opposed the change, and the matter now rests with the law-makers.

During the week Senator Amble has introduced a bill making more drastic the punishment for the sale of adulterated cream or milk, the sale of each separate can thereof being constituted a violation of the law.

On Wednesday the bill to provide for the examination, registration, and licensing of trained nurses by a State board appointed by the Regents was introduced by Assemblyman Brill. If this bill becomes a law (and we can learn of no opposition to this consummation), another year should be sufficient to solve the question of registering and con-

trolling midwives. It has been suggested that this can be done by exacting that on and after a given date every person, other than one previously registered as a midwife (the law, of course, not to apply to physicians), desiring to practise midwifery must be a registered nurse. Physicians will be interested in the fate of the bill introduced by the State Association of Public School Superintendents, in which the compulsory period in which children must attend school is changed from eight to sixteen to seven to sixteen years of age.

The Assembly Committee on Labor and Industries gave a hearing on the Child Labor Bill Wednesday of this week. It was claimed by those making a study of present laws that they are too lax, and that there was now unjust discrimination against messengers, laundry and bakery boys, and others of the younger among the employed.

In a Senate bill introduced during the week, provision is made for the incorporation of the "Society for the Investigation and Improvement of Sanitary Methods," capital stock, $50,000. The corporation is empowered to conduct experiments and encourage investigations in sanitary science, and promote the practical application of methods of scientific knowledge. The incorporators are Edward D. Tompkins, Louis Chable, Lawrence Barnum, and Albert G. Weed.

Medical men are actively engaged in the "fight to a finish" between the Regents' office and the State Department of Public Instruction. It is said that the Regents' bill calling for the unification of educational interests under their supervision will be introduced shortly. A clear-cut issue is thus made, and judging from the tenor of editorial articles in the lay press, and in the leading educational journals, the best elements of the community will favor the bill. The State Homœopathic Medical Society, at its annual meeting, resolved in favor of Regents' control and the Legislative Committee of the Medical Society of the State of New York has issued a letter to the Deans of the various State medical schools asking their coöperation in the same direction. It is creditable to the State that its citizens in all walks are so earnestly engaged in the discussion of this issue, and it is equally creditable to the profession that until now no voice of prominence from among those in its ranks has been heard other than in advocacy of the divorce of politics from school issues as contemplated in the bill for unification of all educational interests under the control and supervision of the Regents.

A prominent State senator in conversation with the writer wanted to know why it was that health officers and other executives, whose deputies and assistants must needs be physicians, do not object to civil-service laws applying to such appointees. He said: "Under present laws the State vouches for a doctor by placing its seal as to his medical ability on his license. The State has appointed boards of medical examiners for that purpose. Now these men are competent or they are incompetent, and unless the degree of Doctor of Public Health is established, it becomes farcical to ask doctors of medicine again and again to submit to examination if they want to hold public medical office. There are as many grades of lawyers as there are doctors, but what would be said if the District Attorney of New York or of Kings County were to have to await the pleasure of the Civil Service Board before appointing deputies? Still, this is just what the Health Officer has to do." There is but one answer to this argument: "Create the title of Doctor of Public Health, and make every one such eligible to any office of medical trust in the State."

Assemblyman Dickinson's bill, designed to permit females injured (in cases involving suit for damage) to have at least one physician of their own sex present at a physical examination compelled by the defendant, was discussed for a whole hour in the Assembly chamber on Wednesday, and notwithstanding pronounced opposition (the vote was 62 to 61) on medicolegal points, the bill was advanced.

Senator McCabe of Brooklyn has introduced a bill permitting the State Commission in Lunacy to appoint a medical inspector, salary, $5,000 yearly, whose duty it shall be to examine the patients in State hospitals. He shall be "a well-educated physician" and have actual experience in an institution for the care of the insane.

Syphilitic Phlebitis.—Gaucher and Chiray have observed a case of syphilitic phlebitis of the superficial veins of the arm. This phlebitis came on in the course of an attack of syphilis, which began by a chancre, and during the secondary stage. The writers insist on the absence of every other cause but syphilis to explain the venous thrombosis. They conclude that the existence of a syphilitic phlebitis with this evolution is due exclusively to the specific toxic infection of the blood.—*La Bulletin Médical*, January 31, 1903.

"ELECTROTHERAPEUTICS AND QUACKERY."

To the Editor of the Medical Record:

Sir: With the spirit of your editorial note on this subject in the issue of February 28, I am in full accord. If, however, by quacks are meant men who are in no way reputably affiliated with the medical profession—then the statement of Mr. Edmund Owen before the British Electrotherapeutic Society—"that the medical use of electricity has fallen largely into the hands of quacks," is quite erroneous. This could truthfully have been said twenty-five years ago, but not now. Quacks of this kind are quite as effectually driven from the field as are the advertising oculists and aurists and throat specialists. Electricity, as has been well said, "has been wounded in the home of its friends." In the same way as the *x*-rays, valuable as they are, have been made to stand for more than they have yet accomplished, so the various electric modalities, and especially static electricity have been lauded too much as cure-alls to satisfy rational medical conservatism.

You very properly dwell upon the significance of the fact that there are "hordes of users of this method whose voicings betray their ignorance of even the elements of electrophysics." It is this class, undoubtedly, that is in the main, but not altogether, responsible for the unfavorable judgment of the profession at large. I can hardly agree, however, with the editorial statement that there are "scarcely a handful of reputable authorities in the world to-day who have any faith in, or knowledge of, the therapeutics of the static form of electrical manifestation." There are hunndreds of reputable and able men both here and abroad who fully recognize the influence of the various methods of electrization over general and local nutrition. As to those who have "no knowledge of electrical manifestations, and so have no faith," it can only be said, so much the worse for them. If they possessed more knowledge they would have more faith.

How often is heard the remark from a medical standpoint, "I do not believe in electricity." Could anything be more senseless? One might as well say, I do not believe in heat or cold, or in any of the marvelous manifestations of universal force, upon which life and physical well-being depend. It is gratifying to know that the reproach of Mr. Lecky "that the medical powers of electricity which of all known agencies bears most resemblance to life, are unexplored," is no longer deserved; and if, in these explorations, there is developed with what is substantial and worthy, too much that is chaff and worthless, it is only another illustration of that dominant commercialism which, while it may abstract, cannot prevent scientific advancement or professional recognition.

A. D. Rockwell, M.D.

February 28, 1903.

HOW TO INCREASE THE IMPORTANCE AND MEMBERSHIP OF STATE MEDICAL SOCIETIES.

To the Editor of the Medical Record:

Sir: Perhaps most of your readers will agree with me when I say that the medical societies of our States have nothing like the membership they should have, and, in consequence, they fail to command the respect of the people and legislators that they otherwise would. When a State society through its committee asks for certain legislation of a medical character, it does not effect so much when it becomes known that the society has only one-tenth of the medical men of the State in its membership. To accomplish much for the public or its members, it should have nearly the whole profession of the State on its rolls. It is probably true that nearly every physician should wish to become a member of his State society; but then, as a matter of fact, not one-seventh care to do so under the existing arrangements.

It may not be possible for any one to tell just why so many of our profession do not care to belong to or attend the State societies; but some reasons may be given. Many are too busy and do not care to leave their patients that long, or to the care of another. Others believe they can get everything of value that transpires there in the medical journals. There are yet others who assert that a certain few are always kept in office and use these societies to minister to their vanity, etc. Even these malcontents will often admit the necessity of presenting a more united front upon the questions that concern both the public and our profession.

Through the reports of the State boards, every man who would be acceptable as a member of the society is easily known. After urging these to join in the regular

way, three-fourths would still be found on the outside. Yet the influence and votes of these men are often needed in the interests of the profession.

If these societies would arrange three classes of members they might have nearly all of them in their organizations. In the first class I would have the present membership. In the second, all those who would wish now and then to attend its meetings only, and who might be allowed to belong for, say, fifty cents a year. When they did choose to attend, then for that year, they would pay the regular annual dues. In the third class could be placed all the rest who were not to be gained for the society under the first two plans. It should consist only of reputable men, and membership should be given them free, or, possibly, they should be required to pay fifty cents or one dollar to the society for its certificate of membership. Then when questions of importance came up, upon which it would be desirable to have the voice of the whole profession, the sense of the members could be detained by a postal-card vote, and the society could then come before the people, or their representatives assembled, and find that its voice would be more powerful.

An objection to be urged will no doubt be: Would such a course be just to those who have borne the burdens up to this time? Perhaps not, yet we need the help of these reputable men, and we have never yet been able to get it under the old plan. These men are self-reliant, for they seem willing to get along without the society, and I do not see why we should fail to recognize facts as they exist, and proceed to mold them to our aid, and not blindly kick against the pricks.

Many of these men have great influence in the communities in which they practice. They may have little money, but their friends and patients revere them, and the society can obtain much of that influence, and give them in return the certificate that will show that they are recognized outside of their own county. This is not, therefore, a wholly one-sided deal, as might be thought upon first cosideration.

The Illinois State Medical Society, at its last meeting, took a step in this direction when it decreed that all members of the county societies throughout the State should become members of the State organization. I believe they have not definitely defined the status of these new members as to the annual dues they must pay, but I have been informed that it is to be very liberal. Even with this great increase, our society has only increased its membership to 4,200. The report of our Board of Health for 1902 gives us over 16,000 licensed practitioners, of whom it is safe to say that 12,000 could belong to our regular State society. As a result of this action of our State society, a great step in advance, the membership has been brought to an approximate third of the profession in the State, who might and should belong to the State society.

As all recognize the truth, that in union there is strength and prosperity, while in disunion and factional fighting there is nothing but weakness, it would seem to be the part of wisdom to set our faces resolutely toward a better state of things, and try to bring it about as soon as possible.

S. J. Bumstead, M.D.

Decatup, Ill., February 13, 1903.

Diseases of the Cornea in Children.—C. Devereux Marshall wishes more especially to draw attention to cases which are considered and are in reality less serious than interstitial keratitis, namely, phlyctenular ophthalmia. It is, however, by no means always a simple disease, but may lead to ulceration, opacity, and even perforation of the cornea. For the successful treatment of the condition, one must study and be acquainted with the morbid processes which accompany it. That it is of an eczematous nature few will deny, and it is also a fact that it occurs far more frequently in underfed and badly nourished children than in any other class of the community. Its most distressing symptom is photophobia, and its most serious result is impairment of the transparency of the cornea, caused by the nebulæ which remain. The author protests against the the use of iron, which in the earlier stages aggravates the irritability of the eyes. He uses: Grey powder, 2 grains; powdered belladonna leaves, 1 grain; and sugar of milk, 2 grains; half a powder twice a day. In addition atropine drops of a solution containing three grains to the ounce should be employed, and the eye should often be bathed with boracic lotion. For the cure of the photophobia, setons, the blowing of calomel, blisters, etc., should never be used. One of the chief causes of the condition is the development of fissures and excoriations at the outer canthi. The best treatment is to give an anæsthetic and to stretch the lids as widely open as possible. This will cause bleeding, but after it has ceased the lesions will heal.—*The Practitioner*, January, 1903.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Feb. 26, 1903.

The Use of Cargile Membrane in the Nose in Order to Prevent Adhesions.—Harris Peyton Mosher has found that by folding the membrane into a wedge-shaped strip, several layers thick, it would introduce more easily, and could be packed firmly between the two cut ends of the adhesion. It will then stay in place several days before it needs to be replaced. He has used it in turbinates after cauterizing, in order to keep the cauterized turbinate from cauterizing the septum opposite, and he has used it on the raw surface left by sawing off a spur. Other uses in the nose which readily suggest themselves are: as a dressing on the septum after the operation for the correction of deflection; as a sleeve for a packing which has to be left in the nose for any length of time; to hold down flaps of mucous membrane after the submucous dissection of cartilaginous spurs; as a guide and stimulant to the growth of epithelium, in order to prevent the formation of a perforation, and in order to help toward the closure of perforations after the refreshing of their edges, and as dressing for the cartilage of the septum whenever it is found to be exposed.

The Treatment of Hemorrhoids.—John O'Connor describes the Whitehead operation, which he considers far the best in these cases, as it avoids complications due to injudicious encroachments on the skin when separating it from the mucous membrane. Artery forceps is applied to the four cardinal points of the rosette or, if the case be non-protrusive, the forceps is applied at same points about one-third of an inch from skin margin. The mucous membrane is separated from underlying structures by passing, the left index finger into rectum, while with a blunt dissector, and an occasional snip of the scissors, the mucous cuff is raised, and separation carried well above pilous zone. By the four artery forceps originally applied, the cuff of mucous membrane is drawn outward, and it is transversely divided above pile area. In doing this it is necessary to determine the extent of each scissors' snip by the amount of hemorrhage, every spurting vessel must be at once caught up by the forceps, and by working around in this manner it is surprising how little blood is lost. All hemorrhage having been effectually arrested, the part is well irrigated with warm salt lotion, and the mucous membrane is attached to the skin by a continuous catgut suture. This suture must not be drawn too tight, or necrosis of tissues will follow. And under no consideration should this suture be utilized as a suture ligature to choke hemorrhage, for it invariably fails, and collections of blood occur beneath the mucous membrane.

A Few Remarks on Blood-pressure.—James Marsh Jackson describes his experiences with the Gaertner blood-pressure machine. In a series of cases of exophthalmic goiter which he has followed for over two years, and in which he has used bromide of quinine, he has found no variation in the blood-pressure of any account. These cases have nearly all had a pressure ranging from 120 to 160; that is, they were above the normal. As an aid to diagnosis, the blood-pressure is fast taking an important place. We know, for instance, in arteriosclerosis the blood-pressure is high; in chronic nephritis, especially of the interstitial type, the pressure runs very high, and in a way the amount of tension is a good index to the extent of the disease. The best use to which the author has put the instrument has been in the demonstration of tension to students. The blood-pressure in a young healthy man ranges from 100 to 130 mm. of mercury; in young women the pressure is decidedly lower, and ranges from 90 to 110. Elderly people almost always have an elevated pressure, due for the most part to changes in the arteries. Low pressures are uncommon, except in cases of shock and collapse. Pressures of 200 are not infrequently found, and should always be considered more or less dangerous, while pressures of 250 are very dangerous, and are only seen in grave cases. In the last year five of the author's patients with pressure of over 190 have died of apoplexy, and he now makes it a rule to warn the family of a patient with a tension above 190.

Journal of the American Medical Association, Feb. 28, 1903.

Perforation of the Normal Intestine by an Ascaris Lumbricoides.—The patient of L. C. Ager was an American man, aged thirty-six years. When first seen he was suffering from diffuse abdominal pain. A later localization of symptoms led to a diagnosis of appendicitis, and the abdomen was opened. There were indications of intestinal perforation, but the condition of the patient was so bad that no search could be made. Death resulted in twelve hours. Autopsy was held six hours later. On opening the abdomen a large amount of mucopurulent fluid gushed out. There was an acute exudative

peritonitis most marked in the right lower quadrant. The intestines were matted together with an exudate, in some places a quarter of an inch thick. On separating the coils of intestines a living lumbricoid was found. After a short search a small round perforation was found in the small intestine, about ten inches above the caput coli. On opening the intestine no other lumbricoid was discovered, and the mucous membrane seemed, except for the clean-cut perforation, entirely normal. The literature of this class of cases is briefly reviewed and a bibliography appended.

Some Notes on Aural Vertigo.—B. A. Randall says that in the great majority of cases that have come under his observation neurotic and general vasomotor influences have seemed to lie at the bottom of the trouble, except in the considerable number of cases in which catarrhal affections of the Eustachian tubes and tympanum was so clearly at fault that catheterization could be fairly expected to afford relief. He says that in all cases of vertigo coming to the otologist he should employ minute methods of study as to the tympanic and labyrinthin condition, but also investigate personally or through the aid of a judicious physician all the general aspects of his patient's case. He should exclude or relieve all involvements of the accessory nasal cavities, investigate the refraction and muscular relations of the eyes, as well as learn whatever teaching may be given him by the eye-grounds and, abating nothing of the local treatment by inflation and massage, which the aural condition may seem to demand, and using strychnia and other tonics according to the general needs of the patient, he may yet employ as a direct and almost specific means of treatment this vigorous vascular tonic, which has been given us in the adrenal extract.

The Fly as a Carrier of Typhoid Fever.—Alice Hamilton contributes a careful, illustrated study of the part played by the fly in the recent Chicago typhoid epidemic. Her conclusions are as follows: (1) The epidemic of typhoid fever in Chicago during July, August, September, and October of 1902 was most severe in the ward, which, with one- thirty-sixth of the city's population, had over one-seventh of all the deaths from this disease. (2) The concentration of the epidemic in this locality can not be explained by contamination of the drinking water, or of food, or on the ground of ignorance and poverty of the inhabitants, for the ward does not differ in these respects from several other parts of the city. (3) An investigation of the sanitary conditions of this region shows that many of the street sewers are too small, and that only 48 per cent. of the houses have sanitary plumbing. Of the remaining 52 per cent. 7 per cent. have defective plumbing, 22 per cent. water closets with intermittent water supply, 11 per cent. have privies connected with the sewer but without water supply, and 12 per cent. have privies with no sewer connection. (4) The streets in which the sanitary arrangements are worst had the largest number of cases of typhoid fever during this epidemic, irrespective of the poverty of the inhabitants. (5) Flies caught in two undrained privies, on the fences of two yards, on the walls of two houses, and in the room of a typhoid-fever patient were used to inoculate eighteen tubes, and from five of these tubes the typhoid bacillus was isolated. (6) When the discharges from patients with typhoid fever are left exposed in privies or yards, flies may be an important agent in the dissemination of the typhoid infection.

The Clinical Application of Some Thyroid Experiments.—L. Breisacher instituted a series of experiments in which chemical and electrical irritation was applied to the various cervical nerves without, however, producing in any case symptoms resembling those noticed in thyroidless animals. To definitely decide this question the writer devised the following method of experimentation: First, the left vagosympathetic and the superior laryngeal nerves were extirpated, the superior incision being made at the superior ganglion and the lower incision half an inch below the lower border of the thyroid gland. The animals were carefully observed during a period of three weeks following the operation; they remained perfectly normal. Following this period the right thyroid gland was totally extirpated and the animals again carefully watched for a period of three weeks, during which time they remained in an absolutely normal condition. Finally the thyroid lobe on the side on which the vagosympathetic had previously been removed was extirpated, and it was shown that the dogs succumbed in precisely the same manner as did the dogs in whom this method had not been resorted to, thus proving that nerve irritation is not absolutely necessary to the production of death after total extirpation of the thyroid gland. The negative results obtained led the author to further experiments on the influence of the feeding of milk, eggs, and raw and boiled meat on animals deprived of their thyroids. These experiments consisted in keeping dogs on a diet of milk or milk and eggs for a number of days and then performing a total extirpation of the thyroid gland, or a partial extirpation, and then finally a total extirpation, and thereon noting the influence of a milk, egg, boiled and raw meat, and beef-broth diet. It was shown that 30 per cent. of all animals fed on a milk or boiled meat diet, particularly a milk diet, remained entirely healthy, but died when put on a raw-meat or beef-broth diet. All of my animals that were fed on raw meat from the beginning of the experiment succumbed to the operation. These experiments then furnished the first evidence of the metabolic significance of the thyroid gland to the organism, and, further, that a milk diet acts more favorably than a raw-meat diet in dogs in whom a total thyroid gland extirpation has been performed. The general therapeutic conclusion is that in myxœdema, it is advisable to withdraw meat from the dietary, substituting therefor milk and eggs. The same rule is applicable to the treatment of cachexia strumipriva and Basedow's disease.

New York Medical Journal, February 28, 1903.

The Diagnosis and Treatment of Contracted Pelvis.—W. R. Gilman does not believe it is safe to rely solely on the pelvimeter in estimating the internal pelvic diameters. We must measure per vaginam, and in order to reach the promontory of the sacrum it is necessary to direct the fingers well upward toward the abdominal cavity, not backward toward the concavity of the sacrum, and to have the elbow and forearm well below the level of the vulva. The ulnar side of the examining hand is forced against the perineum; and it is evident that the examination is more easily made if the patient is a multipara with a patulous vaginal orifice and a relaxed perineum. If the patient is a primipara with a firm perineum, it may be necessary to give an anæsthetic. The obstetrical conjugate, being the shortest diameter of the pelvis, may properly be regarded as a guide or measure of the size of the pelvis; and for practical purposes it is the only measurement which it is absolutely necessary to make, except in unusual cases of very marked deformity. If it reaches the normal standard of 11 c.m. (4½ in.), it is safe to infer that the pelvis is of average size. If the obstetrical conjugate is 9 c.m. forceps or version will usually result successfully, the latter being preferable to the high forceps' operation. When the conjugate is 7.5 c.m. (3 inches), forceps or version may occasionally be successful; but extraction through such a pelvis is usually very difficult and likely to prove fatal to the child. It is in pelves of this size that symphyseotomy is indicated. This operation is one that prepares the way for forceps or version. It increases the conjugate by 2 c.m. (¾ inch), and makes delivery by forceps or version safe. The operation should be restricted to those cases in which one is certain that only a very little more room is needed for a safe delivery by forceps or version. Although children have been delivered safely by symphyseotomy through a conjugate of 7 c.m. (2¾ inches), it is safe to place 7.5 c.m. (3 inches) as a limit. When the conjugate is 7 c.m. (2¾ inches), or less, the choice of operation lies between induced labor and Cæsarean section.

Hypodermoclysis: Experiments, Technique, and Clinical Uses.—R. C. Kemp advises the observance of the following precautions: (1) Allow the fluid to flow slowly, so that the tissues may not be over-distended and that absorption may readily occur. (2) To avoid entrance of air into the tissues, the fluid should flow from the needle at the moment of puncture; also the vessel containing the fluid should never be allowed to become completely emptied. (3) Do not inject directly into œdematous tissue—dropsy of the organs, or serous cavities, is not a contraindication to hypodermoclysis, which is of value to aid elimination by its diuretic action. (4) Regarding the needle employed it should be pushed in semi-obliquely and steadily, and not plunged in suddenly. Beware of injuring vessels and nerves. It is not advisable to inject into muscular tissue, as painful lumps, or even abscesses, may result. (5) If the flow from the needle ceases, push it in slightly and then withdraw it a little, or else rotate it. This will generally free it from the obstruction. The preferable site for injection is the iliolumbar region between the iliac crest and twelfth rib. The solution should consist of 0.6 per cent. of salt water, boiled and filtered. The amount of the injection is based on the rule of one drachm to every pound of body weight. This will be taken care of by the kidneys every fifteen minutes. The injections may be repeated several times daily. The following are the indications for its use: (1) Hypodermoclysis increases the quantity of fluid in the vessels, by replacing that which has been lost, as from hemorrhage or diarrhœa; it

adds fluid to the circulation, and thereby acts as a stimulant to a rapid and feeble heart, as in shock. (2) It dilutes the poison of disease and aids in the elimination of toxic products through the diuretic action on the kidneys, as in sepsis, or in uræmia. (3) It causes profuse diuresis and relieves renal congestion, as in uræmia, oliguria, or in acute congestion of the kidneys. (4) The saline injection is asserted by many to have a hemostatic effect, and is thus given in hemorrhage, as from gastric ulcer, intestinal ulcer, or in pulmonary hemorrhage.

American Medicine, February 28, 1903.

Cancer Statistics in the Twelfth Census of the United States.—Harris Moak concludes that: Cancer and tumor have not increased in any greater proportion than several other diseases "common in adult life and old age." The geographic distribution of cancer and tumor corresponds almost exactly to the geographic distribution of people of greatest age. Cancer and tumor are, therefore, most frequent in those sections where old people are most numerous.

Are Antiseptics of Any Value in Hand Disinfection?—Edgar R. McGuire presents the following conclusions: Absolute sterility of the hands is impossible by any method. There is no royal road to sterilizing the skin—nothing takes the place of long and vigorous mechanical scrubbing. The longer the hands are scrubbed under aseptic precautions the nearer the approach to sterility. The use of antiseptics on the skin is, at least, questionable; under the usual conditions, it is distinctly harmful. When the true value of antiseptics is understood we shall have cleaner hands, due to more conscientious scrubbing. The use of rubber gloves, while not ideal, is the nearest approach to it. The operator whose hands perspire freely ought to wear gloves in every case, regardless of all objections to them.

Chronic Diarrhœa.—Edwin Zugsmith affirms that the onset of chronic diarrhœa is usually insidious, although the initial symptoms may be more or less acute. The prognosis is not so bad as is often supposed. Treatment requires careful attention to detail, and persistence. The indications are: to correct the digestive fault which has been the primary cause of the trouble, and to repair the damage that has already been done. Diet and hygiene are of prime importance. The diet must be strict and careful with reference to idiosyncrasy. Food must be carefully prepared. In severe cases it may be necessary to restrict the diet to milk alone, or to egg water. Under hygienic measures should be included the external use of water, rest, exercise, massage, travel, and residence at health resorts. Mineral waters are of advantage, those containing calcium salts being the most generally useful. The bitter tonics serve a good purpose. Non-absorbable oils, as castor-oil, are effective in soothing the inflamed bowel.

Philadelphia Medical Journal, February 28, 1903.

Is Nephroptosis Hereditary?—John G. Sheldon mentions five cases of this affection which occurred in one family, and reports two cases occurring in children. One of the latter was a boy of eight years who was subject to "spells of sickness in his stomach, pain in the right side, nausea, and headache." He rarely vomited. Excitement or violent exercise seemed to precipitate them. His right kidney was found to be displaced downward and was freely movable. Nephropexy was advised and performed and entirely relieved the symptoms.

A Case of Trigeminal Neuralgia Complicating Typhoid Fever.—Charles J. Aldrich has under observation a patient who suffers from severe and persistent trigeminal neuralgia, which developed in the convalescent period of a typical attack of typhoid fever, and which has continued for three years. This pain became so severe as to cause the jaw to "lock," so that the mouth could not be opened. The left side of the face was swollen, and a point of marked tenderness was noted just in front of the left ear. Nearly all of her teeth, though sound, were drawn. All the reflexes are normal, and except for the slight ocular paralysis, deafness of the left ear, and the neuralgia, she is a healthy young woman. Whether this neuralgia is due to changes, which took place in the nerve itself, due to nutritional disturbances or to toxic agents, or whether it is a pressure neuralgia from some swelling and tumefaction of the periosteum or other tissues along its course, it is impossible to ascertain.

Sixth Lecture in a Course on Tropical Diseases, Etc.—Charles F. Kieffer continues the consideration of abscess of the liver. Rigidity of the muscles is not present, as a rule, in these cases, although rigidity of the right rectus, particularly of the upper part, has been observed in traumatic abscess when located low down in the thin edge of the liver. The most important step is the prompt and energetic treatment of the amœbic dysentery. The use of protargol in dysentery has been used with excellent success, in injections of a 1-per-cent. solution. If there are acute dysenteric symptoms, they should be eliminated by the use of ipecac or the salines. Next, the chronic congestion of the liver should be relieved. A free exhibition of the saline sulphates is sometimes of the greatest service in the depletion of the portal system. When malaria is present, quinine may have a favorable effect on the inflamed liver. When pus has formed in the liver, the indication is for prompt and thorough evacuation. In all needle punctures of the liver, the main danger lies in wounding the inferior vena cava. Hepatic phlebotomy is a very valuable means of reducing congestion of the liver. Exploration of the liver for suspected pus must be thorough and searching. The method with trocar and cannula is particularly applicable to deep-seated suppuration in the liver, particularly when the pus is found posteriorly or in the dome. The operation by incision may be either through the abdominal wall or through the thoracic wall. Ordinarily the abscess is not washed out. If the sac be very large, making a counter opening necessary, then washing of the sac is safe. If the symptoms are not much improved after operation, another focus has probably formed and must be searched for.

The Lancet, February 21, 1903.

A Case of Hæmophilia Illustrating the Value of Calcium Chloride as a Local Styptic.—T. W. Parry's patient was a boy of seven and a half years, who, when first seen, was bleeding from a cleft between the left lower first permanent molar and the temporary molar immediately in front of it. No other source of blood could be discovered, even under anæsthesia. All sorts of styptics were used on cotton pledgets packed between the teeth, but without avail. Finally the hemorrhage was checked by plugging the cleft with cotton dipped in a solution of calcium chloride 30 grains to the ounce.

A Note on the Use of Carbolic Acid in the Treatment of Smallpox.—J. T. Neech has had success in several cases of smallpox from the application of pure carbolic acid to the rash. Applied in the vesicular stage, the vesicles either dried up into crusts or their contents were absorbed and the epidermis inclosing the vesicle fell off. The acid was carefully applied on a camel's hair-brush to the rash over a certain area of the body each day, the face and head being the area selected for the first day. The treatment seemed to cut short the disease, the secondary suppurative fever was averted, there was no pitting, and the offensiveness of the pustular stage was avoided. In addition, the infectiousness of the patient was materially diminished. The statements made are based on an experience of only four cases, one severe, one moderate, and two light.

Some Thoughts and Observations Regarding Appendicitis, Especially When Appearing in Its Acutest Forms.—J. A. MacDougall discusses the early literature of typhlitis and perityphlitis, and traces the gradual discontinuance of these terms and the substitution therefor of the present appellation of appendicitis. He is disposed to believe that right iliac inflammations have increased during recent years, both in frequency and severity. He also notes an increase in the number of relapses and the fact that certain families seem predisposed to the malady. He is not of the opinion that the diagnosis of the disease carries with it inevitable surgical intervention, but states that in the very large majority of cases the prognosis, when the case is under careful medical supervision, is a favorable one, though admitting that there are certain exceptional examples in which the recovery of the patient rests largely with the surgeon. Early operation does not increase a peritonitis already in existence but rather cures it. Conditions simulating appendicitis are appendical colic, renal and hepatic colic, certain intestinal obstructions, suppurating Fallopian tubes, pelvic peritonitis in women with associated gonorrhœa, twisting of the pedicle of ovarian cysts, and perforations of the stomach and bowel. Occasionally typhoid fever is ushered in with acute right iliac symptoms. The paper is in the main a plea for early diagnosis, and in grave acute cases for prompt operative measures.

Aneurysm of the Ascending Arch of the Aorta in a Small Boy; a Post-mortem Surprise.—The patient of A. C. Jordan was six and one-half years old, and had suffered for two days from headache, vomiting, and double otorrhœa with some fever, but no tenderness over the mastoid. Later the temperature rose, but the other symptoms subsided. A few days later the left knee commenced to swell and effusion appeared in the joint. The general condition improved from this time, but in a few days later, while the boy was sitting up in bed playing

with his toys, he suddenly turned pale and died. There had been no kidney or eye symptoms. Autopsy showed the heart incased in a blood clot, and on the anterior face of the ascending aortic arch was a sacculated swelling, in the center of which was a horizontal slit-like opening. On the corresponding point of the inner surface of the aorta was a triangular opening with sharp edges. The flap, along with the shortest side of the triangle was pushed outward into the lumen of the sac. Evidently a small opening in the intima had occurred and the blood had leaked through it, causing a limited bulging of the fibrous coat of the aorta. The intima had thus lost the support of the fibrous coat, and some slight exertion had led to a sudden enlargement of the opening. There were no other abnormal conditions about the heart. The patient had been repeatedly examined, but no abnormal cardiac signs or symptoms had been made out. There had been no history of a chest wound or injury of any sort. It was thought that there might have been a septic aortitis from infection derived from the ears. There was evidently sepsis in the system, as shown by the knee symptoms.

British Medical Journal, February 21, 1903.

Antityphoid Serum as a Curative Agent.—B. Baskett gives his results from the use of antityphoid serum which are most encouraging. He has now used it in four cases. The dose he gives is uniformly 10 c.c. He reports here the case of a man of twenty-eight years who was seized with the fever on July 14. On July 26 the writer injected the first dose of serum. The temperature, which was in the neighborhood of 104° fell to 99.8°. By August 20 the man was well.

Case of Gonorrhœal Gingivitis.—Sidney Vines had under his care a middle-aged workingman suffering from gonorrhœa. About a month after the disease was contracted, the gums became sore. They were red, swollen, and spongy, and there was an over-abundant flow of saliva. In a few days he presented an appalling spectacle. Every tooth was loose and bathed in pus, which oozed from every socket. He could not eat, and drank with difficulty. His temperature was 101° F. Gonococci were present in a swab taken from the gums. Nitrate of silver solution was applied to the gums twice daily, and a mouth wash of potassium permanganate ordered. In a few days the symptoms began to abate. Tonics were given and the patient ordered to paint his gums many times a day with equal parts of glycerin and the strong solution of perchloride of iron. He had carried the infection to his mouth by means of a wooden toothpick.

A Note on Some Uses for Picric Acid.—F. Victor Milward states that the lesions in which picric acid is particularly helpful are those in which the loss of superficial epithelium has produced a raw and painful sore, discharging serum and seropus. Picric acid is a coagulant and an analgesic. It is a simple and effective remedy, and promotes rapid healing. It is best used in a saturated solution, 1 in 95 of distilled water. Should active inflammation be present, there is danger of confining microorganisms under the protective coatings, and of giving rise to further inflammatory trouble. It is not suitable, for instance, in acute eczema. Peri-onychia is very amenable to this treatment. The soft parts are thoroughly separated from the nail by the head of a large needle and a few threads from white gauze soaked in the saturated solution pushed to the bottom of the cavity. This is renewed three times daily. The remedy is also of use in the treatment of soft corns, and ingrowing toe-nail, and in some cases of intertrigo. Picric acid seems to cause no irritation to the tissues. Its use should be very thorough.

The Lettsomian Lectures on the Conditions Which Modify the Characters of Inflammations of the Skin, and Their Influence on Treatment.—H. Radcliffe Crocker declares that inflammations of the skin comprise more than half of all skin cases. The inflammations set up by irritants differ according to the strength of the irritant. Vulnerability to certain irritants once acquired often increases till the very slightest exposure is sufficient to bring on an attack. In discussing the pathology of eczema, the papulo-vesicular type is taken, and of it the pathology is still a matter of dispute. The various inflammations due to the staphylococcus aureus are given, as well as those due to the streptococcus of Fehleisen. The modifications of dermatitis produced on a seborrhœic basis are discussed, and it is shown that seborrhœa oleosa is now again regarded as excess of secretion from the sebaceous glands, and not from the sweat glands. The local origin of general eruptions is considered. The most feasible explanation is that there is first an invasion of a microparasite from without, and this undergoes local multiplication, or perhaps a toxin is formed, and then internal absorption into the circulation and generalization from within outward.

Deutsche medicinische Wochenschrift, February 5, 1903.

Cutaneous Mercurial Reaction in Syphilitics.—Rille refers to the recent article of Herxheimer and Kraus upon this subject. The latter, in their perusal of the literature, have found the reaction previously mentioned only by Jarisch and Jadassohn. Rille in his recent work (1902), makes especial mention of the reaction, and describes its characteristic features. The reaction and its significance is also mentioned by K. Baer (Rille's assistant) in his article in the *Wiener medicinische Wochenschrift*, 1902, No. 31.

Etiology of Dysentery.—L. Rosenthal, during the epidemic last year in Moscow, studied eighty-five cases of dysentery. From all of these Shiga's bacillus was isolated. This microorganism was found regularly in the stools, but never in the blood or urine. Thirty cases were submitted to agglutination tests with this bacillus, and in every instance a positive result obtained. Usually the reaction first appeared from the tenth to the twelfth day of the disease. It was then usually present in a 1 to 40 or 50 dilution. Control tests with other bacilli, such as typhoid or colon were always negative. Fourteen cases were examined post mortem. In all Shiga's bacillus was found in the superficial and deep layers of the diphtheritic-like membrane which covered the intestinal mucosa. Only in three cases were the bacilli found in the mesenteric glands. In one case the organisms were found in the liver and spleen. So far as tried, the bacillus has been found non-pathogenic for cats, dogs, rabbits, and guinea-pigs, but the tests thus far tried are too limited in number to permit of definite conclusions. The bacilli remain alive in dysenteric stools kept at the room temperature, or even at 0°C. from eight to eleven days. Upon fruits or vegetables they remain alive from seven to eight days

Berliner klinische Wochenschrift, February 9, 1903.

Accommodation Paralyses.—Josef Helbron considers the etiology. Usually there is only a paralysis of the ciliary muscle, but occasionally disturbances of the pupils are present. One hundred and three cases have been observed by the author during the past two and one-half years. The etiology may be considered under three subdivisions: (1) Diseases of the nervous system. These include diseases of the central nervous system, tabes, and the various neuroses. (2) Infectious diseases: Syphilis, tuberculosis, diphtheria, influenza, and rheumatism. (3) Intoxications: Alcohol, tobacco, belladonna, stramonium, hyoscyamus, etc. In addition to the above, accommodation paralyses have occasionally been observed following severe and prolonged gastrointestinal affections.

Rigidity of the Back Muscles.—H. Senator reports a case which came under the observation of Dorendorf two or two and one-half years ago. This condition has been described by some under the name of deforming spondylitis or spondylosis rhizomelica. During the last two years there has not been much change in the patient's condition, although at times, under anti-rheumatic treatment, and massage, temporary improvement has taken place. It is probable that the bones of the spinal column are not involved in the process, although secondary lesions in these bones undoubtedly occurs in some cases. The bony lesions are, however, never primary. The etiology of the affection is not clear. This patient had had both syphilis and gonorrhœa. The myositis following these diseases is, however, never diffuse, such as is seen here. Here the trouble began with an attack of lumbago, and the effect of treatment would seem to indicate the rheumatic nature of the trouble.

Münchener medicinische Wochenschrift, Feb. 10, 1903

Ileus Resulting from Thrombosis of the Mesenteric Vein.—A. Reitzenstein reports a rare case which was diagnosed during life and confirmed at autopsy. The clinical picture was characterized by a gradual appearance of the symptoms, sudden intermissions in the pains, little general or local meteorism, the hemorrhagic ileus and the marked hemorrhagic diarrhœal passages. The autopsy showed a large thrombus in the mesenteric vein. The etiology of the lesion could not be determined.

Surgical Intervention in Stricture of the Œsophagus.—H. Linder says that surgical intervention in stricture of the œsophagus due to malignant growths yields at the best unsatisfactory results. Only those cases are suitable for radical operation (removal of the tumor) in which the new growth is limited to the upper portion of the œsophagus. Even here the results are discouraging. Linder has operated upon three, all of which terminated fatally shortly after the operation. In most cases the establishment of an artificial gastric fistula through which nutrition can be administered prolongs life and is to be preferred to all other methods. For producing such a fistula Witzel's method

is to be preferred to Frank's, since a more permanent result is obtained thereby. Non-malignant stricture of the œsophagus is more suitable for operative treatment than the malignant form. Here dilatation and the radical operation, either singly or in combination, are the procedures to be adopted. If an artificial fistula is necessary Frank's method is to to be preferred to Witzel's, since a permanent fistula is not required and Frank's method gives good immediate results. Furthermore, it is the much more simple method. After the stricture has been made pervious and dilatation is going on the latter may be performed by the patient himself after he has gained a little experience. Thus dilatation may be continued as long as necessary without the patient becoming dependent upon a physician's attendance.

Treatment of Labor in Women with Contracted Pelves, as Such Cases Are Met with in Private Practice.—A. Mueller considers the following methods: (1) The Induction of premature labor; (2) Prophylactic version; (3) High forceps; (4) Symphyseotomy; (5) Cæsarean section. The induction of premature labor is, of course, only available when the case comes under consideration during pregnancy. In multipara the histories of previous pregnancies give great aid in deciding the advisability of inducing premature labor. In all cases, however, frequent estimastions should be made between the size of the head and that of the pelvis and the induction of premature labor affirmed or negatived in accordance therewith. In primipara such estimations constitute the sole criterions for the decision of this question. In all cases in which the pregnancy is allowed to proceed the patient should be put as early as possible upon a strict "diet cure." When labor has begun the advisability of so-called prophylactic version is first to be considered. The author's experience shows that as a rule marked success attends this procedure. Of 107 cases thus treated the results for the child were as follows: 90 lived over 8 days, 13 died within 8 days, 4 were dead before the version was performed, and in 10 perforation of the after-coming head was necessary. The primary requisites for the successful performance of version are (1) a lax uterus and (2) skill and dexterity on the part of the obstetrician. The chances for the child are materially increased if a short pause is made between the completion of the version and extraction. If version is contraindicated or the time for its performance is passed, high forceps is next to be considered. This procedure is not nearly so dangerous for either the mother or the child as is supposed by many. Great force may frequently be used without material damage being done. High forceps should always be tried before perforation, symphyseotomy or section are resorted to. If both version and high forceps are unavailable symphyseotomy or Cæsarean section can alone save the life of the child. The former, which ten years ago was so popular, has latterly fallen into disrepute since extended experience has shown that the results obtained are unsatisfactory. Cæsarean section is seldom advisable in private practice, and if such is to be performed the patient should, if possible, be removed to the hospital. The summary of the procedures advised is as follows: during pregnancy—"diet cure" and premature labor. When labor has set in—prophylactic version or high forceps. If these fail, perforation, unless especial weight is to be laid upon saving the child, when Cæsarean section or rarely symphyseotomy may be done.

French Journals.

Contribution to the Study of the Central Origin of Lead Paralysis.—Philippe and de Gothard have examined histologically, the brain of a patient, who since 1893 has had numerous attacks of lead paralysis. In the last two years the ameliorations became more and more incomplete, and finally amyotrophic paralysis became definitely established, especially marked in the extremities. The dominant lesion was a subacute poliomyelitis, developing without meningitis. The nerve lesions were, histologically speaking, of the purely secondary order, and degenerative. This observation demonstrates the possibility of the central origin of certain forms of lead paralysis, notably of the generalized and amyotrophic form.—*La Presse Médicale*, January 28, 1903.

Bony Ankylosis of the Elbow-joint Consecutive to Gonorrhœal Arthritis.—M. E. Foisy reports this case. The patient was a man twenty-three years old. He was suffering from an attack of gonorrhœal arthritis of the left elbow. There was redness and swelling of the part and excruciating pain. The arm was almost in extension. After the acute attack, which lasted about a month, the arm was put up in plaster, under chloroform. The arm was flexed to an acute angle. The plaster was left on for six weeks, after which the arm was massaged till a slight degree of mobility of the elbow was attained. But little by little the power of movement diminished, and for a year the elbow was completely ankylosed at an obtuse angle, the forearm in demi-pronation. The movements of flexion and extension, as well as of pronation and supination were abolished. Resection of the elbow was practised, and the bones at the elbow were found completely fused. There was even bony fusion of the head of the radius and the superior extremity of the ulna. The rapidity with which this ankylosis took place was remarkable.—*Bulletins et Mémoires de la Société Anatomique de Paris*, October, 1902.

Bronchopneumonia of One Lung and Gangrene of the Other, Caused by a Large Pin in the Bronchial Tube.—Courmont and André have recently observed a young man who had swallowed a long pin with a glass head. He applied first to the department of surgery and radiography, but nothing was discovered there. Nevertheless, one day the foreign body appeared at the neck. An attempt at extraction was fruitless, and it dropped lower down into a bronchial branch. The symptoms of infection rapidly developed bronchopneumonia, pleurisy, hyperthermia. The general condition was grave, the pulse rapid, and death supervened. At autopsy the pin was found head down. This had fallen into the left bronchus, obstructing the openings of all the bronchi supplying the inferior lobe. This fact explains the development of bronchopneumonia of that lobe. Corresponding to all the obstructed area. The point was fixed a little below the bifurcation in the right bronchus; a small gangrenous focus had developed at this point. The pin was firmly embedded and extraction had been impossible.—*Lyon Médical*, January 18, 1903.

Bulletin of the Johns Hopkins Hospital, February, 1903.

The Clinical Value of Blood-pressure Determinations as a Guide to Stimulation in Sick Children.—Henry Wireman Cook closes his paper by saying that although it must not be inferred that blood-pressure observations are considered the only measure of a patient's condition, or that any single observation necessarily gives an absolute indication for treatment, still, in general, it would seem that blood-pressure observations which constitute a numerical index for the mechanism most affected by stimulation would be the best single guide to the choice and administration of stimulants. The blood-pressure of children is a far more absolute quantity than in the adult when arteriosclerosis and great differences in musculature have to be considered. Some of the results noted are: Alcohol in repeated doses appears to have a marked and permanent beneficial effect. It does not seem to be indicated where urgent stimulation is required, while very useful in a depressing toxic or marantic illness, where, besides its doubtful stimulant action, it is of value as a conserver of energy in the nature of a food. Strychnine is found to have a more positive effect on the blood-pressure. Digitalin hypodermically, in equal doses, acts more quickly and produces a higher rise in blood-pressure, but the elevation is not maintained for so long a period. Infusions of normal saline solution are found unsatisfactory for any true stimulant effect, though they seem useful in some toxic and wasting conditions.

The Results of Some Observations on Blood-pressure in Morbid Conditions in Adults.—John Bradford Briggs concludes from the results of the same treatment in two cases, in one of which the blood-pressure was abnormally low, and in the other markedly raised, that the digitalis drugs are not necessarily bound to raise the arterial blood-pressure. In both of these patients the blood-pressure returned to normal limits. The treatment was digitalis, rest in bed, and free purging. A modified Riva-Rocci instrument was used to measure the blood-pressure in the cases studied. The effects of alcohol on the pulse were never marked. The total effect of alcohol on the vasomotor system is depression. The rise in blood-pressure produced by tincture of capsicum was not followed by any fall, as in the case of whiskey. Strychnia hypodermically, in moderate doses, was found to cause a rise in pressure somewhat delayed as compared with that after alcohol, but continuing with more steadiness, and lasting from one to three hours. A similar rise in blood-pressure with more rapid onset and somewhat less permanent, followed the use of digitalin. Subcutaneous infusions of normal saline solutions have no stimulant effect on the pulse. Results show that it is useless to infuse with any idea of filling up the depleted vessels; the solution is excreted probably as rapidly as it passes into the circulation. In surgical and traumatic shock, saline infusions are absolutely contraindicated. But cases of pure shock uncomplicated by the severe symptoms of hemorrhage, or with those symptoms superadded, will often respond to the true cardiovascular stimulants by prompt and steady increase in the blood-pressure. Strychnia and digitalin seem to meet the first indication in many cases of shock.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held February 19, 1903.

ANDREW H. SMITH, M.D., PRESIDENT.

Action on Proposed Resolutions.—Dr. ALFRED MEYER offered this resolution, which was carried: "*Resolved*, That, in view of the inadequate provision for the care of the consumptive poor of the State of New York, the New York Academy of Medicine endorses the efforts of the State for the establishment by it of a hospital for incipient cases of tuberculosis. *Furthermore*, That it deplores the insufficiency of the appropriation for, and the delay in opening the institution at Bay Brook, three years having elapsed since the initial appropriation; and *Furthermore:* That it would urge upon the Governor and Legislature adequate moral and financial support of the Board of Trustees of this institution, in order that their work may redound to the credit of the State of New York; and *Furthermore*, That a copy of these resolutions be forwarded to the Governor and all State officers and to all members of the Legislature, duly signed by the President and Secretary of the New York Academy of Medicine."

Dr. S. A. KNOPF offered this resolution, which was carried: "*Whereas*, Strenuous efforts are being made to induce the Legislature to undo utterly the great advances made in recent years in tenement-house reform and sanitation, and to prevent the permanent carrying into effect the great improvements in the construction and management of tenement-houses in New York and Buffalo, which have been made possible by the recent tenement-house law, and *Whereas*, Pulmonary tuberculosis is extremely prevalent in the city of New York, there being eight thousand deaths and twenty thousand cases annually, and *Whereas*, The lack of light and air in the rooms of the great masses of the people is one of the most potent causes in increasing the prevalence of this and other communicable diseases, and constitute serious menaces to health and morality, be it *Resolved*, That the New York Academy of Medicine deplores any weakening of the present tenement-house laws, and urgently requests the Legislature to permit no changes to be made that will in any way decrease the amount of light and air available for the people living in such houses, or in any way take a backward step in regard to their sanitary condition.

Radio-praxis (with Special Reference to the Ultra-violet Rays; Demonstration, etc.)—Dr. H. G. PIFFARD read this paper. (See page 361.)

Dr. WILLIAM S. GOTTHEIL said the subject was one that he had devoted much attention to during the past two or three years. In order to obtain results in the deeper-seated processes, he said that we should get penetration, and this could only be had by amperage. He referred to certain experiments which he had conducted with Dr. Franklin, and which were published in the MEDICAL RECORD, April 19, 1902, in which the following deductions were made: (1) Light, in proper concentration from a source of sufficient actinic power, can be made to penetrate the entire thickness of the human body, including both surfaces of the skin; hence all the internal are accessible to its influence. (2) Since no portion of the body, however, can be more than half the thickness of the frame from the cutaneous surface, and much of it is closer, the time required for efficient actinic penetration to any depth is only a fraction of that employed in the experiments; and, conversely, if the time employed is equal, the chemotaxic effect will be far greater. (3) The proof of the penetration of actinic light to and through the internal organs apparently opens a field for its successful employment as a therapeutic agent in internal maladies, in view of its admitted efficacy in a number of external affections.

Dr. J. MOUNT BLEYER said that he had made a study of light with special reference to its therapeutic value for fourteen years. He had used both the arc and the sunlight, the ordinary method being the search light. With this light, in a certain proportion of cases with cavity formation, his results had been astonishing. Those patients who could not afford to take this treatment at home he had advised to go to Coney Island, or some similar resort, and there expose themselves in a practically nude condition, lying down in the sunlight for three or four hours. These patients did equally well as those who had the arc light used.

Dr. GEORGE G. HOPKINS of Brooklyn differed with the reader of the paper in his statement that ice did not interfere with the blue rays but that water did. He said that one fact Finsen demonstrated was that the blue, the ultra-violet and the violet rays would pass through water. Some rays were intercepted by a solution of alum; this would cut off the red, green, and orange rays. He had great difficulty in obtaining non-foggy lenses in this country. The Finsen light was an admirable hæmostatic and had given him excellent results, especially in cases of cancer of the cervix uteri; in such cases the hemorrhage had been controlled quickly. A great objection to the Finsen light was the necessity for long exposures. A very strange thing to him was the apparent inocuousness of the horny layer of the skin to the *x*-ray. The worse cases of gangrene he had ever seen had begun below the skin, which was healthy.

Mr. GEORGE B. PEGRAM presented two small viols of radioactive substances that had been obtained from pitchblende, sold at $4.50 a gram by a firm in New York. The radiation from such substances was not homogeneous. A large fraction of the total radiation could be intercepted by even a very thin screen of aluminum foil or other substance, while each successive layer of foil had less and less proportionate absorbent effect. Other things being equal, the absorption of the radiations by a substance was about proportional to its density. Professor Rutherford had recently detected the presence, in the radium and thorium radiations, of a very small percentage of rays that could penetrate several centimeters of solid lead. He said that the surface of bodies could be made temporarily radiative by placing them in the air near radium or thorium compounds, which effect would be greatly increased if the bodies exposed were kept at a high negative potential. A platinum anode used in the electrolysis of thorium solution became strongly radioactive. The wide distribution of radioactinic phenomena in nature was shown by the fact that a negatively charged wire suspended in the atmosphere for several hours became radioactive. By rubbing the wire with a piece of leather the activity could be made to effect the leather, being simply transferred. The mass of evidence at the present time proved that the greater part of the penetrating rays from radium are quite similar to the cathode discharge in our *x*-ray tubes, consisting of negatively charged particles shot off with a velocity comparable to that of light. These radiations could be deflected by a magnet, while *x*-rays, being ether vibrations, were most influenced in the direction of the magnetic field. He said that the various recent statements in the daily press, that the maximum amount of radium in the universe was only 2 kg. could hardly be taken seriously, though it was greatly to be hoped that a less expensive source of radium than pitchblende would be disclosed.

Dr. MILTON FRANKLIN thanked Dr. Piffard for his excellent paper in which he found nothing with which to disagree. He said that if you were to accept as true all the reports that we had heard of the ultra-violet treatment either the light ray and the heat ray or imagination was a potent factor in the process, because the majority of operators had obtained their results with apparatus totally innocent of any ultra-violet rays. He had experimented with some of the largest arc lamps that had been made, and in one instance had exposed the flexor surface

of his arm to the concentrated light of a 100 ampere arc lamp for a space of from twelve to fifteen minutes for four days in succession, without the slightest reaction, while a number of men using apparatus of the same type and much smaller, had claimed cures of really obstinate cases. Personally he thought that the element of suggestion on the part of the operator, as well as on that of the patient, was unduly potent. Of all the forms of low-tension arcs, that of Finsen was the most rational as regard the position and number of collecting lenses. The essential light from an arc came from a depression in the positive carbon known as the crater. This crater he had found from a number of measurements approached the general shape of a parabola, whose abscissa lay in the line from the center of the positive carbon to the nearest point on the negative carbon. Now the light emanating from an illuminating surface was not uniform in all directions, as might be supposed, but as was proven at the end of the eighteenth century by two investigators whose names had slipped his memory, it was of the greatest intensity at a direction perpendicular to the surface, and decreased as the cosine of the angle of obliquity in any direction. At this rate there would be no rays from the crater in a direction at right angles to the axis of the crater or in the axis of the ordinates. This was, to a certain extent, overcome by the light from the negative carbon, and from heated portions of the positive carbon outside the crater. Those lamps which had the collecting lens at any distance from the line in which the abscissa of the crater lay were very poorly constructed. The Finsen lamp had the negative carbon in a position which insured that its axis coincided with that of the positive carbon, so that the light had its greatest intensity in a direction corresponding with the coincident axes of the carbon. In this way, by bringing the collecting telescope into a line as near to the axis of carbon as possible, and by multiplying the number, the amount of light collected was the greatest that might be obtained.

The distinction between what was called heat light and chemical rays was very crude, as all the effects that had been ascribed to one class might be performed by the other. Thus chemical action was produced even by the heat rays, as instanced by the experiments by Abney, in which he photographed a hot kettle in an absolutely darkened room by the rays that emanated from the kettle. In the same way it might be proven that chemical rays produced light and heat under suitable circumstances, and that the light waves were capable of producing heat and chemical action. For this reason the testing of the ultra-violet light capacity of a generator by means of silver salts was not reliable. In the picture exhibited by Dr. Gottheil, as taken by light that had been transmitted through the body which he made, he wished to say that he never claimed for an instant that the light which was transmitted was of the ultra-violet region of the spectrum, and he was strongly convinced that it was not, but were rays of greater length, as, in the first place, the machine with which they were made did not transmit any ultra-violet light through its glass lenses, and besides he had experimented with every fluorescent substance that he could get, and had found no evidence of the transmission of these rays through the body. It was safe to say that there was at present no known glass which was diaphanous to the ultra-violet, as had been claimed.

He offered an explanation of the peculiar effect produced by the letters shown by Dr. Piffard which were rendered phosphorescent by the *x*-ray on the one hand, and by the ultra-violet on the other. It was noted that the letters had been energized by the ultra-violet rays, and gave off a blue light, and that the picture that it produced was conspicuous for the amount of halation produced, and that the density was not very great, while the letter that had been exposed to the *x*-rays, gave a white phosphorescence, and the picture produced was almost free from halation and quite dense. He suggested as explanation that the rays emitted by the ultra-violet energized letter were of such nature that they were reflected by the glass of the plate, and caused halation, while the *x*-ray energized letter, emitted such light as was readily transmitted by glass. The color of the reflected light suggested the feasibility of the explanation of an apparent photographic paradox. A great drawback to the general use of low-tension arc was the small focal area of the light, which was generally less than three-quarters of an inch, while in the little lamp shown by Dr. Piffard, the area covered might be increased to any size that was desired. The limit would not be in the size of the lamp, but in the size of the lesion. He had recently made some tests of the farthest position at which ultra-violet rays would fluoresce by means of a reflecting diffraction-grating, and if the rays were in the same relation as regards length as the rays lower in the spectrum, it would not be difficult to compute their wave lengths.

In answer to Dr. Piffard's remarks as to the action of the green rays, he begged to state that in the conclusions of Chastaign, which covered all the chemical actions of light up to about the middle of the last century, it was assumed that the action of the rays down to the green was reducing, that the action of the rays below the green was oxidizing, and that there had never been found any action of any kind in the green. The action of the oxidizing rays were extremely weak on the animal organism. The remark of Dr. Gottheil, that amperage was required to obtain penetration was an error. The energy of any current was measured by the product of the potential by the amperage, and the energy in the small static spark was very great. The statement of Dr. Piffard, that water absorbed the ultra-violet rays while ice did not, to which Dr. Hopkins took exception, might be answered in a few words: Water contained air in solution, and in exact proportion to the amount of this air did it absorb the chemical rays, while the air in ice was separating in fine masses or globules which did not appreciably interfere with the passage of the rays. The supposition that the effect of the *x*-ray was produced by the projection of minute masses of platinum into space with infinite velocity had been disproven by Gilchrist, who sent a section of skin from a very severe burn to Professor Abel for chemical analysis, and the report showed that there was no platinum in the skin.

SECTION ON MEDICINE.

Stated Meeting, Held February 17, 1903.

JAMES K. CROOK, M.D., CHAIRMAN.

Medical Chart for Office Patients.—Dr. FREDERIC GRIFFITH presented a chart, which was intended for walking cases, not only enabling a fuller record to be kept in th isway, but creating a favorable impression in the mind of the patient.

The Holmes Sanitary Tent Cottage.—Dr. JAMES CROOK exhibited a model of a combination tent and cottage devised by Dr. A. Mansfield Holmes of Denver, Col., and used by him in the sanatorium treatment of tuberculosis. After describing the construction of the tent, Dr. Crook stated that he had compared it with other structures of the kind in use, and thought the Holmes' tent presented several points of advantage. Possessing as it did a substantial timber floor, as well as wooden walls halfway up to the eaves, the cottage had a very secure foundation, which was a guarantee against dampness from the ground and a protection from the inclemencies of the weather. The excellent ventilation afforded by the tent, and its ready convertibility, during mild or hot weather, into a tent pavilion, were very desirable features. The tent cottage could be manufactured at a cost which would place it within the reach of persons of slender resources. Furthermore, its construction was such as to admit of the easy detachment of its component parts and packing in a small compass for transportation. Dr. Crook hoped to see the tent-cottage come into general use, not only in the treat-

ment of tuberculosis, but in hospital work generally when isolation was desirable.

Symposium on Brochopneumonia.—This comprised presentation of the following papers:

Etiology.—Dr. Lewis A. Conner presented this phase of the subject. He prefaced his remarks by restricting the term bronchopneumonia to an inflammation beginning in and confined at first to the walls of the bronchi. As a matter of fact, the term, he said, described a lesion rather than a disease. The cases of bronchopneumonia were divided into two great classes, primary and secondary. Of a large number of cases occurring in children, Holt found 37 per cent. were primary, whereas in another large series occurring in adults, 92 per cent. were secondary. According to Holt, 97 per cent. of the cases of bronchopneumonia occurred in children under three years of age. It was especially frequent among the children of the lower classes, and, in general, among poorly nourished, and particularly rachitic, children. Among the acute infectious diseases giving rise to secondary bronchopneumonia were measles, influenza, diphtheria, whooping cough, and scarlet fever, and of these measles easily stood first. While the proportion of cases of measles complicated by bronchopneumonia varied a good deal with different epidemics, it was not uncommon in hospital practice to find such complication in as many as forty or fifty per cent. In private practice, and under good conditions, the percentage was not nearly so large. Aspiration pneumonia was found in all conditions of stupor and unconsciousness in which the normal sensitiveness of the larynx and trachea was lost, and the act of swallowing was difficult or imperfect. The bronchopneumonia which so frequently developed after submerging belonged to this class, and, although somewhat different, the bronchopneumonias arising from the inhalation of ether, illuminating gas, and smoke really belonged to the same class.

Pathology.—Among the cases of primary bronchopneumonia the bacterium most frequently found was the diplococcus of pneumonia. In considerably over half the cases this organism was found either alone, or in conjunction with other germs, most commonly, the streptococcus. In the bacteriology of secondary pneumonia, the same organisms were found, and, in addition, the bacillus of diphtheria, the bacillus typhosus, and the bacillus intracellularis meningitidis. The early investigators were inclined to believe that secondary bronchopneumonia was not the result of the specific bacilli of the infectious diseases with which it was associated, but rather of other microorganisms found present at the same time. Modern methods of investigation had changed this view. For example, it had been shown that in 62 cases of diphtheritic pneumonia, the Klebs-Loeffler bacillus was found in 90 per cent., and in 12 of the cases was the only organism present. Pfeiffer had shown that in persons dying of influenza pneumonia at the height of the disease, the influenza bacillus could be obtained from the affected area in pure culture, whereas in persons dying at a later stage streptococci and pneumococci were more apt to be found. In one series of 19 cases of bronchpneumonia complicating typhoid fever, pneumococci, streptococci, staphylococci, and the bacillus of Friedlander were found, but in none was the bacillus typhosus obtained from the lungs. It was now believed by many that the bronchopneumonias occurring in conjunction with tuberculosis were commonly due to pneumococci or streptococci, and that the tubercle bacillus was only responsible for the caseation which so often followed this disease process. Aspiration pneumonias, as a class, had not been studied bacteriologically, but there was no reason to suppose that the bacterial flora differed materially from those already considered. The question as to whether or not the bronchi in health contain pathogenic bacteria had not yet been definitely settled, but it was probable that they were not found in the bronchi under normal conditions.

The Diagnosis.—Dr. Charles E. Quimby read this paper. He said that the term bronchopneumonia was now used to cover conditions which were formerly embraced under the term capillary bronchitis. This was justified by the fact that many similar cases were met with in which the pneumonic factor was very prominent although in many others it was not a marked feature. The diagnosis of bronchopneumonia implied essentially not the recognition of the fully developed condition, but the determination of the point at which the bronchitis passed into a pneumonia—in other words, when the mechanical disturbances of bronchitis began to interfere materially with respiration. He believed that the earliest stage of the transition, when it developed uniformly throughout any considerable portion of the lung, was indicated by a drop in the pitch of inspiration, nearly, if not quite, to that of expiration, and the retention of a distinct vesicular quality of the respiratory sound. The drop in the inspiratory pitch was due to the inclusion of the shorter bronchioles; the diminution of intensity was dependent upon the plugging of the tube and inclusion of air without definite pulmonary consolidation. The retention of vesicular quality depended upon patency in some of the tubes, and its amount varied with the proportion of tubes involved. From this point the change to definite pulmonary consolidation was evinced, not by change in the pitch of respiration, but by a gradual enfeeblement of the vesicular element and its replacement by a tubular quality. Percussion and palpation at this time were both unreliable, nor was there any change in the attendant râles which could be certainly appreciated or necessarily ascribed to the advancing pathological process. Some time might elapse before any other evidence of advance of the pneumonic process was forthcoming, but after a time a change in the sputa and an increase in the temperature and in the respiration rate would confirm the first suspicions of pneumonia. Variations of respiration were apt to receive too little attention in this disease. He believed that the slightest *persistent* increase of respiration following a uniform respiration rate should always lead one strongly to suspect a beginning pneumonia. It was impossible to distinguish a simple bronchopneumonia from an ordinary tubercular pneumonia by the physical signs, though this differentiation could be made by examination of the sputum and attention to the history. The differentiation between bronchopneumonia and lobar pneumonia was seldom difficult. In recent years he had seen a condition which was liable to lead to some confusion. This was a localized hyperæmia developing in acute influenza, and associated, perhaps, with a slight degree of hypostatic congestion. It was usually observed at the back, was sudden in its onset, and often sudden and quite erratic in its disappearance. He was of the opinion that the condition was very largely of vasomotor origin. In conclusion, he would say that the diagnosis of bronchopneumonia was often a matter of inference rather than of demonstration.

The Treatment.—Dr. William H. Thomson discussed this part of the subject. He said that lobar pneumonia and so-called bronchopneumonia were widely different diseases. The former had a distinct, specific invasion as a primary cause, and the chief danger was toxæmia. For this reason his prognosis in such cases was based more upon the presence or absence of evidence of toxæmia than upon the apparent extent or severity of the local process in the lungs. On the other hand, bronchopneumonia was a part of the bronchitis, and the one great danger from beginning to end was suffocation, and not toxæmia. It was important to keep in mind the fact that one was dealing with a mechanical element. In his opinion, it was the duty of every physician to endeavor to treat every case of bronchitis in such a way that it would remain a bronchitis. In the majority of cases of bronchitis there was no infection. It had been demonstrated to his satisfaction that the entire repiratory tract was sterile except in

cases of accidental infection. Repeated experiments had failed to show the presence of the tubercle bacilli in the air expired by a patient suffering from tuberculosis so long as there was no contamination from expectoration. Lister had long ago called attention to the fact that when the pleuræ were filled with air as a result of an injury from a fractured rib that the surgeon need not fear empyema because this air had been filtered and freed from bacteria by the lungs. The physician should prevent the downward spread of bronchitis by treatment directed toward securing a sufficient fluidity of the secretions. The first and last practical indication, therefore, was to make everything in the bronchial tubes so fluid that it could be most easily expectorated. He thought that, in the great majority of cases, bronchitis was a nervous trouble, and was brought about by a chilling of a portion of the surface of the body. It should be remembered that the arterial supply of every viscus of the body was under the control of nerves which were directly connected with the skin immediately over these viscera. There were also certain special relations. The arterial circulation of all internal viscera was affected at once through the vasomotor system by impulses traveling from the body surface. It had been shown experimentally that the shutting off of the arterial supply from the kidney of a dog for forty minutes so damaged the renal cells that albuminuria persisted for twenty days. It was easy, therefore, to see that any chill to the surface of the body reflected so as to produce an ischæmia in a viscus in relation with this area, was likely to damage the cells of this viscus. This was his notion of "catching cold," and it threw light upon the causation of bronchitis. Bronchitis was, therefore, often directly the result of a chilling of a portion of the body surface, and consisted in a catarrhal inflammation of the bronchial mucous membrane. The bronchioles were without cartilage, and as they approached their terminals they were nothing but thin membranous tubes with very few muscular fibers as compared with the larger bronchioles. When a main bronchus became plugged by a foreign body, a violent inflammation of the bronchus resulted, but this was nothing compared with the serious and rapidly destructive changes occurring in all parts of the lung tissue supplied by that bronchus. Very rapidly the area in those lobules was absorbed, and the lobules collapsed, and, following close upon that, an intense inflammation developed, and permeated all of the lobules and filled the air cells with an exudation from the blood, including lymphocytes and pus cells. The bronchioles were so constructed that they could tolerate nothing but air, and any liquid was practically a foreign body there. If in addition to increased moisture, there were plugs of mucus descending, the result was the same as a plugging of a main bronchus, only on a much larger scale. According to this theory, bronchopneumonia had a mechanical course, *i. e.* the tubes were closed by the secretions of a bronchitis. The transition from bronchitis to bronchopneumonia was almost surely indicated by a marked rise of temperature, and from the very nature of the process it was evident that there would be no crisis, and that the disease might last for a very long time.

The first indication for treatment was to make the secretions as fluid as possible. For this purpose there is nothing better than the internal use of oils, and, preferably, linseed oil. This should be kept up all through the disease, bearing in mind that plugs of mucus were constantly present in the larger tubes, and acted as valves. It was undoubtedly because of this pumping action that many lobules were deprived of their air, and were made to collapse.

Varieties of Cough.—Coughs could be divided into two great classes, the irritant and the expectorant. The first was useless and mischievous, and was well observed in cases of pleurisy. Its sound was distinctive, there being separate hacks like the blows of a hammer, each hack being independent of the others. In a child, this irritant cough was squeaky. The expectorant cough was known by the fact that each effort at coughing was linked to the others, and the process continued until expectoration was produced. For the irritant cough anodynes were beneficial; for the associated constriction of the bronchi, the asthmatic element, belladonna should be given in full doses. The original cause being mechanical, he believed it should be dealt with by mechanical means. By this he meant that the patient should be frequently placed with the head downward, the ribs compressed with every act of expectoration and, in short, every effort made to aid respiration. This treatment should be aided by the usual external applications, one of the best of which was the old embrocation composed of a teacupful of vinegar, a teaspoonful of turpentine, and the yolk of an egg. In the case of an adult very great improvement often followed the free use of a number of blisters to the chest.

Dr. Louis Faugères Bishop said that many authorities expressed the opinion that the colon bacillus was a cause of bronchopneumonia, and that many children became ill with this form of pneumonia as a result of self-infection. We were still unable to say anything very definite as to the possible tuberculous origin of many bronchopneumonias.

Dr. William L. Stowell said that there were in this city annually about six thousand deaths from pneumonia, and fully three-fourths of these were bronchopneumonias. A large number of infants under two years of age succumbed to this disease. It was well to remember that all of the infectious diseases of childhood might be complicated with bronchopneumonia, and in view of this fact to caution the parents and the nurses regarding the grave consequences of paying too little heed to these common ailments of childhood. Of late years his treatment for bronchopneumonia in children had been practically the same as for bronchitis, except that if the temperature range was high measures were taken to control this high fever. If the temperature rose to 103° or 104° F., the pulse was rapid and large areas of lung tissue were involved, he was accustomed to prescribe tincture of aconite and sweet spirits of niter, although in older and more robust children he did not hesitate to make use of small doses of phenacetin or acetanilide. There could be no doubt that oils were very useful in both bronchitis and bronchopneumonia. He was accustomed to prescribe for children of from one to three years of age a mixture of equal parts of castor oil, syrup of rhubarb, mucilage of acacia, and paregoric. Although this prescription seemed to contain too large a proportion of paregoric, he found that practically it worked very well, probably because it kept the secretions loose. He was in favor of the use of embrocations in children, and preferred for this purpose to use the oil of camphor—not camphorated oil. Steam inhalation was often most useful. Old persons with bronchopneumonia were apt to have also chronic bronchitis, and asthma, and hence he found Hoffman's anodyne with glycerin or with tincture of cardamom a very useful remedy. The old-fashioned cough syrups were apt to disturb the stomach. For both the old and young sinapisms and mustard poultices were useful. He avoided alcoholic and other cardiac stimulants in infants as far as possible, except strychnine. The latter he gave in doses of $\frac{1}{300}$ of a grain to young children, and in doses of $\frac{1}{30}$ of a grain to old people.

Dr. Godfrey R. Pisek spoke of the wide variations in the statistics of bronchopneumonia collected from private and hospital practice. In this city there were 2,500 deaths from bronchopneumonia, of which about 2,000 were in children under five years of age. The previous condition of the patient exerted an important influence upon the course of the disease in hospitals. Children who were rachitic or who had been poorly fed were poor subjects for bronchopneumonia. In the Babies' Hospital last year many of the gastroenteric cases developed bronchopneumonias, but after separating the severe cases of gastro-

enteric infection from the milder ones the disease was controlled. Dr. Quimby's remarks on the physical diagnosis were most interesting, but it seemed to the speaker impossible to draw such sharp distinctions in children. The diagnosis here must rest mainly upon the results of auscultation. Dr. Thomson had highly recommended belladonna, but, according to his experience, this drug was not well borne by children. Change of position was certainly a most potent means of aiding expectoration, and should never be overlooked in children. These little ones should not be trundled around by their mothers, but their position in bed should be changed from time to time. The mustard poultice was useful in the early stage to relieve pain if repeated at intervals of four hours until the skin over the affected area was decidedly reddened.

Dr. Crook said that he considered vocal fremitus extremely useful, and although a child could not be made to count, one could learn much from vocal resonance while the little patient was crying. He would like to know Dr. Thomson's method of giving linseed oil, and also as to the use of blisters in very old persons.

Dr. Conner said he thoroughly agreed with Dr. Quimby regarding the diminution or enfeeblement of the inspiratory murmur in small areas of consolidation. It was a change of the greatest value in the early stage. The weight of authority seemed to be in favor of considering the presence of the colon bacillus an infection occurring just before death. Theoretically expectorants should be useful, though practically he had derived so little benefit from them that he found himself relying more and more upon external applications, and in the case of adults, particularly upon dry cupping.

Dr. Quimby said that he too was a very firm believer in the mechanical treatment of these cases, and felt that he could point to at least one case in which life had certainly been saved by the inversion of the patient as described by Dr. Thomson.

Dr. Thomson said that linseed oil had been his one remedy for bronchitis for many years. Unfortunately for him four large manufacturers were now making the emulsion and selling it all over the country. There were exceedingly few cases of acute bronchitis that would not yield in a few days to the linseed-oil emulsion. The ordinary druggist found it difficult to prepare this emulsion, but it could be readily done by machinery. In some acute cases he added $\frac{1}{12}$ of a grain of morphine or six or eight grains of chloral to each tablespoonful of the emulsion. With reference to the toleration of children for atropine, he would say that when a young practitioner in medicine had been taught that there was a great difference in the tolerance of children for opium and belladonna, and that children were particularly tolerant of belladonna, and this had since been his own experience. It had been his rule to give the tincture of belladonna in whooping cough until the skin flushed, according to the treatment recommended by Fuller. This would generally control the cough in a week, although there might be a relapse any time in six weeks.

Officers Elected.— Dr. Lewis A. Conner was elected Chairman, and Dr. E. E. Smith, Secretary, of the Section.

A Case of Leukæmia Associated with Tuberculous Mesenteric Glands in a Boy of Three and a Half Years.—George Carpenter reports a case in which there was a family history of tuberculosis. Blood examination showed that there was leukæmia. At the autopsy petechial hemorrhages were found over the surface of the heart; the heart muscle was very soft and pale. The bronchial glands were enlarged and very dark; on section the lungs were somewhat œdematous. The stomach showed some submucous hemorrhages. The intestines displayed unduly prominent Peyer's patches and lymph follicles. The mesenteric glands were very considerably enlarged. They were pale in color and the largest of them were caseating in the center.—*Medical Press and Circular.*

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK

Stated Meeting, Held February 23, 1903.

Charles N. Dowd, M.D., President.

The Importance of Examinations of the Stomach Contents of Patients Suffering from Chronic Gastric and Intestinal Disorders.—Dr. Freeman F. Ward presented a paper with this title. He said that the day had long past when the physician's duty, in a case of supposed stomach disorder, was fulfilled by merely prescribing rhubarb and soda. In every obstinate or intractable case, after making the usual examination of the heart and lungs, the general practitioner should note carefully the condition of the liver, stomach, and bowel. There was a certain inverse relationship between the acidity of the urine and that of the stomach. The urine should be tested for indican, as this gave some idea of the character of the digestive process. At the first test-meal examination the main points to be determined were: (1) The quantity of the food in the stomach; (2) whether or not free hydrochloric acid was present; and (3) whether this acid was present in excess. Too much stress should not be laid upon the presence or absence of free hydrochloric acid in making a diagnosis of cancer. A number of illustrative cases were cited.

The Treatment of Gastric and Duodenal Hemorrhages.—Dr. Max Einhorn was the author of this paper. He said that the diagnosis of these hemorrhages was usually easy. As a rule, there was hæmatemesis, and sometimes melæna, and it was necessary to differentiate in some instances between true gastric hemorrhage and that arising from conditions present in the lungs or throat. The hemorrhages under consideration were apt to be associated with more or less marked dyspeptic symptoms. Small hemorrhages, frequently occurring in cancer and rarely in ulcer of the stomach, usually required no treatment. Larger hemorrhages were generally accompanied by hæmatemesis. Absolute rest in bed and abstinence from food and drink by the stomach, together with the use of medicines to control peristalsis, were indicated. The local application of ice seemed to be useful, as did also the subcutaneous injection of gelatin. Adrenalin had been employed in a few cases with very satisfactory results. The author said he had recently made some experiments on rabbits, which seemed to indicate that by the subcutaneous injection of adrenalin gastric hemorrhage could be controlled. In two cases of gastric hemorrhage he had injected twice daily about 1 grm. of a 1 to 1,000 solution of adrenalin with apparently good result. When surgical measures were demanded because of profuse gastric or duodenal hemorrhage, the bleeding point should be sought for and cauterized, but if it could not be readily located it might be necessary to do a gastroenterostomy.

The Treatment of Benign Stricture of the Pylorus.—Dr. John M. T. Finney of Baltimore presented this paper. He said that it was now generally admitted that it was advisable to operate early in every case when there was reason to believe the existence of a malignant growth, and he would urge a greater readiness to resort to operation in the numerous cases in which the stomach gave out as a result of the strenuous life of the present day. In the fifteen years following the first gastroenterostomy in 1881, 298 cases of that operation were collected, whereas in the next two years this number had been increased to 500. Many surgeons in recent years had reported a large number of such operations. Thus, Mayo had recently reported a series of 107 such operations, done within a period of ten years, with a mortality of only 9 per cent., truly a remarkable showing The speaker thought this operation would in time become as relatively common as the radical operation for the cure of hernia. The cases specially suitable for the operation were those in which there was some interference with the mechanical function of the stomach.

Atony of the muscular coats of the stomach and dilatation of the organ, as well as pyloric obstruction, had been benefited by such surgical intervention. There were many factors arising both within and without the stomach which entered into the production of pyloric obstruction, and in the attempt to overcome it the combined efforts of the physician and the surgeon were more likely to prove successful than the work of either one alone. Medical treatment should always be given a thorough trial before operation, but this having been done it was well to offer the patient the benefits of an exploratory operation without further delay, as this operation would, in the great majority of cases, not only demonstrate the cause of the trouble, but would at the same time afford an opportunity for securing relief. Under the infiltration method exploratory incision was attended by no mortality *per se*. If conditions were discovered rendering further operation necessary, ether could be substituted. He could not subscribe to the opinion often expressed, that, for this purpose, cocaine had no advantages. The mortality in stomach operations had been rapidly decreasing until now it was very low. Pylorectomy had been employed in certain cases of benign stenosis when there was a certain amount of thickening, but the mortality had been so great, 35 per cent. or over, in most instances, that the operation was rarely attempted. It was indicated only when there was an unusual amount of thickening, or when carcinoma was present or suspected. Gastroenterostomy had been employed more frequently than any of the other operations of this class, and was, undoubtedly, the most frequent choice of surgeons at the present day, but to become convinced that it was not ideal one had only to study the reported cases. The steady decrease in the mortality from this operation entitled it to consideration whenever operation was to be advised, even though the results, as regards symptoms, were not always what was to be desired. Vicious circle was found in 38 out of 550 cases reported in the literature, and although many efforts had been made to obviate this the problem had not yet been solved. Mayo had had considerable success in this field, and insisted upon the great importance of securing low drainage by an anastomosis at the most dependent part of the greater curvature. Attention to the proper length of the jejunum above the anastomosis aided materially in preventing vicious circle. The fact remained that an outlet at any other point than the pylorus was contrary to nature. With this idea in mind, Dr. Finney said he had devised an operation, known as pyloroplasty. He had been able to collect twenty-nine cases operated upon by this method, with a mortality of 6.8 per cent. The advantages of this method were: (1) The ease and facility with which it could be performed; (2) its low mortality, 6.8 per cent.; (3) its success in relieving at once the disagreeable symptoms; (4) its applicability, even in the presence of dense adhesions about the pylorus; (5) except in cases of extreme dilatation it furnished effective drainage, placing the outlet at or on a level with the most dependent portion of the stomach; (6) it prevented absolutely spur formation and the vicious circle; (7) it placed the new pylorus in approximately its proper place. The disadvantages which had developed so far were theoretical rather than practical. In one case the mesentery was so short that the apposition of the stomach and duodenal walls was rather difficult. It was conceivable that the adhesions around the new pylorus might cause in time a second obstruction, but there was as yet no evidence that this ever occurred. The operation admitted of the excision of a large portion of the anterior gastric wall, as well as of the pylorus, and the opening could be made so large as to greatly lessen the fear of subsequent cicatricial contraction. There had been a singular freedom from post-operative nausea, vomiting, and pain in his cases.

Dr. B. Farquhar Curtis said he did not believe gastroenterostomy should be done in carcinoma of the stomach unless pyloric obstruction were present. While no doubt, cocaine anæsthesia was perfectly feasible, he felt that the limitations for exploratory laparotomy should be rather strict, and that many persons would reach an untimely end by the effort to verify a diagnosis by an exploratory laparotomy or the attempt to relieve an incurable condition. In these cases of malignant disease exploratory laparotomy would always have a tolerably high mortality. While adrenalin would certainly control hemorrhage when applied locally, its use subcutaneously did not appear to him physiological, because it was well known that when used in this manner it caused a rise of arterial pressure, and so would be apt to increase the tendency to hemorrhage. Therefore, for gastric hemorrhage, he would advocate the use of adrenalin by the stomach rather than subcutaneously. Among the benign conditions which could be relieved were those of hyperacidity and spasm of the pylorus, and a certain class of cases in which there appeared to be a congenital narrowing of the pylorus. In the last-named class the tissues about the pylorus were not thickened, and yet the pylorus itself was so narrow that at operation the tip of the little finger would enter it with difficulty. It might be assumed that for a time this narrowing was compensated for by hypertrophy of the walls of the stomach, or by an unusually vigorous digestion, and that later in life when digestion naturally became somewhat impaired, symptoms arose as a result of this narrowing of the pylorus. He felt that gastroenterostomy was much more dangerous and difficult than pyloroplasty, and the latter operation appeared to him a very great advance in surgery.

Dr. H. Lilienthal reported a case in which he had performed pyloroplasty. The patient was a woman of twenty years, who had suffered for three years previously from epigastric pain after meals. A short time before admission there was vomiting of food and of blood. The girl improved for a time under rectal alimentation, but the symptoms having recurred the operation was done on April 26, 1902. The woman had been completely cured, and had remained so. In this operation there was no tension whatever, and it could be performed very easily in the presence of dense adhesions. In his patient there was found a very small pylorus, apparently of the congenital variety referred to by the last speaker.

Dr. Einhorn said that he had met with several cases presenting the macroscopical appearance of malignant disease of the pylorus, and yet the true condition proved to be one of simple fibrous hypertrophy. He had also met with several cases of tumor of the stomach, which had completely disappeared under antisyphilitic treatment. He would not urge operation too freely for persons with benign stricture of the pylorus because there was still a considerable mortality attached to these operations; he would not advise surgical intervention in this class of cases except for patients who could not get along on a fluid diet. In early obstruction of the pylorus many cases improved so much after having been placed upon a liquid diet for a time that they were able to live in comparative comfort for a long time, even on semi-solid diet. Nor could he agree with Dr. Finney that when the case failed to progress under medical treatment a surgical operation should be done. He recalled three cases in which gastroenterostomy had been done, and the patients had subsequently sought relief for hyperchlorhydria; hence, gastroenterostomy could not be considered a cure for this disorder of the stomach. He had recently seen three cases of duodenal hemorrhage, in each of which the bleeding was so profuse as to endanger life. In such cases a prophylactic operation should be undertaken in the interval between these hemorrhages. He fully agreed with Dr. Curtis that the physician should be careful not to allow his enthusiasm to exceed proper bounds, and permit him to lightly advise exploratory laparotomy. There was altogether too much of this kind of operating at the present day, done apparently

largely with the object of satisfying the curiosity as to the exact condition present.

Drug Substitution and Adulteration.—On motion of Dr. Frank Van Fleet, the Society adopted a resolution endorsing the efforts now being made to expose and bring to justice certain dealers and manufacturers who substitute cheaper and inferior drugs, and pledging to the health authorities the support of the Society in this matter.

Tenement-house Legislation.—The Society also adopted resolutions, similar to those already passed by a number of other medical societies, urging the Legislature to prevent any tampering with the present tenement-house law.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held February 16, 1903.

Alexander Lambert, M.D., President.

Ectopic Gestation with Beginning Hœmatocele.—Dr. George Tucker Harrison presented this specimen, which he considered interesting from the fact that the tube had been ruptured, whereas in most cases of ectopic gestation a tubal abortion occurred without rupture.

A New Method of Fixation of the Movable Kidney.—Dr. W. Gill Wylie read this paper. He said that an abnormally movable kidney in women was very common. This was largely due to imperfect development caused by insufficient exercise, especially among the well-to-do classes, and by tight corsets and waistbands, which pressed upon the lower ribs and prevented the proper use of the abdominal muscles. Many of these women presented also a relaxed and congested condition of the generative organs. These cases were usually treated for chronic dyspepsia, but if a careful search were made, a diseased appendix might frequently be found. The displaced kidney probably did not cause the inflammation of the appendix, but if the kidney descended low enough to press upon the appendix, it would cause pain. In many of these cases, removal of the appendix, even if the kidney were not replaced by operation, would relieve the pain and dragging sensation, and the patient would regain flesh and strength. Before the surgeon operated to restore the kidney to its normal position, he should make sure that it really was the kidney, and not the appendix, or some other abdominal or pelvic organ that was causing the pain. Dr. Wylie considered the efforts of many surgeons actually to *fix* the kidney at the level of, or just below, the twelfth rib, as wrong, for the kidney was normally somewhat movable. Moreover, if fixed at this level the tight corsets and bands would press on the kidney and cause pain and discomfort. His aim was to replace the kidney in its proper position, and then suspend it in such a way that it would move slightly with respiration, as it should in health. This was accomplished in the following way: The incision was made just below the twelfth rib, and the kidney replaced; then the flatty fibrous capsule was pulled out with forceps until the tension held the kidney just above the twelfth rib, but allowed it to move slightly with respiration. The surplus capsule was cut, and the ends sutured to the fascial lining of the muscles about the opening with silk, and the muscles were closed with catgut. After this operation the kidney was usually in its normal position, and also possessed normal mobility.

Results Obtained by Fixation of the Kidney by Present Methods.—Dr. Alexander B. Johnson read a paper with this title. He stated that the object to be obtained was the replacement of the kidney without interference with the functions of the ureter or disturbance of the colon. The methods adopted by different surgeons to obtain this result were then detailed. He considered Piddell's method of operating a good one, and preferred catgut for the sutures.

Dr. Joseph A. Blake considered that the failure to fix the kidney under the diaphragm arose from its rotating on its upper pole, and thus coming to lie horizontally. In suturing, the stitches might be passed through either the fatty or the fibrous capsule, as their support was useful only until granulations formed. Catgut was the best material.

Dr. John F. Erdmann discussed the frequency of appendicitis occurring with displaced kidney. Fixing the kidney did not relieve the symptoms in these cases or when splanchnoptosis was present. As the rapid healing of the kidney wound was the important point, the matter of suture was secondary; in fact, if the patient could be kept quiet enough suture might be dispensed with. Kangaroo tendon was the material he used.

Dr. A. H. Goelet said that the danger in movable kidney was not its mobility, but its too low displacement. Unsuccessful operations were often due to lack of proper care before operation and imperfect freeing of the capsule, during operation, from the adhesions with the intestines. He condemned catgut as too liable to stretch. His own preference was for silk.

Dr. Edward Wallace Lee advocated splitting the capsule and rolling it back on each side until a scroll was formed, and then suturing through this thick roll, thus securing a better hold for the stitches. When catgut was treated with silver salts, according to the Credé method, it became strong and non-stretchable.

Dr. Wylie, in closing the discussion, repeated his conviction that, in replacing a kidney, it should be suspended and not fixed; but added, that he had come to operate less and less, as he thought more good was accomplished by attending to the complicating abdominal and pelvic troubles, and to the general health.

The Coroner's Office.—The special committee appointed to consider the advisability of abolishing the Coroner's office consisted of Drs. Stephen Smith, Harry R. Purdy, and E. Eliot Harris. The committee, after long deliberation, brought in a carefully-prepared report recommending such legislation as would lead to the abolition of the office of Coroner and the transfer of the duties of that office as follows: (1) The duties of investigating the causes of death in all cases now coming under the jurisdiction of the Coroner to be transferred to the Health Department, and the authorization of the latter to organize and equip a bureau for that purpose and appoint the necessary officers; (2) the transfer of the legal duties of the Coroner to the District Attorney's office, and of the judicial duties of the inquest to the Magistrate's Court; and (3) the transfer of duties, other than those pertaining to the inquiry into the cause of death and inquest, to the Chamberlain.

Street-car Service.—At the suggestion of the Committee on Public Health, the Association endorsed the recommendations made by the Merchants' Association to the State Board of Railroad Commissioners.

Infantile Diabetes Mellitus.—Howard E. Lomax reports several cases of this affection. Its etiology, he says, is more obscure than in the adult form. Heredity seems to play the first rôle, although the heredity is seldom direct; it is the predisposition to the disease that is inherited. It is said that diabetic children belong to families in which phthisical, uric acid, or neuropathic affections prevail; dentition, diet, rapid growth, unhygienic surroundings, excesses of various kinds, injuries (especially of the head and vertebral column), and pre-existing disease have all received their share of blame. Gastric catarrh is the most notable pre-existing disease. As lesions of the pancreas are liable to give rise to diabetes in the adult, it is reasonable to suppose that some of these lesions can also produce the same disease in children. The treatment of infantile diabetes embraces dietetic, hygienic, and medicinal means. The latter have little or no effect. Hygienic remedies are of great value, as they stimulate oxidation. As to diet, carbohydrates should be reduced to a minimum. Most authorities allow milk in moderation. No recoveries from infantile diabetes mellitus have been reported.—*Albany Medical Annals.*

Book Reviews.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Science by Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York City. In Twenty-one Volumes. Volume XXI. Supplement. New York: William Wood & Co., 1903.

Sufficient progress has been made in the medical world to justify the publication of a supplementary volume to the Twentieth Century Practice, and the editor has made a wise selection of subjects, which are ably presented by various authors in the work before us. Dr. Beck writes on the Röntgen Ray in Medicine, giving the technique, the errors liable to occur, and the therapeutic application, of this new power in medicine. Mr. Roger Williams reviews the subject of the theories of the cause of cancer and gives a very just résumé of the work that has been done up to the present time. Bacillary dysentery is fully described by the discoverer of the causative germ, Dr. Shiga of Japan, and he presents statistics which seem to prove the efficacy of the serum treatment, the confirmation of which would prove a boon to those countries in which the disease is common. American physicians will take special pleasure in reading Sternberg's account of the discovery of the transmitting agency of yellow fever. The wonderful practical results starting from these investigations are a natural source of national pride. The subject is fully treated in the text, and a few charts and illustrations add to the interest. Higley brings the chapter on the blood fully up to date and presents it in a concise form. Among many other diseases we note short chapters on the Nose, Pharynx, and Larynx, on the Skin, on the Lungs, Œsophagus, Stomach, Liver, Aorta, Brain, Spinal Cord, Infectious Diseases, Diabetes, Rheumatism, and Gout. Taken in conjunction with the preceding twenty volumes, the present one makes an exceptionally complete and satisfactory encyclopedia of medicine thoroughly up to date, written by those recognized as authorities and ably edited.

Tratado Teórico-Práctico de las Enfermedades de los Niños. Por el Doctor Francisco Criado y Aguilar, Catedrático de Enfermedades de la Infancia con su Clínica en la Facultad de Medicina de la Universitad Central. Madrid: Imprenta del Asilo de Huérfanos del S. C. de Jesús, 1902.

In this excellent treatise on the diseases of children, by one of the foremost pediatrists of Spain, the reader will find much that is of interest and value as well as some points that are novel. Practice necessarily varies in the different countries, despite the ready means of communication and the mutual interchange of views at international congresses and through the medium of the medical journals, and it is, therefore, of great service to study the literature of other countries. One who would study the diagnostic and therapeutic methods characteristic of pediatrics in Spain and compare these methods with those most familiar to him could not do better than to study them in this work by Criado y Aguilar.

In spite of the limits which the author has set to his subject, treating only of the diseases peculiar to childhood or of the general maladies which differ markedly in symptoms and course according as they attack the young or those in adult life, the book is one of over eleven hundred pages. The work is divided into two parts—Paidología and Paidopatía. The first embraces the hygiene of infancy and childhood, including the subjects of alimentation, clothing, exercise, intellectual labor, and hydrotherapy. In the second part the diseases of children are systematically studied, beginning with the special pathology of the new-born and then proceeding to vices of conformation, eruptive fevers, diseases of special organs or systems, dermatoses, infantile syphilis, diseases of growth, and maladies dependent upon disorders of nutrition.

The treatise, being in Spanish, will unfortunately be a sealed book to many, if not most of those who might otherwise profit by it in this country, but it will doubtless be appreciated by the physicians of Latin America, and we cannot but congratulate them upon the opportunity offered to the in the publication of this exceptionally valuable work.

The Practical Medicine Series of Year Books, comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the Editorial charge of G. P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-graduate Medical School. Vol. II. General Surgery. Edited by John B. Murphy, M.D., Professor of Surgery, Northwestern University Medical School, November, 1902. Chicago: The Year Book Publishers.

This volume is the second of a series which promises to contain many features of usefulness for the general practitioner, for whom it is chiefly intended. Much the same plan is followed as is seen in larger textbooks, by which the subject under discussion is divided into regions, each of which receives its share of attention. By issuing ten volumes on separate subjects, it is possible to go much more into detail than in the ordinary year book, and the views of the various authors are in consequence much more accurately given to the reader. This volume contains many epitomized extracts on all sorts of surgical subjects which have been under discussion during the past year, and its perusal will give one a good idea of recent surgical literature. The size of the volume is convenient, and the extracts have been carefully edited.

Flowers of Song from Many Lands. By Frederic Rowland Marvin. Troy, N. Y.: Porfracts Book Company, 1902.

This is a charming collection of short poems and isolated fragments of verse taken from many languages and translated into English. The translation is into smooth and poetical language, giving to the fragments an appearance of originality not often seen in translations, especially metrical translations. The selection of the poems also has been made with great discrimination and taste, some of them being exquisite little gems, inaccessible to the average reader. The edition before us is a limited one, but we hope the publishers will issue the book again in popular form, so that to all lovers of the beautiful in verse may be given the opportunity to possess themselves of this excellent collection.

Lessons and Laboratory Exercises in Bacteriology, an Outline of Technical Methods Introductory to the Systematic Study and Identification of Bacteria, Arranged for the Use of Students. By Allen J. Smith, M.D., Professor of Pathology in the University of Texas, Galveston. Philadelphia: P. Blakiston's Son & Co., 1902.

This book is intended as a laboratory guide for the student in bacteriology, and is an amplification or outgrowth of the schema of exercises carried out by the author's class under the guidance of an assistant. The book is printed only on one side, the odd pages being left blank for notes on the outcome of the various experiments and on special methods of technique. The work is well planned to carry the student through a complete course of instruction from the beginnings in sterilization methods to the technique of the various cultures, the isolation of bacteria and their classification and identification.

Progressive Medicine. A Quarterly Digest of the Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics, and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital, etc., assisted by H. R. M. Landis, M.D. Volume IV. December, 1902. Diseases of the Digestive Tract and Allied Organs, Liver, Pancreas, and Peritoneum; Anæsthetics, Fractures, Dislocations, Amputations, Surgery of the Extremities, and Orthopedics; Genitourinary Diseases, Diseases of the Kidney, Physiology, Hygiene, Practical Therapeutic Referendum.

In this excellent volume the different contributors have, as in former issues, carefully noted the steps of value that have been taken all over the world during the last three months of the past year. The title is a good indication of the ground covered, and each of the subjects therein mentioned has been treated with all due consideration. The style throughout is terse and notes clearly the points of value that have appeared in each branch, and the references are extremely complete. The sections on Surgery, Diseases of the Kidneys, Hygiene and Therapeutics are worthy of special mention. In the latter there is a chapter on Röntgen Therapeutics, which should be particularly useful to the practitioner who has not time to search all of the literature of the subject.

The volume will prove of the utmost value to the general practitioner and to the specialist, who will be able, with the minimum of time and labor, to locate all of the important literature on any of the subjects treated, or to read an exceedingly clear and concise digest thereof.

Estudio de un Sistema de Alcantarillado para Málaga. Por el Tercer Teniente de Alcalde, Don Ramón Martín Gil. Málaga: Viuda y Hijos de J. Giral, 1902.

Although this is an essay on a system of sewerage recommended for adoption by the city of Malaga, and as such of local interest chiefly, yet the general considerations and the discussion of the advantages of the system advocated will be of interest to public hygienists in general. The author is Dr. R. Martín Gil, the well-known gynecologist of Malaga.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending February 28, 1903:

	Cases.	Deaths.
Measles	226	10
Diphtheria and croup	341	42
Scarlet fever	288	14
Smallpox	4	..
Varicella	137	..
Tuberculosis	298	187
Typhoid fever	34	12
Cerebrospinal meningitis	..	..

Instructions for Venereal Patients.—The following card is given to all patients suffering from syphilis in Dr. Follen Cabot's clinic: Syphilis is a constitutional disease. It is in the blood. Local remedies and taking medicine for a few months will not cure you. You must be treated for three years. The effects of this disease are far-reaching, and if treatment is neglected, much trouble and suffering will be caused, not only to yourself but to others. The following rules must be observed during the first year: Sexual intercourse must not be indulged in. Alcohol in all forms should be avoided, as it always aggravates the disease. Do not smoke or chew tobacco. Sleep alone. Under no circumstances should anyone be allowed to use your toilet articles, as brushes, towels, combs, razors, shaving brushes, etc. No article that has been in your mouth should be used by others, as tooth brushes, tooth picks, pencils, pipes, cigars, cigarettes, forks, spoons, drinking cups, etc. You must not kiss anyone, especially children. Brush your teeth night and morning, and keep your mouth clean. If you have bad teeth, have them attended to by a dentist, and be sure to tell him that you have syphilis, so that he may take necessary precautions to avoid the possibility of infecting others. Acids in food and drink should be limited." A similar and appropriate card is given to those having gonorrhœa.—*Modern Medicine.*

Saline Diuresis.—The absorption from the renal tubules in the rabbit when the outflow is obstructed is differential, the water and chlorides returning to the blood much more readily than the sulphates, phosphates, urea, and pigment. The presence of these last in the glomerular secretion must, therefore, tend to retard the absorption of water by opposing osmotic resistance to the absorbing force. When, as after their intravenous injections, they are present in large amounts, the urine is increased more than when such permeating bodies as the chlorides are in excess. If the absorption in the tubules under normal circumstances is similarly differential, as appears probable, this is sufficient explanation of the variation in the diuretic action of different salts. The saline diuresis appears to be not to stimulation of excretory cells in he kidney primarily, but to the changes in the circulation of the kidney; for when these are excluded, the injection of salt solutions causes little or no change in the urine, and on the other hand, an increase in the volume of the blood without change in its constituents appears sufficient to induce diuresis.—Cushing in *Journal of Physiology.*

Vitality and Low Temperatures.—The remarkable results of the experiments of Professor Macfayden and others on the effects of low temperature upon organic life render it highly desirable to ascertain how long vitality can be retained under such conditions. With liquid air now so available it becomes possible to extend the inquiry for an indefinite number of years, for a generation if necessary. The fact that bacterial organisms, after having been subjected for six months to temperatures far below those at which vital activities are supposed to be possible, and that they have retained their vitality practically unimpaired, profoundly modifies the conceptions hitherto attached to the word "life." If it can be shown that vitality can survive for a protracted period under such circumstances, the conclusion that life is a molecular function seems inevitable. If such an experimental result were obtained, it would greatly strengthen Lord Kelvin's speculation that the origin of life on earth may have been extra-terrestrial. Lord Kelvin, it will be remembered, suggested that the first germs of life on our planet might have reached it in the body of a meteorite from space.—*New York Sun.*

The Foreign Quarter of New York.—Few people realize what a large foreign population there is in New York. The following extract from an article on New York City, from *Pearson's*, gives a comprehensive idea of the foreign quarters: "As to the international character of the population of New York, it is one of the largest German cities in the world. The native Germans number 322,343, including people of German parentage, it is said to be the third largest German city. The Irish number 275,102; the Russians and Poles, from which the Jewish population of the Ghetto mainly is drawn, 188,000. There are about 100,000 people in New York who cannot speak English; many of these belong to the large Italian population. Last year 136,455 Italian immigrants landed at the Port of New York, the total immigration through this port for the year ending July 1 being 493,380, the largest on record. The foreign population of New York, with its churches, clubs, societies, and other institutions, give New York such a cosmopolitan character that you can worship in almost any language and swear in as many more and be understood.—*Scientific American.*

Statistics of the Medical Profession in Germany.—Dr. Wehmer's Medical Directory states that there are now 28,127 medical men in Germany, as compared with 27,039 in the previous year, 26,479 in 1900, 26,049 in 1899, 25,178 in 1898, and 24,303 in 1897. The increase of 1,088 in the number of medical men from the year 1901 to the year 1902, is an increase of 4 per cent. and is greater than in any previous year. During the past five years the numerical increase of the medical profession was 3,734, or 15.2 per cent., while the increase of the general population was 9.3 per cent. As regards distribution throughout the various States it is found that 17,126 medical men reside in Prussia, 2,790 in Bavaria, 2,148 in Saxony, 1,147 in Baden, 937 in Würtemberg, 814 in Alsace-Lorraine, and the remainder in the smaller States of the empire. There are 2,366 medical men in Berlin, 583 in Munich, 573 in Hamburg, 548 in Breslau, 433 in Dresden, 431 in Leipsic, 344 in Cologne, 354 in Charlottenberg, 338 in Frankfort, and 304 in Königsberg.—*Lancet.*

The Dangers of Acetylene.—It may not generally be known how much danger may exist in the use of acetylene for even toy purposes, owing, no doubt, to the want of a proper understanding of its manipulation and use. A lamentable accident occurred recently to a youth, aged sixteen years, who essayed to light the lamp of his magic lantern with acetylene gas. Having provided some calcium carbide, he sought to use it in accordance with instructions gathered from sundry papers and journals. In the course of these efforts there was a loud explosion and the boy was burnt so much that he died subsequently from the injuries received—which shows once more that a little learning is a dangerous thing, more especially in dealing with substances of such potency as those used by this unfortunate youth.—*Lancet.*

Transmission of Lepra.—A fact of interest in the determination of the transmission of lepra, is that although there is no isolation of lepers in Egypt, there are very few of them there. This, taken in connection with the warmth and dryness of the climate, suggests that dampness and cold may have an influence upon transmission.

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Original Articles.

SOME OBSERVATIONS ON VULVOVAGINITIS IN CHILDREN (WITH SPECIAL REFERENCE TO THE GONORRHŒAL FORM); ITS TREATMENT AND POSSIBLE SEQUELÆ.

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Gonorrhœal Vulvovaginitis.—A purulent vulvovaginitis is not very rare in children. It is due, in the vast majority of cases, to the gonococcus. It is likewise due to a small coccus, also found intracellular, but which certainly is not the gonococcus.*

On inspecting a specific case there will be seen a profuse discharge, which accumulation is greatest in the upper portion of the vulva and about the clitoris, in which area the discharge is also thicker and drier. The vulva itself, external to the large labia, is red, inflamed, and œdematous, pitting on pressure. The main irritation is in the immediate circumference of the hymen, of the lining of the smaller labia and of the perineum or fourchette. The sulci between the smaller labia and the future labia majora are most affected, being of a very dark red color, often with a deep bluish tinge. The vagina is less frequently affected to so great an extent. If treatment be devoted mainly to the vulva or to the vagina, improvement is relatively slow. The opinion of many that the specific form is always a vulvitis and not a vaginitis is decidedly wrong. While this is true in some cases, it is by no means the rule, as I have several times disproved by first washing the vulva and outer end of the vagina thoroughly, and then observing the expression of pus from the vagina when the child cried or resisted efforts at treatment. Further, on the use of the small speculum the red and inflamed character of the vaginal lining and the *erosion of the tiny cervical os* and the presence of pus are very distinctly recognized.

A continued irritation of the tissues leads to some of the local anatomical lesions which occur in adults, of which I mention condylomata. Eight were present in one case and were found on the perineum, the large labia, and especially on the skin surrounding the clitoris, which in children is relatively large and thick. Condylomata may also be found in the neighborhood of the anus. In one case a purulent secretion was found exuding from the anus, and examination evidencing the presence of gonococci, the diagnosis of proctitis was made. In another case the lesions were of a more acute character, minute fissures being present and causing pain and passage of blood on defecation. The treatment for this condition is irrigation with a 2-per-cent.-protargol solution and the introduction of a 2-per-cent.-protargol suppository.

The main evident lesion in gonorrhœal vulvovaginitis is the affection of the vulva immediately about the hymen, the inner labia, and the perineum. Frequently, the cutaneous covering of and about the external genitalia is likewise affected. No matter how thoroughly the former of these lesions is treated, unless the entire skin periphery be likewise treated, secretion will continue. The red, irritated character of the skin covering of the vulva is not due to irritation by the secretion alone, but to an actual invasion by the gonococci of the superficial layers of the epidermis. During the acute inflammatory stage the section surrounding the clitoris is least affected.

For the vulvitis, I paint the areas thoroughly with a 10-per-cent.-silver solution, which, strange to say, causes relatively little pain. All the areas up to the hymen must be thoroughly painted, and the sulci between the inner labia and the outer, the perineum, and the outer surface of the hymen, must be thoroughly touched. The child should, once or twice a day, be seated for fifteen minutes in a very warm sitz-bath, for the purpose of removing, as far as possible, the superficial desquamating layers. During the entire period, between treatments and best applied immediately after the bath, a 2-per-cent.-protargol ointment, freshly made, is the ideal external medicament.

For irrigating the vagina I use a thick rubber tube with a lumen one-third of an inch in diameter. Into this I insert a urethral rubber catheter, leaving one inch extending beyond the end of the rubber tube. The catheter is then inserted into the vagina for the purpose of irrigation. The thick rubber tube which covers the catheter, if pressed closely against the hymen and the outer end of the vagina, prevents the outflow of fluid, and thoroughly distends the vagina with the irrigating medium. On gradually releasing pressure by the outer tube, the fluid makes its exit without squirting into the face of the attendant. If, then, the speculum be introduced, and the fluid be removed by thin swabs, a clear picture of the local lesions can be obtained, and the treatment to be mentioned can be applied.

Treatment.—At first these cases were treated by me, so far as the vagina is concerned, by irrigation with boracic solution and the installation, with a curved eye-dropper, of several tubes of 2-per-cent.-protargol. Another mode of treatment, more applicable in the later stages, is the injection with the eye-dropper of silver solution, followed by the installation of ichthyol solution. I now consider the best daily ambulatory treatment to be (1) irrigation by boracic solution; (2) injection of protargol solution into the speculum; (3) washing of the entire length of the vaginal canal with the aid of the speculum;

*Of eight cases of purulent vulvovaginitis seen within a period of three months two were of the latter form. The younger of the two cases was a child four months old, which had been operated on for mastoiditis. In the hospital it acquired its vulvitis; the mother stated that many other children were likewise affected. This form presents almost the same local lesions as the specific form, but the discharge is less green in color and less purulent. It is also healed more readily. In discussing gonorrhœa in children, we are first concerned with the form of onset, which is that of a purulent vulvovaginitis. (Diagnosis by the microscope.)

(4) after which I would advise the introduction of the protargol stick; (5) the subsequent use of strong silver solution if necessary.

Improvement is evidenced (1) by the character of the secretion, which gradually becomes paler and thinner and less in amount; (2) by the gradual disappearance of the red inflamed character of the acutest lesions and the resumption of normal color on the dermal covering of the vulva; and (3) by the healing of the vaginal and cervical erosions.

Gynecological examination in the adult involves the use of the bivalve speculum. With this we obtain a direct view of the cervix and of a portion of the fornices. We judge readily the lesions on the portio, the character of the external os, and of the secretion, mucoid or otherwise, extending from the cervix. Even under favorable circumstances, however, the light gives an indistinct picture, and no exact opinion of color or real size of the cervix can be gained. The action of the bivalve speculum exerts a tension on the anterior reflection of the vaginal wall extending upon the cervix. For this reason, especially if there be any tears, the cervix seems larger than it really is, and often appears of a very great size. If an idea as to the character of the vaginal wall is to be gained, light conditions again give an indistinct picture, and it is impossible, without annoyance to the patient, to turn the speculum so as to disclose all points in its circumference. Further, the mucous membrane lies in folds between the opening of the two valves, if the speculum be turned, and on approaching the external opening of the vagina the discomfort is pronounced. These objections are not overcome by the use of the Sims' speculum, or of any other form, with one exception.

In using the Ferguson speculum we are able to closely examine every bit of the vaginal wall up to and including the cervix. The light conditions are most admirable and give the only distinct picture of the local conditions of anæmia, congestion, and inflammation. Localized and diffused areas of congestion, and minute lesions of various forms, can be distinctly seen. The cervix, on complete introduction of the speculum, is distinctly outlined, and an opinion as to its real size is here of value. The treatment of the portio and of the cervix itself can be easily carried out with the use of this instrument.

Quite equal to its diagnostic value is its aid in treatment. When treatment of the fornix is desired, the application on a swab of carbolic acid or iodine, or the use of a cautery, may be carried out without fear of injury by contact with other tissues. The area desired can be extended at will, for the fluids introduced affect only the points exposed beyond the end of the speculum. A most important feature is the ability to apply fluids of any sort and in large amounts. These bathe, for any desired length of time, the entire length of the vaginal canal. By withdrawing the speculum up to the external opening of the urethra, the fluid is brought in contact with the entire lumen of the vaginal canal, for any desired length of time. On again introducing the speculum and depressing the outer end, the fluid flows out without coming in contact with the perineum, rectum, or external genitalia, and the little residue may be removed with absorbent cotton. Through this speculum the vagina may be painted with any solution or thoroughly coated with any powder. The introduction of tampons or gauze is easily carried out in an even manner, while through the ordinary speculum packing of the vagina results in a more or less irregular overdilatation of certain areas. When a vagina is thoroughly packed with long strips of gauze through a Ferguson speculum, it is easily held in place without exerting much pressure upon the rectum. The introduction of a tampon just filling out the lumen is of valuable aid in lifting and supporting the uterus and relieving it from congestion and œdema.

Owing to the admirably reflected light, I have devised a small Ferguson speculum fitted for the same purpose in children. In them the vagina is of great length, of a curved course. It is remarkable how distinctly through the small speculum the color and character of the vaginal lining may be seen, and the tiny cervix, with its tiny opening, can be distinctly put in view. In this way, too, quite naturally, applications of fluids on a swab may be carried out in the same manner as in adults, and a vaginal bath with any desired liquid may be carried out with the greatest of ease, limiting its action completely and preventing any undesired irritation of the vulvæ, perineum, vestibule, or urethra.

The hymen of the child is very thin and very elastic, quite as elastic as the foreskin of the male. In the numerous instances in which I have used a curved eye-dropper or the vaginal speculum, I have never found difficulty, even in the smallest children, in entering the vagina, nor have I ever torn any tissues or produced a bleeding. Care is necessary in the first examination to determine if any attempted violence has produced local lesions beyond those of the infection—*a factor which, as a rule, explains the etiology*. It is by no means easy to determine this fact. As mentioned, an attempt may have been made without injury or penetration, yet producing infection. A method which has served me, however, is the irrigation of the hymen with a large stream of water, under mild pressure. The normal hymen is then brought into undulation, and its margin is distinctly outlined. Any tears or lesions will be evident as irregularities or interruptions in the normal unbroken edge of this structure.

The cure of a vulvites of specific character is not so very difficult. If, however, we are dealing with an invasion of the vagina and *cervix*, an absolute essential to a certain cure is complete rest in bed. Other essentials are (1) frequent irrigation; (2) frequent washing of the affected areas with protargol and (3) in the subacute stages, with silver nitrate.

The results in my cases were good if the cervix was free. A cure results within six to twelve weeks by almost daily treatment. If the cervix be affected, renewed virulent attacks may occur after apparent cure, though it is impossible to deny that in some cases a repetition of the original etiological factor may have occurred. Ambulatory treatment is certainly unsatisfactory. *These should be hospital cases.*

However, in the words of Bumm, "*all gonorrhœas heal, if they do heal, finally through the natural reaction of the infected tissue. Without this help the complete elimination of the gonococcus is impossible. Most unpromising, therefore, are the chronic cases in which the tissue is accustomed to the gonococcus and the mucosa epithelium, through long irritation, has undergone metaplastic change to stratified squamous epithelium, and only a slight secretion is found, consisting mainly of squamous epithelium. The cocci diminish or disappear under treatment, but on cessation of the latter reappear. Therefore, constitutional treatment is often necessary.*"

The Sequelæ of Vulvovaginitis.—The importance of this question is due to the fact that (1) *all the lesions of the adult may be reproduced in the child*, and (2) a permanent injury to be avoided is one or other of the forms of *atresia of the hymen or of the vagina*. One of the purposes in using the dropper or the speculum was to avoid this

danger, for there is a beginning or well-advanced adhesion of the hymen or lower portion of the vaginal tract.

For many years Bumm and Wertheim have been the leaders in a controversy concerning the relation of the gonococcus to the tissue on which it is implanted. Bumm assumes that in the vast majority of instances the gonococcus is a *parasite*, growing on the superficial layers of the various mucosæ. Wertheim states that the gonococci may enter the subepithelial connective tissue in every case. It is well, therefore, to review the microscopical characteristics which form the basis for the latter opinion.

Although Bumm denies that in the vagina of adults the gonococci enter the subepithelial connective tissue, Mandl found in sections through the wall in a case of gonorrhœal vaginitis (1) the surface epithelium gone; (2) all the epithelium gone in spots; (3) gonococci entering into the epithelium in rows and in bands; (4) the gonococci very deep in the tissue in spots and *extending beyond the epithelial limit*. Though the gonococci were generally in the superficial connective tissue, *in certain areas they were deeply imbedded*. The granular character of the vagina observed in two cases of gonorrhœal vulvovaginitis in children makes it evident that the pathology of the lesions may be the same as in this severe case in an adult.

In a case of gonorrhœal salpingitis treated for three years (*continuous irritation*) a laparotomy by Wertheim showed the presence of an acute gonorrhœal peritonitis. The serosa of the pelvis, of the uterus, and of the adnexa was highly injected and covered with a layer of cloudy pus-like fluid, which was also present in the sac of Douglas. This exudate contained pus and intracellular gonococci. The posterior surface of the uterus and of the ligamentum latum of the left side was covered with thin white membranes, which could be lifted off in small pieces. The serosa thus uncovered was rough, dark red, and looked like eroded tissue. These membranes proved to be composed of pus-cells, fibrin, and intracellular gonococci. Out of the abdominal end of the right tube came a white creamy pus containing gonococci. They were also found in the serosa and in the tubal tissue, proving that infection of the peritoneum may occur through the wall of the tube, though in this case, as in the majority of instances, it occurred through the abdominal end of the tube.

Frequent as is the occurrence of a gonorrhœal urethritis in the female, extension of the inflammation to the bladder was referred for a long time to a complicating cystitis due to other bacteria, or to an involvement by the gonococci of the neck of the bladder alone. In recent years numerous instances of a pure gonorrhœal cystitis make its entity positive, but in the early days Barlow was one of the first to find, in two cases of cystitis, only gonococci in the urine. The cystoscope showed a diffuse inflammation of the entire bladder mucosa. Krogius, in two cases of purulent cystitis, found numerous gonococci in the epithelial cells in the urine. Wertheim, Bierhoff, and others have verified this condition many times.

In a nine-year-old child with purulent cystitis, Wertheim found only gonococci. In narcosis a piece of the bladder-mucosa was removed with the aid of the cystoscope. Gonococci were obtained in cultures made from the excised specimen. The microscopic sections of the specimen showed (1) gonococci between the epithelial cells; (2) gonococci *extending in rows into the subepithelial connective tissue* and lying almost entirely extracellular; (3) the surface of the mucosa covered with fibrin layers; (4) gonococci *in the blood vessels*. When found in the blood vessels the gonococci were not always of typical form, but were rather involution forms and groups looking like masses of granules.

In further proof that the gonococci may enter the subepithelial connective tissue in every case, Wertheim has shown that they are found, for instance, in the subendothelial connective tissue of the peritoneum, in the bladder wall, in the wall of the vagina. They have been found in the connective tissue of the synovia in gonorrhœal arthritis, in the tube wall, in œdema of the foreskin of the penis, in myocarditis gonorrhoica, etc. As a general rule, the gonococcus causes no pus in connective tissues, but can do so, as in ovarian abscess, periurethral and perichondrial abscess, in abscess of the uterus, in abscess of the cervical glands, abscess on the dorsum of the metacarpus, about the knee-joint, etc. As a factor in mixed infection, the gonococcus has been found in cystitis, arthritis, bartholinitis, some cases of adnexitis, etc.

On the other hand, in further support of his contention, Bumm states that in a chronic cervical gonorrhœa *the cocci are limited to isolated small areas of mucosa* in which the cocci are situated in metaplastic squamous epithelium. The epithelium of the glands he believes to be generally immune, holding also to the belief that, while the duct may be invaded by gonoccoci, the gland of Bartholin is not so affected. In the uterus he finds the mucosa affected, *as a rule, in localized areas, and only superficially*.

It is undoubtedly the experience of men who have had large numbers of cases under their close observation that neither the contention of Bumm, nor that of Wertheim, form an absolute rule. There is no doubt that *different individuals react differently to the invasion of the gonoccocus*, and the amount of discharge, the acuteness of the inflammation, *the depth or extent of the invasion*, the duration of the affection, and *the results of treatment* in the various forms of this inflammation, differ greatly. *The care the individual can take of himself has an important bearing on the various features of this disease*. For instance, the peritoneum not being an epithelial tissue, is supposedly resistant to the invasion of the gonococci. An introduction of gonococci into the peritoneum often causes no reaction in animals, but the same is true of streptococci and staphylococci. A predisposition is necessary, and this consists either in *a mechanical or chemical injury* to the peritoneum. Therefore, on introducing, in animal experimentation, together with the gonococci a nutrient medium which is not easily absorbable (such as hard serum-agar covered with a culture of gonococci) an inflammation is produced. In the human being, as may be seen from the case of Wertheim, it is not the simple exit of gonococci through the outer opening of the tube so much as it is the constant or repeated outflow of gonorrhœal pus into the peritoneum (*constant irritation*) which produces the inflammation (Wertheim.)

On epithelial media the course is a different one. The invasion of the epithelium is the first step. The gonococci pass between the epithelial cells down to the connective tissue. There is a decided exudation of leucocytes from an extensive periphery into the connective tissue and through the epithelium. There is then *a change of the epithelium to the squamous form* and a growth of the cocci in the superficial epithelial layers. Here, too, there is a difference dependent on the character of the epithelium. The softer and thinner the epithelium, the easier does this coccus invade the tissues. It increases very rapidly, and the number of bacteria trans-

planted has nothing to do with the period or virulence of the inflammation. The tender covering of the vulva and vagina in children is easily affected. In adults the infection of the urethra frequently calls attention to the condition, because of the annoyance on urination. The infection of the vagina alone may result in a large amount of secretion, but often the external genitalia are not much affected, and no annoyance is experienced for weeks or months. In adults the urethra and cervix are often affected, and the vagina but slightly, while the vaginal epithelium of children, not being so hard and dry, is readily affected. Secretion from the cervix in the adult may often be free of gonococci, yet their presence after menstruation and post-partum is often noted. Thus congestions of a normal character, and doubly so congestions of a pathological character, have an important bearing on the continuation and extension of the inflammation.

Invasion of the anus and rectum likewise occur more readily in the tender epithelium of the child than in that of the adult, but here, too, it is the continued discharge with its consequent continued irritation which is an important factor.

When growing on a mucous membrane, where, through continued secretion, new medium is constantly produced, the gonococcus thrives better than when encapsulated in an abscess, in which case the coccus may die affected by its own toxins, or by the action of other bacteria. As early as six weeks after an acute gonorrhœal infection, gonoccoci were absent in a pelvic abscess which had been opened. Just as in a culture medium colonies of gonococci die within one or two weeks if not transplanted, so the gonococcus in a chronic case is weakened in its virulence to the affected human being. Being fed, however, by new secretion, it does not die, but becomes less virulent, adapts itself to the bearer, and a chronic or subacute inflammation results. In the adult we have a special factor. Just as transplantation to fresh media prolongs the life of colonies of gonococci, so does the coccus when moved from a chronically affected region to a new area (the irritation of coitus, of labor, of exertion, treatment) and especially *when transplanted to a new individual* produce an acute inflammation. In the latter instance, *when retransplanted to the first bearer*, it causes again an acute inflammation on the base of the chronic form (Wertheim).

The typical characteristics of gonorrhœa are (1) an acute beginning; (2) a chronic course; (3) resistance to treatment; (4) virulence in new areas or new media for a very long time; (5) probable extension in continuity; (6) possible constitutional involvement.

The pathology of various lesions shows the possibilities to be (1) superficial involvement of the mucosæ; (2) *deep involvement extending into subepithelial connective tissues;* (3) abscesses; (4) metastases; (5) constitutional involvement; and (6) which is very important, *the early formation of adhesions.*

Though all the lesions in the adult may be reproduced in children, yet the absence of menstruation, of labor, of pathological congestions, of intercourse, together with the minute development of the uterus prevent, as a rule, the involvement of the urethra, the uterus, tubes and peritoneum, though these involvements in children are by no means unknown. Constitutional involvement may occur from any point. Important pathological changes and injuries of a permanent character may be located, in children, primarily in the *hymen, vagina, and cervix.*

An atresia may involve the hymen or the vagina. This condition has been generally viewed as congenital. The investigation of Neugebaur, however, shows that among the reported cases of stenosis or atresia 251 are congenital and 469 *are acquired.* The investigations of Nagel and of Veit show that an *atresia vaginæ with a normal uterine canal is usually acquired,* except those cases occurring through epithelial union in utero, which constitute the *accidental intrauterine form,* since they are not due to failures of development. If the uterus be normal, no proofs can be found to show that the atresia exists since birth, but if a mal-development of the vagina and an *absence* of its lumen is to be diagnosed, the uterus must be also mal-developed and two-horned. According to Nagel, the lumen of the vagina is formed in the embyro through grouped masses of epithelium which separate the vaginal walls in their entire length and then degenerate, leaving a lumen in the resulting canal. For this reason, epithelia are found in the vagina of the newly-born and for a varying period afterward. The epithelial detritus in the vagina of the child may be mixed with mucus, which is small in amount, and, therefore, in the newly born a conglutination of the vagina or the hymen is possible. Henoch found a conglutination of the labia minora in later stages by no means a rarity. Piering divided the acquired stenoses and atresiæ into (1) traumatic; (2) inflammatory; (3) chemical, and (4) thermal. The first two causes are important.

Any irritation, as enuresis, may cause excoriation with a conglutination of the hymen. Such conditions often obtain in the newly born and are not recognized. In infectious diseases there is often a colpitis adhæsiva without symptoms. A conglutination may occur through the excessive size of the hymen and the constant rubbing. The hymen in the newly born is not a diaphragm, but is a very thin lip-like circular prominence extending out of the vagina. The posterior lip is the more prominent. Sometimes the hymen is polyp-like or tongue-like, and so called linguliformis. It resembles most the anus of the hen (Nagel.) Sometimes it is situated further up in the vagina, and, therefore, if the vestibule is deep the vagina is short. If there be no hymen we are dealing with the sinus urogenitalis. The hymen in the newly born is often so large that it is mistaken for the labia minora. The vagina of the child is quite long, generally at least two inches or more.

Weak and anæmic children are more disposed to milder forms of vulvovaginitis than other children. The presence of milder forms of vulvovaginitis is often overlooked, while the failure of treatment in other cases is likewise a responsible factor in producing future annoyances. Milder forms of vulvovaginitis in children follow the course observed in adults. In the latter the source of irritation is to be located in the bladder, the vagina, or the rectum. The cases in which the rectum is mentioned as a causal influence are noted simply from the standpoint of etiology, for it is certain that after constipation, especially on the use of enemata, or after diarrhœa, the means of infecting certain areas of the genital tract are present. The element of personal cleanliness, or rather the lack of it, plays a part in infecting the bladder, and especially the vagina, and a bacterial infection is thus the basis which leads to pruritus vulvæ, irritable bladder, leucorrhœa, and vulvovaginitis. Irritable bladder is due then to a local pathological condition, and the urine and its contained bacteria must be credited with the power to produce external local irritations. The vagina of the newly born is sterile for only two to three hours, after which period bacteria are present. The numerous forms present in

leucorrhœal vaginal secretions of the adult or younger girls, are evident to any one who takes the trouble to examine a specimen under the microscope. The bacteria present in the normal vaginal secretion are those described by Döderlein, and are responsible for the acid reaction of the normal vaginal secretion. In addition there are found in numerous cases various forms of streptococci, staphylococci, bacterium coli, yeasts, bacilli, etc. In examining a leucorrhœal secretion we find three major forms: (1) one consisting mainly of leucocytes; (2) a form containing mainly vaginal epithelia, and (3) a form composed of both of these elements. As the normal vaginal secretion consists of epithelia alone, it would be strange to consider the second form, even though profuse, pathological, were it not for the presence of numerous bacteria. They may be found in such large numbers that they give the picture of a pure culture. They may be found between the epithelial cells or in them, and it is for this reason that a microscopical examination is necessary in the adult; for instance, to determine the form of treatment. The larger the number of epithelial cells and the more decided the invasion of the cells by the various forms of bacteria, the deeper in the vaginal mucosa has the involvement extended, and the greater the number of leucocytes the greater is the reaction. We must consider then even the milder forms of vulvovaginitis, or in some cases only vaginitis, to be bacterial in origin.

A *complete* conglutination of the hymen sometimes evidences a raphé, but the absence of scars or scar-rests in the hymen is no proof that an atresia is not acquired. It may break spontaneously. We may have also a conglutination hymenalis cribiformis. We may have atresia retrohymenalis, the anterior wall of the vagina uniting with the posterior surface of the hymen. A congenital conglutination of the hymen often breaks spontaneously, but, if acquired, is tenser because of the union of thicker hymen folds.

We know that various forms of atresia may occur in adults, even in multiparæ, as a result of a colpitis adhæsiva, or as a result of ulcerations accompanying fluor or leucorrhœa of gonorrhœal origin. It may also occur with fluor and leucorrhœa when not of gonorrhœal origin, if no menstruation or coitus take place, and that, too, without ulcerations and without annoying preliminary symptoms. In reviewing the history of girls affected with amenorrhœa, we know that this condition is due either to primary constitutional or a primary local cause, and it is the latter which is frequently overlooked. In children various degrees of *atresia*, *stenosis*, and *changes in the hymen* may occur as a sequence to gonorrhœa, to the milder forms of vulvovaginitis, or with and after the various infectious diseases (most frequently after typhoid fever and scarlatina).

The lesions produced by infectious diseases in children include vulvovaginitis. The first menstruation with acute infectious diseases, especially if amenorrhœa follows later, is really due to an affection of the vulva or vagina accompanied by a loss of epithelium, by bleeding, by the presence of ulcers, and easily by subsequent adhesions. The so-called menstruation præcox is often only such a vulvovaginitis. Scarlatina especially may cause thrombotic necrotic processes in the vagina.

Some of the results of atresia are more far-reaching than generally known. The occurrence of an hæmatocolpos with an atresia can be readily understood. The occurrence of an hæmatosalpinx, however, is one not so easy of comprehension. This condition, in a large proportion of cases, is of a dangerous character, for if it rupture into the peritoneal cavity *it produces a fatal peritonitis*. This results frequently when the atresia is removed, for a resulting contraction of the tube expresses the contents into the peritoneal cavity so that an abdominal operation is now considered the proper form of treatment. Veit asked: (1) How in some atresiæ of the vagina does an hæmatosalpinx originate? (2) Why, in rupture of a hæmatosalpinx due to atresiæ does an acute peritonitis result? (3) Is an atresia with a double genital canal but only a one-sided hæmatrometra, congenital or acquired? The theory of Nagel and Veit serves to explain the infectious character of such an hæmatosalpinx. The first and second questions are closely connected, for the contents of such a hæmatosalpinx are *the products of a bacterial inflammation*. Scarlatina, and especially gonorrhœa, produce local, often neglected affections which cause atresia and also a salpingitis with closure of the tubes. Typhoid fever, scarlatina, and measles may produce without symptoms an atresia, and the affection may extend through the cervix and uterus into the tubes, with closure of the latter. (Pincus.)

Mainzer finds that a closure of the abdominal end of the tube may occur through torsion and through perisalpingitic affections. He believes that bacteria may cause a hydrosalpinx or a pyosalpinx, but he does not believe that an hæmatosalpinx results through infection. If the menstrual outflow be stopped, he believes that increased tension, especially in the abdomen, may produce hemorrhage into the tube or a hæmatoma between the lamellæ of the omentum majus, for instance, or intramuscular extravasations of blood. It must be stated, however, that in such rare cases, with no infectious agent present, no peritonitis results if the contents enter the abdominal cavity. Hæmatosalpinx originating according to the theory of Mainzer constitutes the *transitory form*. It must be remembered that normal blood, normal as to salts and serum, causes no adhesions. Therefore, perisalpingitic affections may be caused by blood mixed with abnormal secretions from the genital canal. This thickened blood forms thrombi and a local chronic adhesive peritonitis. Therefore, the cases of Veit which produce peritonitis are of this character, and if the contents of like cases enter the peritoneal cavity they, for this reason, produce peritonitis. They constitue the *stabile* form and represent irritation tumors which must be treated by operation. The form described by Mainzer may heal through opening of the atresia, and if the contents are pressed by the tube into the abdomen healing may result. Of course the long existence of a transitory hæmatosalpinx may change it to the stabile form, and after emptying the hæmatocolpos and the hæmatrometra the hæmatosalpinx may persist.

A hæmatosalpinx occurs as readily with an atresia in the lower part as with an atresia in the upper part of the vagina. It may occur after a long existing atresia or after a short period. The hæmatosalpinx is not due to the backward movement of the blood from the uterus into the tube, for a hæmatometra may exist without a hæmatosalpinx, as was found in one case after six years of molimina.

With double genital canal, there may be molimina with much menses or without any connection with menses, *i. e.* with atresia there may be molimina (1) without blood; (2) with blood, or there may be; (3) blood without molimina. The earlier the vagina is emptied the fewer are the tubal changes through pressure or necrotic processes.

If with a hæmatometra and a simple genital canal there is no hæmatosalpinx, it is then an atresia,

either (1) intrauterine, due to epithelial union occurring intrauterine, or (2) extrauterine, due to a post-natal cause which does not extend upward. In double formation hæmatosalpinx is a proof that here, too, an atresia may be acquired.

The view of Pincus is as follows: If with molimina menstrualia, in place of the normal menstruation, vicarious hemorrhage occurs (urethra, rectum, lungs, stomach, mouth, nose, and eyes), it is necessary to think of an atresia of the genital canal. Is an atresia present, it is possible that as a result of vicarious hemorrhage into the tube, a hæmatosalpinx is present. Just such cases complicated with vicarious hemorrhages must be treated at once. If molimina occur in spite of plentiful menses or independent of the same, a double congenital canal must be considered.

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CLINICAL NOTES ON A SERIES OF NINE CONSECUTIVE CASES OF ECTOPIC GESTATION.

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During my service at Mt. Sinai Hospital in the summer of 1902 I had the good fortune to have a series of nine cases of ectopic gestation, each of which presented some feature of interest or of instruction. Although the profession in general is awakening to the frequency of ectopic gestation, and to the importance of an early and correct diagnosis, the affection has not as yet met with the same alertness on the part of the profession that appendicitis, for instance, has for some years past. It is seldom, nowadays, that a case of appendicitis is not recognized early and promptly, because the profession is on the lookout for it. The same attitude of mind should prevail in reference to ectopic gestation. In this way many lives that are now lost through oversight would be saved, and the attending physician would frequently avoid a humiliating and distressing experience. It is only a few months ago that I was called to see a young woman who had been under the constant care of a very able practitioner for six weeks. He had treated her for a supposed early miscarriage, and a mass subsequently developing in the pelvis, he took this to be a complicating salpingitis. At my visit, on listening to the history of the case, I at once suspected a ruptured tubal pregnancy with repeated intraperitoneal hemorrhages. My suspicions were confirmed on examining the patient, whom I found moderately anæmic, and whose pelvis and lower part of abdomen I found filled with irregular masses of varied consistency. The diagnosis of ruptured ectopic pregnancy was verified at the operation that same night. Owing to the long continuance of the case and the repeated intraperitoneal hemorrhages, there was considerable inflammatory reaction, matting the intestines and omentum to the pelvic organs, and also involving the left adnexa to such an extent that it was with some misgivings that they were left behind. The patient made a slow recovery, and is still the victim of some pain in the left iliac region from the thickened tube and ovary, which, however, have decreased in size very much since the operation. The remorse and chagrin of the attending physician can be readily conceived.

It cannot be too often emphasized (and I may, without egotism, take the credit of having been the first to have done so)* that every case of supposed early miscarriage should be looked upon with suspicion, and one should always bear in mind the probability that it may be a case of ectopic pregnancy.

I shall now briefly relate the histories of the cases comprising the series, commenting upon each in turn:

Case I.—R. Z., aged twenty-seven years, married three years, no children, one miscarriage two years ago, cause unknown. Admitted to the hospital August 16, 1902. Last menstruation occurred three weeks ago. For some time past the patient has complained of pain in the right iliac region. Four weeks ago this pain grew worse, and for two days there was incessant vomiting. The pain has continued.

On bimanual examination the uterus was found to be in a forward position. On the right side of the uterus and posterior to it a resisting globular mass about the size of an orange was felt. Shortly after the examination the patient was seized with a sharp lancinating pain in the lower part of the abdomen. These pains persisted, and about one hour later there was a slight uterine bleeding. On examination the tumor which had been felt before was no longer present; instead one felt a soft, fluctuating, irregular mass filling the pelvis posteriorly and pushing the cervix forward. The pulse became very frequent (104), and was rather small. Dr. M. G. Seelig, the house surgeon, properly diagnosed intraperitoneal hemorrhage, and notified me at once. I responded immediately, and on my arrival found the local condition had changed as above noted. The patient showed marked signs of anæmia. She was at once taken to the operating-room and prepared for laparotomy. On opening the abdomen there was a free escape of fresh blood and blood-clots. The right tube and ovary were seized and brought into the incision, and it was found that the tube was the seat of an ectopic gestation at the ampullar portion. The tube and ovary were ablated, the blood-clots removed as rapidly as possible, and the abdomen closed with tier sutures. The patient rallied promptly and made a good recovery.

In the foregoing case there was no delayed nor irregular menstruation, the *sine quâ non*, according to some authors of ectopic gestation. The menses had been regular, the last regular menstruation having occurred three weeks before admission to the hospital. The patient had had pelvic symptoms for several months, as manifested by pain in the right groin. On examination a semi-fluctuating tumor is found behind and to the right of the uterus. What was more natural than the diagnosis of ovarian disease? It was only after this examination, when symptoms of intraperitoneal hemorrhage were evident, that the diagnosis of ruptured tubal pregnancy was properly made by Dr. M. G. Seelig, the house surgeon. I fully concurred in this diagnosis as soon as I re-examined the patient a few hours after the first examination. The onset of the slight uterine bleeding helped to strengthen the diagnosis.

It is commonly held that uterine bleeding attends the interruption of tubal pregnancy, whether it be through the formation of a fleshy mole, tubal abortion, or tubal rupture. Here in this case it is evident that this rule did not obtain. What was felt at the first examination was, no doubt, a tubal mole, the walls of which were ruptured by the manipulation, giving rise to the subsequent intraperitoneal hemorrhage.

Case II.—M. L., aged thirty years, married eight years, three children and two abortions, last abortion in April, 1902. Admitted to hospital August 11, 1902. Had had an attack of pneumonia eighteen months ago and an attack of rheumatism in childhood. Three weeks ago, when she was two weeks overdue, she had slight uterine bleeding, which

*"Differential Diagnosis between Extrauterine Pregnancy and Early Abortion," Medical Record, November

lasted two days. Some days later had cramp-like pains in the abdomen, which continued off and on for eight days. During this time had a slight show for one day. Since that time she has felt nauseated and rather weak. For the past few days she has again been spotting off and on. On bimanual examination a mass, size of a closed fist, is felt behind and to the right of the uterus. The diagnosis of ruptured tubal pregnancy was made.

On opening the abdomen some free blood was found in the peritoneal cavity, and in addition, a number of soft black clots in Dougles' cul-de-sac. The right tube was found to be the seat of the ectopic gestation. It and the corresponding ovary were removed. The left adnexa were found bound down by adhesions, which were separated and the adnexa left intact. The peritoneal cavity was cleaned of the clots and blood as well as possible and the abdomen closed. The patient made a good recovery.

Here we had a case presenting the classical symptoms of ectopic gestation; delayed menstruation, then irregular uterine bleeding, cramp-like pains in the abdomen, and an irregular mass to the side and behind the uterus. Unfortunately, instead of such cases being the rule, they form the exception, as will be noted in this series.

Case III.—M. S., aged twenty-six, married seven years, three children, last child four years ago. No miscarriages, menses regular, the last occurring ten days prior to entering the hospital. Two days ago had a slight show, which continued for two days. Three weeks ago began to complain of stabbing pains in the right iliac region, which have persisted with more or less severity ever since. She has had no vomiting or nausea. Yesterday noon had a distinct chill. The patient looks ill; the superficial mucous membrane very pale. Tongue moist and slightly coated. Temperature, 101.4°, pulse 96. The abdomen is considerably distended and tympanitic everywhere. The uterus is moderately hard and is in a forward position. Behind the uterus one can feel a non-fluctuating mass, the size of a hen's egg, which is rather sensitive to the touch. A probable diagnosis of ectopic pregnancy was made.

On opening the abdomen the right tube was found to be the seat of the ectopic pregnancy, and a considerable quantity of free blood was found in the general peritoneal cavity. The right tube and ovary were ablated, the patient making an uneventful recovery.

In this case, as in Case I, there was no delayed menstruation, but two days before admission and eight days after the last menstruation there was some slight uterine bleeding. We were then having such a run of cases of ectopic gestation in the ward that, on the strength of this and on the local findings, the house surgeon made a tentative diagnosis of extrauterine pregnancy, a diagnosis in which I concurred. The stabbing pain, the fever, and the abdominal distension pointed rather to an inflammatory process. The one symptom which was in favor of the diagnosis of ectopic gestation was the slight bloody show. Still, uterine bleeding may also accompany a salpingitis. In another case presenting an exactly similar clinical picture, we might, on the other hand, find diseased adnexa. There is no pathognomonic sign or symptom to differentiate the two conditions under such circumstances. It is better in such a contingency to give the patient the benefit of the doubt and open the abdomen. It ought to be noted that the abdomen gave a tympanitic note, and still when the abdomen was opened, a considerable amount of blood was found free in the peritoneal cavity. It is only when the collection is very large that the flanks give a dull note on percussion.

Case IV.—Mrs. C. B., aged thirty-five years, married sixteen years, two children, last child thirteen years ago. For years menses irregular as to time and as to duration; they recur every three, four, or five weeks, and continue off and on for from four to seven days. Seventeen days ago began to have uterine bleeding. The preceding menses had recurred after an interval of four weeks and five days, but was decidedly more scanty than usual. During this period of uterine bleeding she has had more or less pain, but not of a severe character. Four days ago, however, she had severe cramp-like pains in the lower part of the abdomen and in both iliac regions. The pain now is referred chiefly to the right iliac region. Has had no vomiting nor nausea. On admission her temperature was 101° F., and pulse 96. On bimanual examination some fulness was made out in the right vaginal fornix. In front and to the right of the uterus a mass the size of an English walnut was detected, and it was quite tender to the touch. The uterus was of normal size and in normal position. A probable diagnosis of ectopic gestation was made.

At the operation the right tube was found ruptured and the seat of the pregnancy, and as the appendix was found to be adherent to the tubal mass, it was also removed. The patient made a slow recovery, as an exudate had formed about the stump which did not readily absorb.

The difficulty in this case in arriving at a conclusion was the irregularity of the menstrual period normally. The patient seemed to attach no importance to the irregular and protracted bleeding which had now been going on for seventeen days. She said such an experience was not unusual with her. It was only because we suspected ectopic pregnancy that we ascertained on repeated questioning, that the menstrual period prior to the onset of the present flow was more scanty than usual. Only those who have to deal with a similar class of patients will fully realize the difficulties encountered in obtaining anything like a reliable history from these patients. And it is just in ectopic pregnancy that an accurate history is of such great value as an aid in the formation of a correct diagnosis.

Case V.—F. G., thirty-eight years old, married eighteen years, eight children, last child fourteen months old. No miscarriages. Menses set in at the fourteenth year, four-weekly type, amount moderate, duration two to nine days, not attended with pain. About two weeks ago she began to bleed after a cessation of menstruation for nine weeks. Shortly afterward she began to suffer from some abdominal pain, backache, chilly sensations. She was then admitted into one of the larger hospitals in the city, where she was curetted, presumably for a supposed miscarriage. She remained in this hospital for about ten days, and her friends had her then transferred to Mt. Sinai hospital, where she was admitted July 5, 1902. Her condition on admission was as follows: Moderately anæmic, coated tongue, temperature 102.6°, pulse 112, abdomen moderately distended. On bimanual examination the uterus was found pushed forward against the symphysis by a large irregular mass, which filled the pelvis posteriorly and extended upward midway to the umbilicus. The mass was fluctuating in some areas and in others was slightly nodular.

The diagnosis of a large hæmatocele, the result of a tubal pregnancy, was made. The case was considered a suitable one for vaginal section and drainage. Accordingly, a good-sized incision was made in the posterior vaginal fornix and a large quantity

of dark, tarry blood, with numerous dark blood clots, was evacuated. I passed my hand into the cavity and found projecting from its upper wall on the left side a soft fleshy mass, about the size of a hen's egg. Blood in considerable amount seemed to be coming from this mass. I packed the cavity tightly with iodoform gauze and hastily opened the abdomen from above. The blood sac had thick friable walls, and was shelled out with some difficulty. The mass felt from below proved to be the ruptured left tube with a partially organized blood-clot adherent to its interior. The tube and ovary were ablated. The right tube was now investigated and found to be changed into a hæmatosalpinx the size of a hen's egg. It was also removed. The uterus was ventrofixated, and the space behind the uterus was tightly packed with iodoform gauze, the end of which passed into the vagina through the original incision. The abdomen was closed with tier sutures. The patient made a rapid and satisfactory recovery, leaving the hospital twenty-one days after the operation.

This case formed another instance of an ectopic gestation being mistaken for an early miscarriage, the error this time being committed in a prominent hospital. The error, no doubt, was recognized before the patient left the hospital, but the patient had lost confidence in the attending gynecologist and would not remain to submit to further surgical intervention. The case is instructive also as indicating the best course to pursue in similar conditions. When a large hæmatocele, the result of a ruptured tubal pregnancy, is subjected to vaginal incision, the incision should be of good size, so as to admit of a thorough exploration of the cavity with the fingers or hand after it has been emptied of its blood and clots. When a semi-organized mass is found adherent to the wall of the cavity, no time should be lost in opening the abdomen from above and following the course pursued in the above case. When such a course is not adopted there is great danger from subsequent hemorrhage, and should that danger be averted the patient's convalescence is very tedious, and ultimately she may need to be subjected to laparotomy before a cure is established. One should make it a rule, therefore, never to open a pelvic hæmatocele through a vaginal incision without at the same time being prepared to perform a laparotomy should the exigencies of the case demand it. A prominent Fellow of the American Gynecological Society reported at one of the meetings of the society a case of fatal hemorrhage which he had had from opening such a hæmatocele through a vaginal incision.

Case VI.—S. R., aged twenty-two years, married seven months, admitted July 1, 1902. Menses appeared at fifteenth year, regular four-weekly type, amount scanty, not attended with pain. Has never had any pelvic symptoms. No leucorrhœa. Seven weeks ago had skipped her period for one week, when she had a slight show, a mere spotting, but without any pain. A week later she had what she considered as her normal menstruation, though the amount was more scanty than usual. A few days later the slight bleeding appeared again and continued off and on until her admission to the hospital. About four weeks ago—that is, three weeks after the onset of the first bleeding—she was seized with severe cramp-like pains in the abdomen, which have persisted with more or less severity until now. The pain is referred chiefly to the left iliac region. The patient was moderately anæmic. On bimanual examination the cervix was found rather soft, the body of the uterus could not be definitely outlined. To the left of the uterus was an indefinite mass, somewhat sausage-shaped and moderately sensitive. There was considerable resistance on that side, so that a satisfactory examination could not be made. Temperature on admission was 101.4°; pulse, 96.

The diagnosis lay between an ectopic gestation and an early miscarriage, with inflammatory disease of the left adnexa. On July 2 I made a posterior vaginal section, and finding old blood-clots, the wound was packed with gauze and a laparotomy was performed. The ruptured tube, surrounded by a blood-clot, was firmly adherent to the posterior aspect of the left broad ligament. It and the corresponding ovary were removed with considerable difficulty and the abdominal wound closed with tier sutures. The patient made a satisfactory and uneventful recovery.

Taking all the evidence into consideration in the above case, the normal menstrual history prior to marriage, the onset of the symptoms so soon after marriage, the elevation of the temperature, the probabilities seemed to be in favor of its being a case of early miscarriage, with gonorrhœal infection of the left adnexa. It is in just such a case that the value of a posterior vaginal section for the purpose of diagnosis is so evident. For had it been only a miscarriage with gonorrhœal infection of the left adnexa, the removal of the left adnexa would not have been indicated, for such moderate disease can usually be cured by other than surgical means.

Case VII.—B. H., twenty-four years of age, married two years, was admitted July 2, 1902. Her only child was seven months old and she was nursing it. When the baby was two months old the menses reappeared. June 27, when she was thirteen days overdue, she began to bleed slightly, and since then almost every day there has been a slight show. It is only within the past twenty-four hours that she has had any abdominal pain, which she describes as resembling labor pains. Her temperature on admission was 102.6°; pulse, 160. She was extremely exsanguinated, the superficial mucous membrane being blanched. The abdomen was moderately distended and gave a distinctly dull note in both flanks. On placing her on the side the dulness of the flank was replaced by a tympanitic note, giving unmistakable evidence of free fluid in the peritoneal cavity. The patient was at once subjected to a laparotomy. When the abdomen was opened a large stream of blood gushed out with some force. The left tube, which was the seat of the rupture, was quickly grasped, clamped, and removed. The liquid blood and clots were mopped up as rapidly as possible and the abdomen quickly closed. While the operation was in progress one of the staff gave an intravenous saline infusion. The patient, although almost pulseless for a time while on the operating table, rallied promptly within a few hours. She made a slow recovery, convalescence being complicated by a pleuritis on the right side, which gradually disappeared under palliative treatment.

This case presented the classical symptoms of ruptured tubal pregnancy, and as an indication of how rarely cases present the classical symptoms, we must note that this is only the second one in the series. It is apparent, therefore, that the type described in the textbooks and frequently by writers, forms the exception rather than the rule. The case is of further interest in reference to the question whether such cases should be operated upon at once or operation be deferred until the patient rallies somewhat from the great loss of blood. On general principles, the course pursued in this case should constitute the rule; that is, when you have a bleeding vessel, to lose no time in cutting down and securing it. Still, there are times when

it is more prudent to wait for a few hours to see if the patient will rally somewhat. If one sees the patient very shortly after the intraperitoneal hemorrhage, and the collapse appears to be due rather to the impact of the blood upon the peritoneum than upon exsanguination of the patient, it seems to me a short delay would be advisable under these circumstances. I frankly confess that I have never met with such a contingency, but other operators have, and hence the apparent conflict of opinion regarding this point. In the advice given as to when to operate in these cases, one point which to my mind is very important, is frequently overlooked, and that is the contents of the tube are not always sterile. Hence, if considerable time elapses between the pouring out of the tubal contents into the peritoneal cavity before the operation is done, a general peritonitis has had time to develop and the patient dies, not from the loss of blood, but from the peritoneal infection.

I had two such cases about three years ago. Both patients were not seen by me until two or three days after the copious intraperitoneal hemorrhage had taken place. They were exsanguinated to the highest degree, and so anæmic were the tissues that on cutting through the abdominal wall there was not even a sign of the smallest bleeding point. Both rallied from the loss of blood by the administration of intravenous saline infusions and stimulating rectal enemata, but only to die from forty-eight to seventy-two hours later, from general peritonitis, which was present at the time of operation.

Case VIII.—R. S., aged twenty-eight years, married seven years, admitted August 10, 1902. Menses set in at the thirteenth year, regular four-weekly type, amount moderate, not attended with pain. Has one child six years old. Has not had any miscarriages. Two years ago she says she had similar attack to the present. She then went two weeks overdue, when she began to bleed and had severe pain in the left iliac region. An operation was proposed then, which she refused. Had remained well until the present illness, which began two weeks ago. She was then two weeks overdue; that is, she had not menstruated for six weeks. The present attack set in with severe abdominal pains, but they were not severe enough to confine her to bed. About six days ago the pains were very severe for two hours, and now for the first time she had a slight show. The pains and the spotting have continued until the present. The patient was not anæmic and her general condition was good. Her temperature was 100.6°; pulse, 96.

On bimanual examination the uterus was found in a forward position and of about the normal size. To the right of the uterus and rather high up was a small mass, about the size of a hen's egg, which was hard to the touch and rather tender. The house surgeon, Dr. M. G. Seelig, made the diagnosis of ectopic pregnancy, and I concurred in the diagnosis after seeing and examining the patient.

When the abdomen was opened considerable free blood, together with clots, was found in the peritoneal cavity, due, no doubt, to rupture of the tubal fleshy mole during the pelvic examination by several of the staff. The right tube was found to be the seat of the ectopic sac. It and the corresponding ovary were removed, the patient making an uneventful recovery.

The noteworthy feature of this case is the attack two years prior to the present one, and which the patient said gave rise to exactly similar symptoms. There was a difference, however, in that the uterine bleeding was decidedly more profuse, and, as she stated, several blood-clots were expelled. The probabilities are that what she had then was an early miscarriage. However, the profuse uterine bleeding must not be taken as a pathognomonic sign between an early miscarriage and the bleeding which usually attends rupture of an ectopic gestation, as has been done by some writers. I have seen as severe uterine hemorrhage accompanying the latter condition as would occur in any case of uterine miscarriage. Still, as a rule, the bleeding attending a tubal pregnancy is slight, and one of its characteristics is that it is seldom continuous; it comes and goes, and may entirely cease for one or two days at a time.

Case IX.—N. L., aged thirty years, was admitted July 2, 1902. Married eleven years, has one child eight years old. Has had several miscarriages, which she brought on. I had occasion to curette her twice for sepsis following two of the miscarriages. Last one two years ago. Frequently when she would skip a period for a day or two she was in the habit of passing an instrument (or having some one pass it for her) into the uterus with the much-wished-for result. In the latter part of May—that is, about six weeks before her admission into the hospital—when she was three weeks overdue, she took medicine to bring on her menses. A scanty flow did set in. This continued for about two weeks, but not being satisfied with the amount, she had an instrument—probably a sound—passed into the uterus. This brought on a good flow, corresponding in amount to that which she had had with former miscarriages, and she felt that she had gotten rid of her pregnancy. The flow ceased entirely June 20 and has not returned since. She has had absolutely no pain until the attack of illness on the day preceding her admission into the hospital. This attack was as follows: She had partaken rather generously of lobster salad on the night preceding, and felt somewhat nauseated on the next morning when she awoke. But as the day wore on the nausea disappeared. For luncheon she had eaten some cheese cake. She had scarcely finished eating when she felt faint, and soon passed into a condition of syncope. A medical friend who happened to be in the house at the time on a friendly visit gave her several stimulating hypodermics, and in the course of a few minutes she rallied and then vomited. When she was fully restored to consciousness she complained of the most agonizing pain in the region of the epigastrium and right hypochondrium. The pain was so severe that she was unable to move, and it was only after a hypodermic of morphine had been given that she would suffer any one to remove her clothes and put her to bed. On the next day she was brought to the hospital in an ambulance.

I saw her shortly after she was admitted. She was not anæmic. Her general condition seemed good. Temperature, 101.4°; pulse, 120, and of fairly good volume. The abdomen was moderately distended and was rather rigid on the right side. She complained of pain chiefly in the right umbilical region, and there was marked tenderness over the region of the cæcum. On bimanual examination the uterus was high up in the pelvis and was not appreciably enlarged. On the right side above the brim of the true pelvis a small globular mass could be distinctly felt, apparently not larger than an English walnut.

I could not make a definite diagnosis; the weight of evidence seemed to be in favor of an acute appendicitis, although ectopic gestation was considered and could not be excluded. In view of the uncertainty in the diagnosis and the apparent abatement of the more violent symptoms, it was thought wise to keep the patient under observation. On the next day (July 3) there was a decided improve-

ment in all the symptoms; the pain was less, the temperature had fallen to 99.8°, and the pulse to 100-104. This seemed to strengthen the diagnosis of appendicitis, and I was beginning to entertain the hope that operative intervention could be deferred until the so-called interval operation could be done. On the morning of July 4 (that is, one day later), while making a rapid tour of the ward preparatory to my leaving the city for the day, I was struck with the patient's changed appearance. She looked decidedly ill, and she stated she did not feel as well as on the day before. Her temperature had gone up to 103.8°, and pulse to 160. On bimanual examination I could make out that the mass on the right side had somewhat increased in size and volume and was now the size of a small hen's egg. I decided to operate at once. When the patient was on the operating table and was about to be subjected to the usual washing up, one of the attending staff on the surgical side happened to be present and asked permission to examine the patient bimanually, which I granted. He remarked that he could not feel the mass which I said was present, whereupon I re-examined the patient and, to my surprise, could not feel it, either. I stated that the mass had evidently ruptured, and that no time should be lost in opening the abdomen. It did not take many minutes before this was done, and the hemorrhage that I encountered was one of the most alarming that I had ever witnessed. The right tube was quickly caught and clamped, and as the appendix was adherent to the tubal mass, and secondarily involved, it also was removed, as well as the tube and the ovary. It was only by opening the veins in both arms and infusing two liters of saline solution that the patient was made to rally. For several minutes while I was operating the anæsthetist told me that he could not feel any pulse. The patient reacted satisfactorily a few hours later, but her recovery was slow, owing to the profound anæmia and to the development of an exudate about the stump. This, however, completely disappeared in the course of a few weeks, and when the patient was discharged on August 10 she was in good condition, barring a moderate anæmia.

The whole clinical picture in the above case pointed to an attack of acute appendicitis, the indiscretion in diet the night before, the sudden onset, the fainting spell (though the latter symptom is more indicative of intraperitoneal hemorrhage in ectopic gestation, as I have pointed out some years ago), the severe pain at the pit of the stomach, the rise in temperature, and the subsequent limitation of the pain to the right umbilical region, together with the physical sign of decided tenderness in the region of the appendix. The mass felt on bimanual examination could, from its situation, readily have been an appendical tumor. The only suspicious feature was the irregular hemorrhage, but she had denied having skipped a period or having tampered with herself. This was a confession she made only some time after the operation, and even had we known it before the operation the course of events might just as well have indicated an early provoked abortion. In fact, for the two weeks prior to the attack all uterine bleeding had ceased.

In taking a general survey of the cases of the series, one is struck with the feature that in all but two (Cases I and II) there was more or less elevation of temperature. In two cases (V, VII) the temperature had reached 102.6°, and in one case (IX) it rose to 103.8°. It is generally taught that in the differential diagnosis between inflammatory disease of the adnexa and ectopic pregnancy the thermometer is of great aid, in that it usually shows an absence of fever in the latter condition. A series of cases like the foregoing disproves such teaching. It is evident, therefore, that we still have a good deal to learn in ectopic pregnancy, even from the clinical side. Hence the value of such a communication as the present one.

751 Madison Avenue.

MOSQUITOS, QUARANTINE, AND SOME STATISTICS WITH REGARD TO YELLOW FEVER.

By QUITMAN KOHNKE, M.D.,
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"Memory, the daughter of Attention, is the teeming Mother of Wisdom, and safer is he that storeth knowledge, than he that would make it for himself."—Tupper.

In the Medical Record of October 25, 1902, there is published an article entitled "On the Eradication of Yellow Fever in Havana," in which the author, Dr. Edmond Souchon, President of the Louisiana State Board of Health, refers to himself as a seeker of truth for truth's sake regardless of its consequences, and closes with the following statement: "This, be it understood, is an expression only of my personal view in the matter." Employed by a man of science in discussing a scientific subject in a scientific journal, such expressions must be regarded as an invitation to other seekers after truth for truth's sake also to express their personal views on the same subject.

While I agree with Dr. Souchon in some minor points, I differ widely from him in his main contention: that quarantine against yellow fever need not consider the mosquito.

Omitting from consideration the proper detention of inoculated persons, I believe firmly that *all* quarantines against yellow fever, in so far as they have been successful in preventing the introduction of the disease, have been so because they presented the entrance of infected mosquitos. Whether this has been accomplished by a detention for a period longer than the life of the mosquito, or by the destruction of the insect in some other way, the *achieving* result has *always* been the excluding of infected mosquitos.

Having thus plainly stated my position, I shall submit the reasons for the faith that is in me, and endeavor to establish in the minds of others its correctness; to do which I must, incidentally, question the correctness of any opinion, differing essentially from my own.

This will be done, in the language of Dr. Souchon, "in no carping spirit of opposition," but in "an effort to establish the real truth."

Dr. Souchon submits a list of epidemics in New Orleans from 1817 to 1899, inclusive, from an analysis of which he makes the following deductions: "Yellow fever in a locality exhausts itself in from two to four years, provided fresh cases, especially virulent ones, are not brought in from the outside, although the material, *i.e.* non-immunes, be still present in the locality. Four infections exhausted themselves in one year, three in two years, two in three years, four in four years, one in five years, and one in six years. Although fresh cases were introduced almost every year, they mixed up with the others, and reinfection took place only when specially virulent cases were imported."

The assertion that infection of the city was aggravated by the introduction of "specially virulent cases," cannot be considered a deduction from statistics, but must be regarded as an opinion only, unsupported by any evidence submitted. It may be correct, nevertheless.

In the newer pathogeny of the disease, however,

virulence would seem to depend upon the number of mosquito-born inoculations or the number of germs introduced into the individual, and his susceptibility, rather than the special virulence of a particular group of germs.

The experiments at Las Animas Hospital during six months of 1891 certainly prove that both mild and severe cases may be mosquito-transmitted from the same patient; and Dr. Guitéras evidently believes that a case may be mild or severe according to the number of germs introduced at the time of inoculation; even though the source of germ supply be a virulent case. I am of the opinion that the early date of its introduction, and the number of mosquitos present—not the special virulence of individual cases—determine the extent of yellow-fever epidemics in the past; and that recrudescence was a lesser factor than is generally supposed.

The vagaries of the quarantine service, fluctuating from one extreme to another, actuated now by an exaggerated fear of infection, and again by powerful influences, directed, perhaps unwittingly, to the interests of commercial circles, may well account for some of the phenomena of yellow-fever visitations improperly attributed to other causes.

DR. SOUCHON'S LIST OF THE EPIDEMICS OF YELLOW FEVER NEW ORLEANS FROM 1817 TO 1899, INCLUSIVE—EIGHTY-THREE YEARS.

Year.	Deaths.	Year.	Deaths.	Year.	Deaths.
1817.....	809	1845.....	2	1873.....	226
1818.....	115	1846.....	160	1874.....	11
1819.....	2,190	1847.....	2,359	1875.....	61
1820.....	400	1848.....	808	1876.....	42
1821.....	....	1849.....	769	1877.....	1
1822.....	239	1850.....	109	1878.....	4,046
1823.....	1	1851.....	17	1879.....	19
1824.....	108	1852.....	456	1880.....	2
1825.....	49	1853.....	7,970	1881.....	0
1826.....	5	1854.....	2,423	1882.....	1
1827.....	109	1855.....	2,670	1883.....	4
1828.....	130	1856.....	74	1884.....	1
1829.....	215	1857.....	199	1885.....	..
1830.....	117	1858.....	4,855	1886.....	..
1831.....	2	1859.....	91	1887.....	..
1832.....	18	1860.....	15	1888.....	..
1833.....	210	1861.....	....	1889.....	..
1834.....	95	1862.....	2	1890.....	..
1835.....	284	1863.....	2	1891.....	..
1836.....	5	1864.....	6	1892.....	..
1837.....	442	1865.....	1	1893.....	..
1838.....	17	1866.....	192	1894.....	..
1839.....	452	1867.....	3,107	1895.....	..
1840.....	3	1868.....	5	1896.....	..
1841.....	594	1869.....	3	1897.....	297
1842.....	211	1870.....	588	1898.....	57
1843.....	487	1871.....	55	1899.....	23
1844.....	148	1872.....	40		

Assuming his list to be correct, the Doctor has taken pains to analyze it in his usual careful manner, and has drawn conclusions which can have no application to modern times and modern methods of prevention; not even if the conclusions were based on a true record, which they are not.

Dr. Jos. Jones, President of the Louisiana State Board of Health from 1880 to 1884, reports the number of deaths from yellow fever in 1822 as 808 instead of 239 (the number given in Dr. Souchon's list); in 1829, 900 instead of 215; in 1832, 400 instead of 18; in 1833, 1,000 instead of 210; in 1837, 1,300 instead of 442; in 1839, 800 instead of 452; in 1841, 1325 instead of 594. (Table opposite page 225 of the Report of the President of the Louisiana State Board of Health for 1880). For 1842 and 1843 Dr. Jones gives the number of deaths from yellow fever, in the Charity Hospital alone, in figures corresponding exactly with those of Dr. Souchon for the whole city. (211 and 487). (Table A opposite page 108 of the Report of the President of the Louisiana State Board of Health for 1881.)

It would be absurd to deduct, from the official statistics, that in these two years there was no yellow fever in the city outside of the Charity Hospital, and that it took two years for the disease to spread from the Hospital to any other part of the city, and yet statistics would seem to support such assertions.

Two sets of statistics, differing, cannot both be correct, though both may be wrong; and neither should be accepted as accurate for the period of differing records. No fine deductions can have value, therefore, based upon either list. Records of this kind, even if true, require interpretation to be properly understood. The vital statistics of New Orleans at the present time, if accepted as complete, might be cited to prove that the native population is rapidly dying out; for, while every death is properly recorded, the record of births is absolutely unreliable for purposes of comparison, including, as it does, a small portion only of the number of children born in the city. Statistics are sometimes misleading; for, while no one desires to take them for more than they are worth, it is often impossible to establish their true value.

The comparative absence of yellow fever in New Orleans from 1860 to 1865 would seem remarkable but for the explanation that the commerce of the port was interrupted during the four years of the civil war.

The freedom of this city from yellow fever between 1884 and 1897 has its explanation also; and the statistics of this period, together with the experience of 1898 and 1899, are, perhaps, susceptible of interpretation, by the officially recorded events, more or less connected therewith. Dr. Souchon says, after referring to Dr. W. C. Gorgas's "Mosquito Work in Havana" (MEDICAL RECORD, July 19, page 81): "No one admires more than we do the great efforts and the splendid results obtained by Dr. Gorgas in the sanitation of Havana, but, as a seeker of truth for truth's sake, and regardless of its consequences, it has occurred to us that, although the destruction of the mosquito may have prevented the spread of yellow fever in Havana, the real cause of the *exemption* of Havana and of the island from yellow fever is due truly to the efficient quarantine work of the United States Public Health and Marine Hospital Service officers. They kept out the fever and, therefore, prevented the spread of it by mosquitos or any other cause. The past history of New Orleans bears out this view. Up to the time of the incipiency of scientific quarantine, from 1879 to 1884, there was yellow fever in New Orleans every year, more or less, because the quarantine methods employed up to that time permitted the frequent introduction of cases by vessels without giving the city a chance of exhausting one infection before another infection occurred. Since the inauguration of thorough disinfection of vessels, especially since 1884, under the vigorous championship of our Dr. Joseph Holt, the city has been practically free from yellow fever until the infection of 1897, through the Mississippi coast. It took three years for this infection to exhaust itself, and New Orleans is again free from yellow fever. All that was accomplished without any precautions whatever having been taken against mosquitos."

The last two paragraphs contain two statements: First, that the fever of 1898 and 1899 was a recrudescence of the epidemic of 1897, and, second, that the exemption of New Orleans from yellow fever from 1884 to 1897 "was accomplished without any precautions whatever having been taken against mosquitos."

That the quarantine at Havana was effective, in

that it kept out infected mosquitos, I am satisfied. Fomites could have entered Havana through its quarantine, but mosquitos could not.

In 1884 the quarantine authorities sealed the port of New Orleans under a proclamation of forty days' detention. (Infected mosquitos probably die in quarantine). The one fatal case of yellow fever recorded in that year was one about the diagnosis of which physicians of eminence and special experience differed. In 1885 a plant costing $30,000 was installed by which a system was operated of driving into vessels, by fan power, sulphur dioxide. In 1886 the privilege of entry *without detention* was extended to the fruiters from Central and South America upon the following conditions: The avoidance of infected ports, the employment of acclimated crews; and the non-acceptance of passengers during the summer months. After discharge of cargo the *empty hold of the vessel was fumigated with sulphur dioxide* (mosquitos destroyed). These provisions were enforced until 1895, by which time the trade in bananas, pineapples, and cocoanuts had assumed immense proportions, and had become important both to the steamship owners and the railroads, which distributed the tropical fruit.

To facilitate the trade, and in answer to pressing demands of commercial interests affected, and, doubtless actuated by a laudible desire to remove from commerce burdensome and unnecessary restrictions, the quarantine authorities in this year (1895) passed a resolution *abolishing the fumigation* of the empty holds of fruit vessels, provided they ran only to healthy ports, and were maintained in a cleanly and good sanitary condition. In previous years (from 1886) *all* vessels engaged in the fruit trade were required to undergo fumigation.

The practical operation of the resolution (of 1895) was to permit the *unrestricted and immediate entrance* of fruit vessels *without sulphur disinfection of the hold at any time.* (Mosquitos were *not* destroyed).

If yellow fever is conveyable by these vessels, why, it may be asked, did they not convey it in 1895 and 1896, when mosquitos were not killed by sulphur fumigation? The answer is furnished by the official record (properly interpreted): Yellow fever appeared in the fruit ports in November of 1895 and in October of 1896. (Reports of U. S. Marine Hospital Services).

While our own home-bred mosquitos may withstand the gradual approach of colder weather, a tropical insect, removed from its own to a dissimilar climatic environment, may be destroyed or rendered incapable of mischief.

That we do not fear the introduction of yellow fever, except during the summer, is evidenced by the withdrawal of quarantine restrictions in October. In 1897 the disease was reported in the fruit ports as early as April, and was notably severe. In 1897 we had yellow fever. The epidemic of 1897 has been seemingly traced to various sources. The fact that Ocean Springs, Miss., was infected previous to any known infection of New Orleans pointed, and perhaps truly, to Ocean Springs as the avenue of infection for this city. So many of our people have summer residences on the gulf coast of Mississippi that it is, as far as the intimate relationship may make it, practically a suburb of the city; and it may never be known, as between Ocean Springs and New Orleans, which first infected the other. With the beginning of the epidemics of 1897 and 1898 I was not at the time familiar. In 1899, however, I was in a position, officially, to study the first cases, investigate their surroundings and trace their origin.

The first cases, so far as is known or believed, occurred in the family of a railroad man, employed as a clerk in an office near the I. C. fruit wharf, which he had frequent occasion to visit; and which his children frequently visited. Every member of his family was sick with a fever, whose nature was not recognized, until the symptoms were markedly emphasized in his own person. His case was reported as one of yellow fever on September 1, 1899; his family having been sick some time during August, and having recovered at the time of his attack. Subsequent cases developed in the neighborhood, and for a good while the disease seemed to be confined to a limited area in this section of the city; gradually, however, spreading as the season advanced. In July of 1901 the first appeal was made to the quarantine authorities to recognize the mosquito as a factor in yellow-fever transmission. "This matter," I wrote, "seems to me exceedingly important, and worthy of the most serious thought."

A deeper study of the question sustained my belief in the mosquito theory, and, convinced of the necessity of its thorough application to quarantine, I offered, on September 12, 1901, to furnish to the quarantine authorities "men and material to disinfect fruit vessels pending the consideration of the question." No action was taken on the proposition or the appeal despite repetition and persistent urging. (New Orleans cannot quarantine except by and through the State Board of Health.)

On March 15, 1902, I wrote: "My first communication on the subject was dated July 29, 1901, and on April 1, 1902, the quarantine season will begin. . . . The question under consideration for more than six months seems to be whether or not a pot of sulphur should be burned in the empty holds of fruit vessels to destroy mosquitos, which the very highest authorities most positively assert are capable of conveying, have conveyed and do convey, yellow fever. . . . Sulphur fumigation of empty fruiters was practised during a number of years when this city was free of yellow fever, and the many incidents seeming to connect the tropical fruit trade with the disease in this city compel me to insist that this subject be given the consideration it demands before disaster forces us to realize, too late, the important defect in our quarantine system."

On April 1, 1902, the sulphur disinfection of fruiters (empty) was re-established; to be modified, however, one week later so as to apply to those vessels, only, from ports where yellow fever may be reported. A harmless modification, surely, *if the reports are true, complete, and prompt;* but if they are not—Does the price of a few pots of sulphur justify the risk?

A wrong theory, advanced by the master minds of their day, and for a generation held as true, clings to the understanding with a persistency that disregards the weight of evidence, against which the *ipse dixit* of authority for a time prevails. But in the end all else but truth must relinquish its hold, and drop, at last, into that vast sea of error filled with the conscientious mistakes of the most able and most eminent men.

The Association of Typhoid Fever and Tuberculous Meningitis.—M. C. Chavigny concludes from his studies of the subject, that the association of these two diseases is possible, but that it is extremely rare. The clinical diagnosis is difficult, and can be positively made only by the help of serum-diagnosis. At autopsy the closest attention is necessary, as the lesions of typhoid fever may not be pronounced. In proportion, the symptoms of meningitis are the more marked of the two during the course of the disease.—*Revue de Médecine.*

THE INDICATIONS FOR OPENING THE PARS MASTOIDEA.*

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Under "Pars Mastoidea," following Schwartze, we include the mastoid antrum and the cellular spaces within the temporal bone, that are usually in connection with it. The indications for opening these cells necessarily rests upon the symptomatology and diagnosis of the various diseased conditions, for the relief of which it is deemed proper to undertake such operative interference. My paper, then, will properly deal not only with the acute and chronic affections of the mastoid cells and middle ear, but also with those intracranial conditions secondary to them. Of the acute affections we will first consider acute abscess of the mastoid. Pain in and around the ear is one of its most constant symptoms. Accompanying this, there is usually some fever and circumscribed pressure tenderness over the fossa mastoidea, which, according to Bezold,[1] represents the posterior end of the mastoid antrum, and the adjoining mastoid cells, and is to be sought directly under and back of the auricle, and immediately below the linea temporalis. Percussion dulness, an uncertain symptom, may also be sought for. Upon perforation of the drum, and beginning otorrhœa, the pain and tenderness may, in part or wholly, disappear, and again recur at the same point, or by predilection occupy either the anterior or the posterior border of the mastoid protuberance, the points over the greatest development of the superficial bony cellular spaces. With the increase of pain and tenderness, swelling and œdema may occur either over the mastoid or around or in the outer ear. Of especial significance is swelling over the posterior superior bony meatus wall, giving rise to narrowing or total occlusion of the meatus. Fluctuation in the external swelling is to be sought for earlier in the child than in the adult. When the symptoms mentioned have persisted eight to ten days without amelioration, notwithstanding recognized proper treatment has been administered, or when they have wholly disappeared, either with or without closure of the drum perforation, and again returned in severity and persistency, the mastoid operation may properly be performed. Experience, however, is of the greatest value in enabling one to decide when to operate and when not, and it must not be overlooked that in nearly all cases of severe acute, middle-ear suppuration, the mastoid cells contain pus, which, as the patient recovers, is capable of spontaneous resorption. Chronic disease of the mastoid may exist for years without sufficient evidence to warrant operative interference. There is always danger of serious complication, when the chronic ear disease has been occasioned by one of the acute, infectious diseases, such as scarlet fever or diphtheria. Chronic otorrhœa, with existing diabetes, is apt to develop deep-seated mastoid caries. Operative interference is urgent for pus retention that cannot otherwise be relieved. As symptomatic of pus retention, we have a sudden diminution, or total cessation of a profuse ear discharge, narrowing of the meatus or clogging of the tympanic cavity by granulations or polypi, fever, and symptoms of meningeal irritation. External abscess formation with fistulous opening leading into the middle ear or mastoid, especially if occurring in an adult, indicates a mastoid operation. In children, however, when the pus drainage is good, nature alone is frequently capable of bringing about a cure, when assisted by local syringing and improvement of the general nutrition. The growth of cholesteatoma in the temporal bone, and by this I mean an invasion of the middle-ear and mastoid cells by epidermal epithelial cells, their subsequent excessive growth and desquamation, and the formation of epidermis masses often covered with a pearly, glittering coat, may also require removal, through a mastoid operation. Such patients are apt to complain, especially if there is hindrance to the exit of the discharge, of earache, headache, and vertigo, relief being obtained with either the spontaneous or operative removal of the epidermis masses. The diagnosis of cholesteatoma rests upon the detection of such masses in the middle ear or in the otorrhœal discharge. Caries and necrosis may follow either an acute or a chronic inflammation of the mastoid.

As an instance of a rapidly fatal termination following caries with acute mastoiditis, I will recite the following case, for the record of which I am indebted to Dr. Leartus Owen: L. H., a well-nourished individual, about thirty years of age, and whose general health has always been good, developed, about August 22, 1902, after taking cold, an acute abscess of the right middle ear, for which he consulted Dr. E. Walker, and later Dr. A. J. Knapp. The right membrana tympani was punctured, and the ear treated locally. After about ten days of treatment the patient had a chill, followed by rise of temperature to 104°, severe pain in the head, and tenderness at the tip of the mastoid. An operation was suggested, but not made. The patient grew better with the application of an ice cap and antipyretic treatment. Temperature the following day, 99⅔°. The affection of the mastoid continued, but was not severe. The ear discharge showed diplococci in pure culture. At eight o'clock in the evening of September 11, he complained of nausea, dizziness, and headache, the pain being very excruciating, for which three-quarters of a grain of morphine gave but partial relief. He complained also of the left ear, and acted as though there was beginning unconsciousness. Next morning he was unconscious. I saw the patient for the first time about one o'clock in the afternoon of September 12, and in consultation with Drs. Worsham and Ravden. He was in an unconscious state, from which he could not be aroused. An examination of the right ear showed a small opening in the drum, in the upper part of the posterior lower quadrant, on the apex of a small teat-like swelling. The external meatus contained a very small quantity of thin pus, with but little odor. The pupils were semi-contracted, and the temperature about 100°. Externally over the mastoid there was neither swelling nor visible inflammation, but those in attendance assured us it had been markedly tender during the time the patient was rational. The left ear was without signs of disease. The opinion was given and concurred in by Dr. Worsham, that the patient would in all probability die, and that an operation, which the family favored, offered the only possible chance for improvement. An ophthalmoscopic examination had not been made, and because of our not knowing the nature of the patient's ailment and condition, we were not prepared to make one at this our only opportunity of seeing him before the operation, which was done two hours later, by Dr. E. Walker. It consisted in laying open the mastoid cells, antrum, and middle ear, with hammer and chisel. Within the mastoid pus was found, and upon its inner wall a curious opening discovered, through which a probe was passed into the posterior fossa of the skull. The opening was enlarged with the curette,

*Read before the Ohio Valley Medical Association, at the Evansville, Ind., meeting.

and the wound packed lightly with iodoform gauze for drainage. The patient continued during the night in a state of unconsciousness, and by the following morning developed left exophthalmos with dilatation of the left pupil. On the right side there was slight facial paralysis with contraction of the pupil. The temperature was 100°, pulse 106. At irregular times he had paroxysmal opisthotonos. The evening of the second day the pulse came up rapidly to 160 and was irregular. The respiration was labored and 25. Death occurred during the night of September 14. Autopsy made and reported by Dr. Owen. Only a head section was permitted and made, five hours after death. Dura mater congested. Beneath the dura and filling the sulci was a considerable quantity of pus. This was collected principally over the lateral region of the brain on both sides, and over the posterior portion of the base. In each fissure of Sylvius there was pus collection, notably the left with thrombosis of the vessels. The entire pia mater was deeply congested. The lateral ventricles contained an abnormal amount of thick white fluid. The fourth ventricle and pons, normal. The operative opening was found in the posterior wall of the petrous bone, which was necrotic for a considerable distance around the opening. Pus was found in both the posterior and the middle cerebral fossæ. I may add, as the cause of death, suppurative meningitis.

The subjective symptoms of caries and necrosis are very variable. Pain, when present, is a manifestation of periosteal detachment, rather than of bone destruction, and with extensive necrosis little or none may be felt. Especially is this apt to be the case in tubercular disease. A diagnosis of caries is reasonably certain when a fetid otorrhœa resists all treatment and the drum perforation, at the same time, gradually enlarges. The finding in the ear discharge, upon microscopical examination, of bone cells is highly corroborative evidence. Conclusions as to the seat of the disease and its extensiveness are formed by the detection of roughened bone or a sequestrum with the probe, the presence of fistulous opening in the bony external meatus or mastoid, and the manifestation of facial paralysis or labyrinthine disease. Before undertaking an operation for caries, one should recall that the roof of the middle ear at the same time forms part of the floor of the middle cerebral fossa; that the bulb of the jugular vein lies just under its floor; that the carotid canal runs under its anterior wall, and that the canal for the facial nerve runs through the lower part of its posterior wall, while the delicate internal ear labrinth occupies its inner wall. A mastoid operation may be undertaken either as a curative or as a prophylactic measure against involvement of other structures in caries or necrosis of the temporal bone. The prospects for cure are best when the bone disease is limited to the mastoid cells. On the contrary, when it is localized and occupies the floor or inner wall of the tympanum, the mastoid operation is superfluous. Protracted and severe neuralgia of the mastoid, that resists all other treatment, and even when an examination of the ear shows the complete absence of disease, is often curable through a mastoid operation. In all cases in which, during a middle-ear suppuration, symptoms of meningeal irritation or brain abscess, or beginning sinus phlebitis, occur, operative opening of the mastoid is positively indicated. Pachymeningitis externa and extradural abscess may properly be considered together, since the symptomatology, when the former alone exists, is too obscure to warrant a diagnosis. They occur oftener in the male than in the female, and in the majority of instances are right-sided and at the point where most of the blood vessels pass through the mastoid, namely, in the bony groove that lodges the lateral sinus. Large collections of pus may exist between the dura mater and the bone without being suspicioned, and only discovered during an operation for carious or necrosed bone. The symptoms of extradural abscess and pachymeningitis are temporal headache, somnolence, vomiting, fever, slow pulse, and optic neuritis. Politzer[2] attaches much diagnostic importance to the frequent changing appearance and disappearance of threatening symptoms, especially the cessation of severe inflammatory and meningeal irritation after a sudden free flow of secretion from the ear. When the extra dural abscess is in the middle cerebral fossa, especially in children, we may have crossed paralysis and disturbance of sensibility, with speech disturbance in addition if the lesion be a left-sided one. Of great importance are the local symptoms when there is an attempted spontaneous external pus evacuation through either a fistulous bony canal or through the mastoid foramin. Then occur œdema, redness, and swelling, and localized tenderness, either just around the upper border of the auricle, or back of the mastoid protuberance. Leptomeningitis purulenta may run either a very rapid and fatal course, ending in death in a day or two, or assume a more protracted form, with remissions and intermissions of fever, spasms, loss of consciousness and paralysis, until after some weeks coma supervenes, ending in death. The initial symptom is generally a chill, followed by variable temperature, usually high when the convex surface of the brain is affected, headache, frequently of a most violent character, and intensified by straining, cerebral irritation, manifested by excitement, restlessness, vertigo, photophobia, optic neuritis, vomiting, loss of memory, delirium, stupor, coma, tonic or clonic spasm, aphasia, sluggish pupillary reaction, and crossed paralysis. The result of this disease is almost without exception fatal. Of the venous sinuses lodged in the temporal bone, the transverse sinus is by far oftenest involved by inflammation and thrombosis. In the majority of instances the disease can be traced to direct contact of the sinus wall with diseased bone, or an epidural abscess, or to infection transmitted through the small veins that carry blood through the temporal bone, and empty into the lateral sinus. The diagnosis is comparatively easy when, with an existing chronic otorrhœa, we have sudden and severe chills, unusually high temperature, with frequent remissions, so that the temperature falls below normal, and again, in a short time, either with or without a chill, rises to fever heat, followed later by metastases and obstruction in the internal jugular vein, recognizable upon palpation. After some days the skin becomes dry and sallow, the tongue dry and heavily coated, while consciousness in contradistinction to cerebral abscess or meningitis generally remains clear up to a short while before dissolution. Since, however, the most successful operations are made before the disease has lasted long enough to produce such pronounced symptoms, we must seek for its detection as early as possible through local manifestations of circulatory obstruction, such as œdematous swelling over the mastoid and occipital region, Griesinger's symptom; a difference in the blood flow in the two external jugular veins, Gerhardt's symptom; painful infiltration and induration of the connective tissue in the upper part of the neck, Greene's symptom, and œdema and erysipelas of the face and eye-lids on the affected side, Wreden's symptom. According to Macewen,[3]

we may arrange those cases that take an unfavorable turn either with or without operation into three groups, according as the dominant symptoms are pulmonary, abdominal, or meningeal. The pulmonary manifestations are slight dyspnœa, cough, localized areas of pain over the chest, corresponding to the lung metastases, followed soon by rusty sputum and moist râles. Abscess formations and gangrene precede death, which occurs from exhaustion. The brain, as a rule, remains clear until very near final dissolution. The abdominal type presents symptoms of a typhoid nature, dry furred tongue, loss of appetite, offensive diarrhœa, great prostration, and muttering delirium. The meningeal group is least common, and presents continuous high temperature, vomiting, tonic and clonic spasm of the eye, facial or neck muscles, irritability, delirium, great prostration and coma, ending in death. The meningeal group, however, is not a sharply defined one, and along with the meningeal symptoms, we find some of those in association with either of the other two groups. The symptoms of thrombosis of the cavernous sinus are highly characteristic, and consist of engorgement of the orbital vessels, disturbance of sight, neuroretinitis, photophobia, paralysis of the oculomotor and abducens nerves, exophthalmos, ptosis, œdema of the eye-lids, neuralgia, and anæsthesia in the region supplied by the first division of the fifth nerve. Thrombosis of the superior and inferior petrosal sinus runs its course without characteristic symptoms. Otitic brain abscess presents the most advanced phase of mastoid surgery. The diagnosis of this trouble, never easy, is especially difficult in the child, because symptoms of brain irritability are so easily excited in it by diverse causes. It is developed either by direct extension of the suppuration to the brain substance, by continuity, or, as is oftenest the case, without direct communication, and in connection with chronic suppuration in the middle ear. It may also result from traumatism during an existing middle-ear disease. Körner[4] gives the seat of the brain abscess as 63 per cent. in the temporal lobe, and 37 per cent. in the cerebellum. As a rule, you may expect to find the abscess oftenest in that portion of the temporal lobe lying over the tegmen tympani, while the favorite position of cerebellar abscess is either in that part covering in the posterior surface of the pyramid, or in the vicinity of the groove for the lateral sinus. The brain abscess may be single or multiple. A fistulous canal can at times be traced from the caries in the temporal bone to the abscess cavity, and when found simplifies the diagnosis. It is well, therefore, to ascertain the nature and seat of the ear disorder before taking up minutely the brain manifestions. These may be classed as general and local. Under the former we first mention pain. This may occur as a general headache, or be localized over the seat of the abscess. Of considerable importance is localized percussion tenderness over the temporal lobe, either with or without localized temperature elevation. The pulse when brain compression exists is slow, later becoming rapid. Chill and fever are uncertain, but, as a rule, the temperature is never high. Vomiting is usually present at some time during the disease, especially if the abscess be in the cerebellum. General sluggishness, lethargic and slow cerebration may occur as early manifestations with later delirium, weakness of memory, somnolence, and coma. Sensory disturbances are seldom lacking at some stage, while convulsions may occur, and, with the lesion in the temporal lobe, they may remain limited to the extremities and the opposite side of the face. With the lesion in the cerebellum, the convulsions are more inclined to be general. Optic neuritis is far more frequently found than choked disc, the reverse being true in brain tumor. The local brain symptoms are more or less determinative of the seat of the focal disease. With abscess of the temporal lobe, the hearing center for the opposite ear may be destroyed, crossed deafness resulting. Because of somnolence, it may be hard to bring out this symptom. As evidence of involvement of the internal capsule, we have crossed spasm or paresis of the extremities. When the pus cavity is enlarged forward, crossed disorders of sensibility are seen, with, maybe, facio-lingual involvement. Word incomprehensibility, with lesion of the first temporal convolution and the angular gyrus, was found in one case. Speech disturbance is not infrequent with left-sided temporal lobe abscess. Partial involvement of the oculomotor nerve, especially of the fibers going to the pupil and upper lid, resulting in mydriasis and ptosis, has also been found in connection with abscess of the temporal lobe. The abducens nerve, on the side of the lesion, has also been known to suffer. True motor aphasia has not been observed in uncomplicated cerebral abscess. Focal cerebellar abscess, especially if in the neighborhood of the vermiform process, is associated with general convulsions, crossed tonic spasm, such as rigidity of the cervical muscles, cerebellar ataxia, and vertigo. Facial paralysis and respiratory disturbance may likewise occur.

1. Bezold in "Schwartze's Handbuch der Ohrenheilkunde," Vol. II, p. 315.
2. Politzer, "Textbook Diseases of the Ear," p. 469.
3. Macewen, "Pyogenic Diseases of the Brain."
4. Körner, "Die Otitischen Erkrankungen des Hirns der Hirnhäute und der Blutleiter," p. 103.

HOT DECINORMAL SALT SOLUTION INJECTIONS IN THE TREATMENT OF HEMORRHOIDS.

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I BELIEVE I am the first surgeon to report and advise the hot decinormal saline solution injection in the treatment of piles.

In April, 1900, there came to my office a negro woman, aged forty years, weight 125 pounds, who was suffering greatly with both external and internal hemorrhoids, and whenever her bowels became constipated quite a great deal of pain was experienced, as is usually the case, besides some blood accompanied the act. She was thoroughly examined, and I advised operation, but she being opposed to it, I concluded I would try the pure phenol solution instead, which I attempted, but, unfortunately, on account of accidentally dropping a little of the acid on the external parts, she asked that I use something "not so strong." The thought came to me to try the hot saline solution, as I had had a few days previous experienced considerable uneasiness while using the pure phenol on a Mr. Gray, a carpenter of this city, in whom I injected thirty drops of the pure phenol solution, and within ten minutes I had a case of carbolic-acid poisoning to fight. I have since concluded I must have punctured a vein, as I had used the identical dose on this patient before, without the slightest toxicity. Remembering this, I suggested to the woman that I use some water, and at once sterilized a decinormal salt solution. From one to two and a half drachms of this liquid was injected in each tumor (there being eight in all) as *hot* as could be borne by my fingers, *i. e.* to merely dip the

end of the finger in the water and hurriedly remove it. Eight sacs were thus treated in the following manner: Thrusting a very sharp and keen needle approximately half way through the tumor, I pushed in ten drops, waited a second or two, pulled out the needle about a sixteenth of an inch, and placed ten more drops, the final amount being placed simply beneath the mucous surface, which almost immediately turned a pink-red color, but within a minute or two became blanched. Attacking the tumor at a more convenient point, I repeated the identical procedure, being careful in keeping the water as hot as possible—in fact, if I had not been afraid of bursting the glass barrel of my syringe, I would have injected the solution boiling hot. Strange to relate, the woman experienced little or no pain from the hot water; the only inconvenience felt was the prick of the syringe needle. I instructed the patient to return to my office in two days, giving her to take the night following the day of operation three compound cathartic pills, which I learned acted nicely, and without pain. The woman remained in my waiting room a half hour after the original experiment, that I might ascertain, if possible, the immediate effect of the injection. Upon leaving, she said walking did not cause the slightest pain, but said she felt a fulness or pressure not unlike a person feels when the bowels want to move. Other than this, no inconvenience was noted. She lived about three miles from my office and *walked* the entire distance, during which, she told me, she attempted to have a passage, which resulted in her discharging some blood. She furthermore said that when seated she had perfect relief from the pressure. Next day she worked in the field as usual, with practically no sensation of pain. I go into minute details to give the reader the full benefit of the initial experiment. On the third day she walked back to my office, and appeared brisk and lively. Upon examination, the external tumors looked a trifle more congested than at first, but upon pressure there was less pain than before the operation. The woman being placed in the Sims' position, I explored the rectum with a small speculum, and about the same general condition obtained inside, with the exception that the bags were flattened more than previously and appeared soggy. Upon moderate pressure, serum and blood oozed out in small quantities from each tumor. I particularly inquired, when I pressed a probe, armed with absorbent cotton, on the sacs, if it did not give her pain. She answered in the negative. Cleansing the inner site of operation with a probe wrapped with lint, I gave the internal piles the same treatment as was given originally, but at different points from the first, confining my operations nearer the base of each projection and along the apex. This solution was boiling hot, as I had secured an all-metal hypodermic syringe during this interim. Each tumor was given the same amount of liquid, but a larger quantity was used in each than previously. If I remember correctly, two drachms of the decinormal salt solution was thrown in and around each bag this time. The outside growths were flooded in the same manner. At this sitting the mucous membrane, owing to the greater amount of heated water, readily blanched, and remained so for fifteen minutes, after which a state of local congestion or stasis came on. No appreciable inconvenience was noted during this treatment other than a full feeling about the rectum. She was given a bland ointment and told to apply it daily, internally and externally, and to keep the bowels in a soft, mushy condition with the compound cathartic lisp, *i. e.* by taking from two to four each night or every second night at bedtime, or as conditions demanded, and was instructed to report in a week, which she did. She now walked with some uneasiness and said, before getting on the operating table, that her rectum felt somewhat sore and that around her anus a moist condition prevailed. An examination revealed every tumor in a state of slough, and a number of pieces were readily pulled away with a pair of hæmostatic forceps, without causing any hemorrhage or pain. Two of the internal sacs came away *in toto*, simply by snipping a twig of putrid mucous membrane. The parts were trimmed up nicely with a pair of curved scissors, and a piece of borated gauze, anointed with carbolized vaselin, wound into a wick the size of the index finger and about three inches long, was inserted into the rectum. On the external surfaces the same ointment was applied minus the gauze. The woman was given instructions to remove the gauze in about twenty-four hours, or sooner if necessary, on account of defecation or pain, but to insert with the index finger a piece of the salve about the size of a small pecan nut nightly, and to keep the outside parts well lubricated. The pills were omitted for four days, and the woman was placed on a liquid diet of milk, broths, and thin soups. In four weeks from the last visit the general seat of operation was clear and nicely healed, resolution ending in no disturbing cicatrices or any unusual contraction, the lumen of the gut being fully and completely restored.

I saw this patient and examined her a few weeks ago. She has had two children since. She now enjoys capital health. Her rectum is free from all hemorrhoidal excrescences, and a permanent cure has been effected.

Altogether, I have treated seventeen cases of both internal and external piles by this method, varying in size from that of a peanut to an English walnut, and from a half to one and a half inches in length, with the same general good results. The question arises, how is a cure effected? We all fully recognize and acknowledge that boiling water will burn the flesh as effectually as fire, steam, or electricity, and that when cool or cold influences are eliminated the heat is greater, consequently the scald is more severe; then we are forced to the conclusion that this is a simple scalding process, which acts as does an escharotic; hence, a sloughing process must follow, resulting finally in elimination, followed by granulation and a cicatrix. Owing to the great heat incorporated in this method when the preparation is thrown under the skin, the albumin of the blood is immediately coagulated, and thus we have a circumscribed area of tissue walled off.

The method I have outlined is simple, cheap, effective, non-toxic, and always safe, and I trust the profession will give it proper and just consideration, whenever possible.

Finally, it might be well to state that boiling water thus used seems to act in a measure as a local anæsthetic; the insensibility lasted in some instances several minutes. In experiments upon my own arm, I found that no appreciable pain resulted even when the water was boiling hot, but a subsequent slough was narrowly averted.

This mode of utilizing hot salt water opens up a new field in piles and special surgery. While salt was selected as a mild antiseptic, other substances more pronounced in their action may be substituted, not only in the above condition, but wherever and whenever we desire certain destruction of abnormal tissue.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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ABOLITION OF THE OFFICE OF CORONER.

THERE is now before the Legislature of the State of New York a bill to abolish the office of coroner and transfer its duties to existing municipal departments. This bill originated in the New York County Medical Association. The object of the bill is to reorganize the system of verification of deaths from unknown causes so as to render this important service more prompt, more efficient, and more economical.

Briefly, first, the bill transfers to the Health Department the initial proceeding of determining the cause of death or whether there is connected with the death a suspicion of crime. This is one of the most important duties of the Health Department and is at the foundation of its highest and most important service in the public interest, viz., the protection of the public health. It is of the utmost importance to the success of the Health Department that the exact cause of every death should at once be known, for on that knowledge will depend its power to prevent similar fatalities. The determination of the exact cause of death in the cases in which the cause is unknown requires expert knowledge of pathology and laboratories for chemical and biological investigation. The Health Department of this city is amply supplied with all the requirements necessary to render the verification of deaths from all causes very prompt and scientifically accurate. But under the coroner's system, as at present organized and managed, all cases of uncertain death must be sent from the Health Department to those officials who have neither training nor the equipments necessary for exact and reliable investigations. The result is that in many cases there has been a complete miscarriage of justice owing to tardiness in the proceedings, or want of expert knowledge, or lack of proper facilities for scientific work.

The second notable feature of the bill is that which imposes upon the District Attorney the duty of conducting all legal proceedings connected with the inquest, which is to be held in the magistrate's court. The object of this section of the bill is to secure a far higher grade of ability and much greater efficiency in the legal proceedings when there is a suspicion of crime developed in the investigation of the cause of death, for the District Attorney will have a representative of his office present at all the stages of the investigation. When the medical examiners have determined that there is a suspicion of crime the case at once passes to the jurisdiction of the District Attorney, who proceeds to conduct the inquest before a magistrate, the medical examiners appearing as expert witnesses. This change in the present system gives to every stage of the inquest that precision and dignity that such a public function demands.

It must be evident to every one that a system of verification of deaths, as proposed in this bill, by the Health Department, and the subsequent inquest conducted by the District Attorney before a magistrate, must give to all legal and judicial proceedings in such cases that character and reliability which their importance necessitate. Neither must the economical view of the case be lost sight of. By utilizing the existing municipal organizations there would manifestly be a great reduction of expenses. The coroners of the Greater New York receive in salaries alone the enormous sum of $61,000, while it requires an additional $90,000 to pay the high-priced clerks, stenographers, physicians, etc., the total cost of this antiquated system being for the current year $151,300. The bill in question would reduce that amount from one-half to two-thirds and give infinitely better results.

Finally, if this bill becomes a law it will forever remove this very important service from the touch and contamination of politics. The only opposition which the measure has encountered, or is likely to encounter, is from professed politicians. We trust there is a sufficient number of members of the Legislature, independent of the persuasion and dictation of machine politics, to enact the bill into statutory law. We have no disposition to criticise the present coroners, for they are as competent as the method of selection by political parties will admit. It is the vicious system itself, which most civilized communities have long since abolished or reformed, that we wish to see reformed in the interests of science and a sound public policy.

THE LOCAL BOARDS OF HEALTH BILL.

THE bill to amend the public health law relative to local boards of health introduced in the Senate of New York State by Mr. Stewart, is well calculated to institute many much-needed reforms of present systems. Heretofore the local health boards have been managed on very loose principles of coördinate action with the State board, and the growing necessities for uniform action and proper centralization of executive power are alarmingly apparent.

In the larger cities the regulations are stringent enough to guard against the inroads of contagious and infectious diseases, but the country towns and rural districts are at the mercy of primitive regulations which, inefficient as they are, are seldom enforced. A recent and striking object lesson in point is the history of the recent typhoid epidemic at Ithaca. It is seemingly more particularly to meet such conditions that the bill in question has been framed. The general object of the measure is to make the local boards more directly and legally responsible for their acts.

In the matters of proper legal control of sewerage and stream pollution no regulations can be too strict or too comprehensive. Therein rests one

of the fundamental requisites for the arrest and prevention of typhoid fever. In this connection it may be well to suggest to our legislators that it should be made obligatory on physicians to report all their cases of such fever the moment a diagnosis is made. This is required of the practitioners in the larger cities, and there is no reason why similar laws should not apply to those in the rural districts and smaller towns. Everything depends upon knowing of the initiatory cases and in taking prompt preventive measures.

Another matter bearing on stream pollution should also receive direct attention. As contaminated oysters are a frequent cause of a typhoid-fever epidemic, there should be some rider in the law forbidding the planting of these shellfish at the mouth of sewers for fattening purposes. No dealer, for instance, should be allowed thus to endanger the lives of his customers, under heavy penalties. The State board could be given ample jurisdiction in the matter without in any way making unreasonable restrictions upon the industry in question.

The bill, however, even as it stands, is a most excellent one, and, with the State medical associations behind it, bids fair to become a law. It certainly deserves all the support it can obtain from the profession of the State.

DIET OF THE INSANE.

In an editorial article that appeared in the Medical Record, February 21, commenting upon the last annual report of the State of New York Charities Aid Association to the State Commission in Lunacy, attention was drawn to that part of the report in which reference was made to the diet of the patients in the New York State hospitals. It would be an almost impossible task to formulate a diet table best adapted to the requirements of asylum inmates suffering from the various forms of insanity. But, at the same time, all authorities agree that in the majority of cases a generous amount of food is strongly indicated.

In June, 1893, Prof. Austin Flint was requested by the New York State Commission in Lunacy to prepare a report on dietaries and food supplies for the guidance of the State hospitals in the preparation of monthly estimates under the operation of the State Care Act, which was to take effect October 1, 1893. Dr. Flint's revised report was published by the commission in 1894. The following schedules were therein recommended: Daily ration—Meat, with bone, including salted meats, fresh and salted fish, and poultry, 12 ounces; flour to be used in making bread, and in cooking (may in part be substituted by corn meal and macaroni), 12 ounces; potatoes, 16 ounces; milk, 16 ounces; one egg; sugar, 2 ounces; butter, 2 ounces; cheese, 1 ounce; rice, hominy, or oatmeal, 1½ ounces; beans or peas (dried), 1½ ounces; coffee, ⅝ of an ounce; tea, ⅛ of an ounce. Schedule 2.—Supplies for one hundred persons for thirty days: Meat, with bone, including salted meat, fresh and salted fish and poultry, total, 2,250 pounds; flour, 2,250 pounds; potatoes, 2,250 pounds; milk, 1,500 quarts; eggs, 250 dozen; sugar, 375 pounds; butter, 375 pounds; cheese, 188 pounds; rice, hominy, and oatmeal, 282 pounds; beans or peas (dried), 282 pounds; coffee, 156 pounds; tea, 24 pounds.

With reference to this table, Dr. Flint says, "This table should be regarded as very elastic. I think experience has shown it to be more than ample, and that considerable saving may be made, especially when fresh fruits and vegetables are available at low prices. Keeping in view always a proper variety of food, all the articles should be considered interchangeable in quantities to about equalize the cost. Flour should be interchangeable, on this basis, with potatoes, rice, hominy, and oatmeal. Butter and cheese may be interchangeable in the proportion of one pound of butter to two pounds of cheese; and eggs and milk in the proportion of two eggs to one pint of milk. There are times when eggs may be substituted with advantage for meat. This may be done on the basis of eight eggs for one pound of meat. When fruits, fresh and dried, are used in abundance, a reduction may be made in eggs, butter, cheese, and milk. While the table is intended for patients not under extra diet and attendants only, and I have suggested that 25 per cent. in the rations of meat, flour, and potatoes be added for workers, I am of the opinion that with careful management and good cooking, the supplies indicated for 100 persons for thirty days can be made to cover the entire population of most of the hospitals, including workers, patients under extra diet, and even the medical officers with their families, without deviating from the proper standard of supplies for ordinary patients."

The foregoing dietaries were in force until 1898, when there was a change in the personnel of the State Commission in Lunacy, and, on economical grounds, these were reduced. Professor W. O. Atwater was called in by the State Lunacy Commission to look into the matter. After making investigations at several of the New York State Hospitals, he stated in his report that "In providing food for the population of a hospital for the insane, two fundamental principles should be recognized. One is that kinds and amounts of food should be adapted to the actual physiological demands. The other is that these demands differ with different classes of people." Professor Atwater further says: "Regarding the actual physiological demand, as expressed in quantities of nutrients and energy of food, comparatively little is known. My own decided impression is that the principal factor is the degree of physical activity. If this is the case, the principle would be the same for the insane as for the people in normal mental condition. I am inclined to think, however, that there are exceptions to this principle; that there may be classes of the insane who eat more and may actually need more than people in normal condition with corresponding physical activity."

In December, 1900, the President of the State Lunacy Commission, having been removed by the Governor, the dietaries were again subjected to revision, and in December, 1901, were reduced and, according to the report of the State Charities Aid Association, issued recently, caused suffering and discontent to the patients. This phase of the matter, however, was treated in the Medical Record of February 21.

The question of a proper diet for the insane is a

difficult one to answer. As remarked in a former part of this article, it is generally allowed that persons suffering from mental disorders should be fed well. There is no doubt that they must not be stinted in food, or the disquiet induced by such a course will injuriously affect their mental state. On the other hand, there is no need to provide a superabundance of eatables for the inmates of State hospitals merely because they are insane, and not because it would be for their mental and physical good. It would seem reasonable that insane persons should be treated in the matter of diet in accordance with the rules dictated by those whose experience has justified them to speak with authority.

THE NURSES BILL.

An act to amend the public health law relative to the practice of nursing is now before the New York State Legislature. The object of this amendment is to prevent ill-trained or incompetent persons from posing as nurses. The act provides that the Regents of the University of the State of New York shall appoint a board of examiners, who shall judge of the fitness of candidates for registration as nurses. A candidate to be eligible for examination must be over the age of twenty-one years, of good moral character, and must hold a diploma from a training school for nurses connected with a hospital giving a course of at least two years. When these conditions have been fulfilled, and the examination passed, the successful competitors will be granted a certificate by the Regents, testifying to their qualifications to practise as registered nurses, and shall have the right to style themselves as such, which privilege will be denied to all others.

Upon recommendation of the examining board, the Regents of the University of the State of New York may, in their discretion, waive the examination of any person possessing the qualifications mentioned above who shall have been graduated before, or who are in training at the time of, the passage of this act, and who shall apply in writing for such certificate within three years after the passage of this act.

It is high time that legislation should be evoked to restrain insufficiently trained persons, from competing on equal terms with those who have passed through a curriculum which is in itself a guarantee that they possess a satisfactory knowledge of the duties that fall to a nurse's lot. Reforms have long been needed in this connection. At present the status of nurse is vague and ill-defined. There is no definite standard as to what constitutes an efficient nurse. Regulations setting forth the manner and duration of training are entirely lacking. The term "nurse," in the existing state of affairs, is so elastic that it comprehends all sorts and conditions of persons. A six months' course of theoretical instruction, or even a six weeks' course, is deemed sufficient in some parts of this country for the granting of a diploma. The consequence of this laxity is that New York is flooded with so-called trained nurses, who, attracted thither by the inducement of large wages, follow their calling, to the injury of the general public and of the really competent nurses.

Therefore, for the protection of the community at large, and of the properly graduated nurses, it is in a high degree desirable that legislation should be initiated to remedy some of these abuses and to place the whole matter on a sounder footing. This end, probably, can be reached in no better way than by placing the educational standards of the New York nurses under the control of the Regents of New York.

The New York Nurses Act is a step in the right direction, and augurs well for further and more radical reforms.

Child Labor in New York State.

Attention has been drawn somewhat sharply of late to the manner in which in some States young children are worked, and in other States, to the evasion of the laws regulating this description of labor. Ample proof has been afforded that throughout the United States the situation as regards child labor is unsatisfactory and that radical reforms are needed to remedy the evils of the present system. New York State has for many years carefully looked after the interests of its child population, and the present statutes with reference to child labor were supposed until recently to prevent its abuse. The recent agitation in the South, however, has caused the matter to be again looked into, with the result that some startling disclosures in this State have been made.

The Association of Neighborhood Workers, which was organized in New York last Spring, immediately appointed a committee to investigate the child labor situation, and the information thus collected has been published in *Charities*, January 10. Over a thousand cases have been made the subject of scrutiny, plainly demonstrating the fact that the law is constantly evaded. Factory inspectors discovered 212 children employed in factories who were under the legal age, and ninety-two who were illiterates. Testimony showing the perjury of parents was secured by the child labor investigators from many teachers of public schools in the lower grades.

According to *Charities*, one of the most striking features of the investigation has been the large number of children found entirely beyond the pale of the present law, which applies only to "factories" and "mercantile establishments." The most important among these are the newsboys, shoeblacks, peddlers, office boys, messenger and telegraph boys, and those who deliver for the express companies. It is needless to state that as a rule such a life is not conducive either to good health or to good morals. Many of these boys are ruined in both long before reaching manhood. The Association of Neighborhood Workers will, therefore, deserve well of all men if by its exertions it can prevent children from working in factories, and can hinder boys and girls of a tender age from making their home upon the streets. The proper place for children under a certain age is in school, and to school the law should compel them to go.

Physiology in the Schools.

No educational subject interests us as physicians so closely as the teaching of physiology and hygiene. Properly inculcated, these branches might do something to lessen the ignorance of the laity in matters medical. Unfortunately, as at present handled, they are about the worst-taught branches of the curriculum. The report of the U. S. Commissioner of Education for 1902 has several papers on the subject. Those by W. B. Ferguson, Superintendent of Schools, Middletown, Conn., and Prof. W. T.

Sedgwick, President of the American Society of Naturalists, trace the methods by which, since 1879, "that remarkable creation of our own times," the "temperance physiology," has been evolved into being, and has been foisted on the schools. "An Epoch of the Nineteenth Century," by Mrs. Mary H. Hunt, Superintendent of the Department of Scientific Temperance Instruction of the Woman's Christian Temperance Union, says that in New York "the campaign was systematically planned and executed. Earnest appeals from platform, press, and prayer-meeting among the constituencies back of every vote created a sentiment that echoed in the final 'aye, aye,' that enacted the law of 1884." The next step was to force the publishers into line. The Great Petition to Publishers says: "This is not a physiological but a temperance movement. In all grades below the high school this instruction should contain only physiology enough to make the hygiene of temperance and other laws of health intelligible. Temperance should be the chief and not the subordinate topic, and should occupy at least one-fourth the space of textbooks for these grades. . . . Textbooks that are largely physiology with a minimum of temperance matter . . . do not meet with the requirements of the law, and do not satisfy those who secured its enactment and are determined to secure its enforcement." Textbooks conforming to these requirements of the propaganda are "indorsed" by a "committee of the advisory board." Naturally the cupidity of the publishers prevailed, and physiology and hygiene were prostituted to a furtherance of a crusade. It has mattered not that time and again our best educators, men like Presidents Eliot and Jordan, have protested against these books by "eminent scientists," "best scientific authorities," and the "world's experts." These "eminent writers," "gifted authors," and "men of high standing and acknowledged ability," tell us that "the majority of beer drinkers die from dropsy", and that alcohol is a virulent poison, and should be classed with arsenic and mercury." "Tobacco has done more to cause insanity than spirituous liquors," "it is doing more harm in the world than rum;" "none are more likely to deceive unscrupulously than those who use the weed;" it "demoralizes; or it makes a man careless about his hair; he lets his nails go unclean," etc. It is avowed to be no part of the plan to allow this "temperance" matter to be side-tracked into a separate chapter, but every chapter is studiously rum-soaked, as the drunkard's tissues are supposed to be. "Facts" about alcohol and the bones must be learned in connection with the bones, etc.. A book of ninety pages devotes thirty-five to narcotics, and seventeen to the rest of hygiene; "foods" have four pages; the sources and nature of alcohol sixteen; "care of the brain and nerves," one page; the effect of alcohol on the nervous system, four pages; seven lines suffice to show why persons who are not growing need food, but indefinite number are required to show why they do not need alcohol.

Teaching is always by the "terrible example;" the trembling hand, thick speech, dull senses, poisoned blood, overwrought heart, weakened nerves, confused brain, foul mouth and offensive breath of the drunkard, are hysterically held up to gaze.

There is, however, such a thing as going too far. Some people can be pushed to the wall, but not through it. And the educationalists of Connecticut, in alliance with the moderate temperance element of the State, have succeeded, against the strong protest of Mrs. Hunt and her advisory board, in securing such a modification of the law as practically amounts to emasculation. The new law requires temperance instruction only from the fourth grade to, but not including, the high school, and by textbook only from the sixth grade; nothing is said as to the amount of space to be allotted, or the arrangement of the matter, and the manner of teaching the subject is left where it belongs, with the school authorities. The main significance of this departure lies in the probability of its being the first sign of a coming return to rationality, and the passing of the hysterical epoch. At any rate the attempt made in 1899 to make the Massachusetts law more rigid was a failure, owing to the strong opposition of the State Medical Society and the scientific and educational bodies, and the New York State Science Teachers' Association has recommended among other things, a modification of the State law to allow more liberty to teachers and textbook writers. Frank admission of the wide divergence of opinion among authorities should be admitted, and the chief emphasis should be placed upon the moral and economic aspects of the question. The National Educational Association, too, is bestirring itself in the same direction.

Tetanus in Gelatin.

In Bulletin No. 9 of the Hygienic Laboratory, Dr. J. F. Anderson calls attention to the several reported cases of tetanus, following the injection of gelatin as a hæmostatic and in aneurysm. His own bacteriological investigations upon six different makes of gelatin purchased in the open market, and upon the stock laboratory, gelatin led him to the following conclusions: Seven samples of gelatin examined; one showed tetanus spores. Two samples showed an oval end-spore rod, whose identity was not proved, but in stained specimens it would be hard to distinguish it from the tetanus bacillus, if indeed it be not the tetanus bacillus with diminished virulence. In tetanus investigations it is important to use *freshly* made bouillon, as the organism is apt not to germinate in bouillon over ten days old. The thermal death point of the organism isolated was found to be between twenty and thirty seconds at 100° C. It is important, therefore, that gelatin to be used for injections should be boiled at least ten minutes, on account of the variability of the thermal death point in different species of tetanus. Whether this amount of heating impairs in any way the hæmostatic power of gelatin has not been settled, but in case it does, it is believed that the danger from tetanus more than overbalances its therapeutic value. It is accordingly suggested, and with good reason, that when, as in hospitals, there is likelihood of gelatin injections being used for hæmostatic purposes the gelatin solution be sterilized by the fractional method on three successive days, and kept ready for use in sterile containers.

Sequelæ of Typhoid Fever.

At a meeting of the West London Medico-Churingical Society, held on February 6, a discussion on the above subject took place (*Lancet*, February 14). Dr. Seymour Taylor, who opened the discussion, defined sequelæ as conditions occurring after the end of the febrile process, when the temperature had been normal for two days and two nights. This speaker also mentioned in the course of his remarks, that many patients stated their health to be much improved after an attack of typhoid fever. Dr. William Hunter took a wider view of the definition of sequelæ. He regarded them as complications which occurred apart from the ordinary course of typhoid fever, and with causes different from typhoid

fever. Dr. Hunter had analyzed the cause of death in fifty cases, 48 per cent. of the patients died from perforation, 20 per cent. from pneumonia, 8 per cent. from asthenia, and 6 per cent. from heart complications, including pulmonary thrombosis, heart trombus, and fatty heart. In 10 per cent. lung troubles other than pneumonia caused death, hemorrhage in 6 per cent., and erysipelas in 2 per cent.

Dr. A. Elliot considered that, from the military point of view, the most important sequelæ of the typhoid epidemic in South Africa was disability, physical and mental. In commissioned ranks the greatest stress was on the nervous system, producing slowness of cerebration and lack of decision, often rendering the patient unfit for responsible duty in the field. Of specific sequelæ the most common and, perhaps, the most important, was phlebitis, variously estimated as occurring in from 5.6 to 25 per cent. of the cases. In epidemics in England and America the frequency was estimated at from 1.9 to 3.8 per cent.

Dr. E. A. Saunders said "that it was of great importance to separate the sequelæ due to the bacillus typhosus from those due to other microorganisms, other sequelæ might be due to staphylococci and streptococci, or to the bacillus coli. It seemed probable that many of the symptoms of severe cases of typhoid fever were attributable to simultaneous affection with the bacillus coli communis."

There are some points of interest in the above discussion. Probably, as Drs. Hunter and Saunders said, complications accurred after typhoid fever, which are generally regarded as sequelæ, but which, in truth, cannot be directly attributed to the fever. Of course this view depends, to a great extent, as to how sequelæ are defined. The large number of cases of phlebitis following an attack of typhoid fever, which occurred among the British troops in Africa, is another point worthy of notice. Many theories have been advanced to account for this coincidence, none of which, however, appear to explain the circumstance satisfactorily.

The Medical Department of the Army Transport Service.

In the *Journal of the Association of Military Surgeons* for January, 1903, Maj. H. S. Kilbourne describes, with special reference to the Medical Department, the growth of the Transport Service from its inception under the stress of war (in which stage it was notoriously disgraceful, and of which the author diplomatically says: "The condition of the victorious troops on landing at Montauk, at the close of the campaign, is too well known to need comment") to its present developed state. The Transport Service now forms a separate branch of the Quartermaster-General's Department, with headquarters at New York and San Francisco. Summarizing the experience acquired, it has been found that soldiers, and especially unseasoned troops, require different treatment from sailors. Unaccustomed to the sea and to the monotony of ship life, soldiers quickly fall out of condition for service unless special care be taken. A constant tendency toward overcrowding, general seasickness, and the prevalence of the infectious diseases, render effective sanitation difficult. Greater obstacles arise from the necessary economy of space. The prevalent dampness of the lower decks was diminished by incast and extraction fans. Free circulation below is a prime necessity for vessels in the tropics, where combined heat and humidity are inimical to passengers and cargo. Apparatus for cooling or warming the distributed air added further to health and comfort. Folding messroom furniture admitted of the clearing of the deck for exercise and recreation during heavy weather. The refrigerating apparatus improved the dietary by affording opportunity for cold storage and also ice for the sick. The segregation of the sick with adequate hospital appliances, facilitated their proper care and the protection of the healthy. Lavatories, baths, latrines, and a laundry were installed on the troop decks. An ample water supply was secured by the double system of storage and distillation. Separate galleys for soldiers' mess, at which a full ration could be prepared, were installed, and strict cleanliness on the berth decks, two in number below the main deck, was enforced. On the berth decks 78 cubic feet per man was deemed sufficient in view of the fan ventilation, electric lighting, and cleanliness of the person, bedding, and decks. For disciplined troops a wash basin for each ten men, a closet for twenty, and a shower bath and urinal for thirty, are sufficient. During the day the men live on the upper decks. From one-third to one-half the men can be served without delay at the mess. On the larger transports the hospital occupied the after main deck and accommodated from 3 to 5 per cent. of the troops, with an air space per man of 100-150 cubic feet, in the main ward. Above the latter an isolation ward, with a separate room for intractable patients, could accommodate 6 to 12 per cent. Separate lavatories, baths, and closets for this ward secured isolation of infectious cases. A lavatory, closets, a dispensary, operating room, a linen room, special diet kitchen, surgeon's room, and rooms for attendants, all with requisite furniture and fixtures adjoined the main ward. A general medical storeroom opened from below through the floor of the main ward. Air ducts overhead, having lateral discharge into the ward, supplied adequate ventilation in heavy weather. Double tier steel berth sections, with woven-wire beds, later exchanged for canvas, were secured to the deck. Instruments, and three months' medical supplies, completed the equipment. The bed supply proved adequate except when measles war epidemic. Quarters for female nurses were omitted as inexpedient in transport hospitals. When passengers on board their services have often been utilized and proved valuable.

More "Bloodless" Surgery.—The newspapers herald, with many details as to opposing religious beliefs yet commendable charity and toleration, the proposed return to this country of Dr. Lorenz's assistant. Although he is a Roman Catholic, the innocent reporters say, he has nevertheless agreed to operate (bloodlessly of course) "free of charge upon all poor Jewish cripples who may present themselves during his sojourn in this city." This wonderful exhibition of Christian charity, the papers add (in nearly identical language), "is simply a special favor to Dr. Singer, who is his friend and countryman and a former pupil of his father, late professor of comparative philology at the Vienna University. Neither the Beth Israel Hospital, which is open to all, regardless of color and creed, nor Dr. Müller, nor Dr. Singer has the slightest desire or intention to deprive anyone afflicted of the benefits of the Lorenz method." We had hoped that orthopedic surgery, not to mention orthopedic surgeons, in this country would have been content with the publicity enjoyed during Lorenz's royal progress—but it seems not.

News of the Week.

The Typhoid Epidemic at Ithaca.—The State Board of Health has been investigating the cause of the outbreak of typhoid fever at Ithaca, and the means of preventing a recurrence. The recently issued bulletin of the Board says that "by what means either of the three small streams furnishing the water supply became infected thus to produce this abrupt, unseasonable outbreak has not been determined to full satisfaction, but, of unusual conditions, there was emptied upon the ravine-like banks of one a body of foreign laborers during the fall and early winter building a dam, who departed with advent of frost. Among them were probably carriers of typhoid germs, which the first soft weather carried into the stream. A bill has been introduced into the Legislature providing for the prevention of pollution of all streams in the State. The measure will give authority to the Health Commissioner to force all municipalities and employees of large bodies of men to dispose of all refuse matter and sewage in such a way as to render the pollution of water supplies impossible. It is estimated that there have been over 500 cases of typhoid fever at Ithaca, but the number of new cases is rapidly decreasing, and it is believed that the epidemic is practically at an end.

A Strike of Hospital Nurses.—Nine trained nurses at the New York Eye and Ear Infirmary left the hospital at a few hours' notice some days ago, abandoning fifty-seven patients to be attended to by the head nurse and an assistant. So far as can be learned from the accounts given, the nurses objected to the presence of one of their number who wore a white dress. The chief surgeon of the infirmary promptly secured a new nursing staff, and the ladies who retired are looking for another job.

The Work at Stony Wold.—The work contemplated by the Stony Wold Sanatorium for Women and Young Children is explained, and the fact that tuberculosis is curable and preventable is emphasized in an appeal made on behalf of the institution by Mrs. James Edward Newcomb, President of the Board of Directors. The sanatorium is at Lake Kushaqua, 1,200 acres having been purchased for $20,000. A central building and one dormitory are approaching completion, and the foundation for a second dormitory has been finished. To complete the work about $60,000 is needed. For the entire equipment of the institution $200,000 is to be required. The present plan of the directors is to open the sanatorium in August next.

A Cruel Blow to Healers.—A bill has been passed by the State Senate of Virginia forbidding Christian Scientists to practise their profession of healing the sick in this State and charging therefor, unless they have been duly examined and licensed by the State Board of Stated Medical Examiners. These practitioners will have to content themselves hereafter with a shadow of a fee as unsubstantial as the thought of disease which they claim to dispel.

Running Amuck with Dental Forceps.—A crazy dentist in Duluth dreamed he had a mission to extract the molars of the multitude. He started out early in the morning and began his mission by pulling the teeth of four men who were found intoxicated in a saloon. A little while after that he accosted an old man on the street, knocked him down, and pulled two teeth. A few minutes later he entered a house, and finding a woman preparing the breakfast, knocked her down and extracted two teeth. Then he fell into the hands of the police.

A Peripatetic University.—The country medical practitioner in Germany is to have an opportunity to learn the latest developments in surgery and general medicine from a travelling university that will bring post-graduate instruction to the nearest large town in his vicinity free of charge. The scheme has received the approval of the Emperor, and will soon be put in execution. The expense of the undertaking will be met by the government.

Formalin Injections in Rabies.—A patient in the Williamsport, Pa., Hospital, suffering from rabies, is reported to have been cured by intravenous injections of formalin solution. His arm had been mangled by a mad dog, and was amputated, but rabies developed later. A rapid fall of temperature and improvement in all the symptoms is said to have followed the administration of the remedy.

Famine in Japan.—It is reported that a practically complete failure of the rice crop last year has caused widespread distress in Japan, culminating in famine in the Northeastern provinces. The number of destitute, so far as officially known, is 147,700.

Defeat for the Osteopaths in Alabama.—Dr. Robert N. Pitts, Health Officer of Montgomery county, Ala., writes that a bill granting many privileges to the sect of osteopaths, which was under consideration in the present session of the Alabama Legislature, was defeated after a long and hard-fought battle. If the bill had passed it would have practically nullified the present well-nigh perfect medical laws in that State, and would have materially lowered the existing medical standard. The champion of this bill was a woman who practises osteopathy in Mobile, a licensed practitioner in Alabama, having passed the required examination before the State Board. The bone squeezers had an array of some of the best legal talent in the State lobbying for the bill. If the bill had passed, all of the osteopaths who had practised in the State before the 1st of January, 1903, would have been legalized practitioners by the act. The bill provides for an osteopath on the State Board, and these persons would have had three-tenths of the branches to propound questions on and rate the answers, including gynecology, obstetrics, toxicology, and the practice and principles of osteopathy. We congratulate Alabama on her escape.

College of Physicians of Philadelphia.—At a stated meeting, held March 4, Dr. Francis R. Packard read "A Memoir of the Late Dr. Charles H. Burnett," Dr. William G. Spiller presented a communication entitled "A Physiological, Anatomical, and Pathological Study of the Glossopharyngeus and Vagus Nerves in a Case of Fracture of the Base of the Skull." The most conspicuous symptom was difficulty in swallowing. The pharyngeal reflex was preserved, as was also the sense of taste on the anterior portion of the tongue. After death the vagus and the glossopharyngeus were found disorganized on one side, the lungs the seat of multiple abscesses, and liver and kidneys degenerated. Dr. Charles H. Frazier read a paper entitled "A case of Unilateral Pulsating Exophthalmos; Ligation of the Right Common Carotid and Left Internal Carotid Arteries; Recovery," and he exhibited the patient, who was a young man who had been shot in the right mastoid region. Exophthalmos, with noises in the head and a bruit demonstrable objectively developed, and the operations indicated were performed to secure relief. The first yielded no satisfactory result. Following the second, there was after a time some amelioration of the symptoms,

but the most marked improvement followed a collision with another person. Drs. M. Howard Fussell and Henry D. Jump reported a case of probable multiple serositis, and exhibited the patient, a young colored man, who had presented symptoms of pericarditis and of enlargement of the liver with pulsation. There was a history of pleurisy, and there was also impairment of resonance over the upper portion of one lung and œdema, but no ascites. Announcement was made that $53,000 had been subscribed to the building fund to meet the proffer made by Mr. Andrew Carnegie of a gift of $50,000 on condition that a like sum be raised by the college, and that a communication had been received from Mr. Carnegie stating that a check for the amount named would be forwarded.

Department of Physical Education at Columbia.—The work in physical education at Columbia University is to be unified and brought under the administration of one department, of which Prof. Thomas D. Wood is to be the head, with a seat in the faculty of Teachers' College. The equipment of the department will consist not only of the university gymnasium, but of the new building now being erected by Teachers' College solely for physical education, the funds for which were given by Mrs. Frederick F. Thompson. The university gymnasium will be in charge, after July 1, of Dr. George L. Meylan of Boston as adjunct professor of physical education.

The Columbus Hospital, New York.—Dr. G. A. DeSantos Saxe has been appointed assistant pathologist to this hospital. The institution is to be enlarged shortly by the addition of new buildings, the ground for which, adjoining the present property, has already been purchased. The erection of these new buildings will increase the capacity of the hospital to 150 beds, instead of the present 98 beds. Funds for the erection of the buildings are available, which will be sufficient to provide for a modern equipment of the new wards.

The Missouri State Medical Association.—The date of annual meeting of this society has been changed from May 19, 20, and 21, to April 21, 22, and 23. The place of meeting remains unchanged, Excelsior Springs. Further information relating to the meeting may be obtained from the secretary, Dr. C. M. Nicholson, 2900 Washington Avenue, St. Louis.

New York Polyclinic Medical School and Hospital.—At a recent meeting of the faculty of this institution Dr. Charles Gilmore Kerley was elected professor of pediatrics, and Dr. J. A. Bodine professor of surgery.

Dr. D. S. D. Jessup, one of the teaching staff in the College of Physicians and Surgeons, has been appointed to the recently created office of medical visitor to Columbia University in this city.

Brain Vision.—A writer in a recent number of the Paris *Revue des Revues* describes an appliance invented by a Dr. Steins; by means of which it is claimed that the blind, if their loss of sight is the result of ocular lesion, can be made to see. The writer says that the apparatus was applied to his temples while he was blindfolded, and affirms that it enabled him to see. In this age it is unwise to deny the possibility of anything, but neither is it wise to accept unsubstantiated tales as facts, and this is certainly wildly improbable.

The Plague at Mazatlan.—There were fifty deaths from the plague at Mazatlan during February. Between January 15 and February 28 inclusive 291 houses were burned. Isolated cases of the disease are reported from various towns along the west coast of Mexico, but all danger of an epidemic appears to have been averted by the energetic action of the Mexican health officials.

Psychiatrical Society of New York.—A society with this name has recently been organized. Its object is to promote the interests of psychiatry and to stimulate its study. Active membership is limited to fifteen. The meetings, which are held on the first Wednesday of November, January, March, and May, are at the houses of members. Officers: Dr. Allan McLane Hamilton, President; Dr. Frederick Peterson, Vice-President; and Dr. Pearce Bailey, 52 West Fifty-third street, Secretary.

Silkworm Gut for Sustaining Sutures in Fixation of the Kidney.—Dr. Augustin H. Goelet writes: On page 398 of your issue of March 7, in the report of the proceedings of the New York County Medical Association, it is incorrectly stated that I prefer silk for suturing the kidney. I employ temporary sutures of silkworm gut, which are brought out through all the structures of the back and tied over a fold of gauze.

Trouble at a Hospital in Richmond Borough.—The Richmond County Medical Society at its February monthly meeting adopted resolutions requesting the Board of Trustees of the S. R. Smith Infirmary, the only public hospital in the Borough of Richmond, to remove the superintendent of that institution, against whom complaints have been made from time to time. The superintendent, Miss Twitchell, has been at the head of the institution for nine years, and in that time there have been several attempts to displace her, but without any success. During her administration she has at times been highly praised by some for her work, and also as severely criticised by others.

The Death of Dr. T. Gaillard Thomas.—On motion, the following resolution was adopted by the Medical Board of the Woman's Hospital, State of New York, at its meeting held on the 5th of March, 1903; and it was voted that a copy of the same be sent to the Board of Governors, and that it be published in the MEDICAL RECORD and the *American Journal of Obstetrics*, and that a copy, suitably engrossed, be forwarded to the family of Dr. Thomas:

Resolved, That we record with feelings of the deepest sorrow the death of our associate, Dr. T. Gaillard Thomas, President of the Medical Board and a Consulting Surgeon to the Woman's Hospital, which took place at Thomasville, Ga., on February 28, 1903.

Dr. Thomas devoted the best years of his professional life, from 1872 to 1887, to the service of this hospital as an attending surgeon. During all these years his ability as a diagnostician and his brilliancy as an operator were the admiration of his colleagues. The results of his scientific work added largely to the reputation of the hospital and greatly broadened the sphere of its usefulness. He merited, and easily won, the confidence of his patients; they trusted him as friend as well as surgeon. His assistants and the members of the house staff found him always most kind and considerate; he would oftentimes spare them, but never himself, when unusually laborious work was to be done. He was honorable, unselfish, a noble man, whose precept and whose example alike inspired many a young colleague to strive after the highest ideals that can be set before a physician.

Full of years and of the honors that had been conferred upon him, happy in the affection of his friends, his life work completed, at peace with God and with his fellowmen, he has gone to his reward.

H. D. NICOLL, CLEMENT CLEVELAND,
BACHE MCE. EMMET, P. F. CHAMBERS,
Committee.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HOSPITALS: THE HERBERT, OPHTHALMIC, BART'S, CHARING CROSS—HUNTERIAN ORATION—EARL ROBERTS, F.R.C.S.—LEAD IN MOORLAND WATERS—VICTORIA UNIVERSITY—"TUBE" ATMOSPHERE—A NURSING PROBLEM—CORONERS.

LONDON, February 20, 1903.

THE King and Queen went to Woolwich on Monday on a visit of some importance to the Herbert Hospital—the great military hospital named after Sidney Herbert, who was war minister during the Crimean War, and was stimulated by the sufferings of the troops to attempt by this and other means to alleviate them as much as possible. The Royal Family has always taken special interest in this hospital. Queen Victoria visited it in 1900, within a year of her death, when the South-African War put a heavy strain on its resources, for during that struggle upward of 10,000 wounded and sick soldiers passed through it. There are now about 550 patients in the wards. The immediate occasion of the royal visit this week was to inaugurate the rearrangement of the nursing staff consequent on the introduction of Queen Alexandria's Imperial Nursing Service, which now takes the place of the former Home and Indian nursing staffs. The new quarters for the nurses were inspected by their Majesties, and were pronounced satisfactory. The Queen distributed medals in gold, silver, and bronze to nurses on the staff, and a visit was afterward paid to some of the wards. Some of the patients seemed much cheered by the kindly words of their royal visitors. Finally, the King presented South-African medals to twenty-seven men now attached to the hospital, who had done service during the war, and the Queen expressed her satisfaction at the way in which her Imperial Service had been organized in the Herbert Hospital.

While the King and Queen were visiting the Herbert Hospital, the Lord Mayor and Lady Mayoress were visiting another—that was the Royal Ophthalmic. The object of this was to open formally thirty additional beds. This hospital, so long known as Moorfields from the locality it occupied, was founded in 1804, and has always been supported by the city magnates. It was regarded as the mecca of ophthalmology. The removal from the old site where it was almost rent free, for a new locality, with a heavy ground rent, and rated at £1,000 a year, provoked a good deal of criticism, which the vice-chairman endeavored to meet in proposing a vote of thanks to the Lord Mayor. He said that rebuilding was necessary; he sold the old site for £78,500, and they had paid the last bill for the new hospital. But he naturally protested against the exorbitant rates exacted. The Lord Mayor remarked that if no favor was shown to hospitals by rating authorities, they ought to contribute to their support.

The Committee on St. Bartholomew's Hospital has held three sittings, and meets again this afternoon to consider the question of removal from or retention on the present site.

The annual meeting of Charing Cross Hospital was held on Wednesday when some figures were presented which provoke serious thought. The excess of expenditure over receipts reached £22,385, and the year began with a deficit of £14,000. The extraordinary expenditure amounted to £33,000, and it was stated that £62,000 would be required for the current year. The annual subscriptions reached £2,411, and yet all the year building has been going on. No wonder that while managers are making urgent appeals for money, doubts are freely expressed as to their capacity, and many medical reformers are quoting the extravagance as an argument that this hospital is not required in the position it occupies.

On Saturday the Hunterian Oration at the Royal College of Surgeons was delivered by Sir Henry G. Howse, president. The orator gave a sketch of the career of John Hunter—an oft-told tale, but ever interesting. He was throughout a genuine collector, as well as one of the most admirable experimenters. He spent £70,000 on his museum, which on his death was the only thing he left to his widow. Six years later it was purchased for £15,000, and in 1804 the government advanced £27,500 to accommodate the collection. Since then it has been enlarged four-fold by the college—the trustees of the nation. Sir H. Howse thought that Hunter had a prevision of the Darwinian theory, in support of which he exhibited some fossils of animals from which it was supposed the horse descended, and described the gradual structural changes which were conjectured to have taken place. The orator concluded with sympathetic references to the death of two members of the council, Mr. Spencer Smith and Sir William MacCormac.

In the evening the annual dinner was held at the college, the president in the chair. The guest of the evening was Earl Roberts, who received the Honorary Fellowship of the college. The loyal toasts were first duly honored, and the memory of John Hunter drunk in silence. Then the president proposed the guest of the evening, remarking that two years ago, on the occasion of the centenary of the college, the Honorary Fellowship was instituted. The first to accept it was the King, then Prince of Wales; the second, Lord Roseberry, and now he asked Lord Roberts to accept it, and sign the roll. No man had done more for the medical department of the Army, and no one better earned the honor of the college.

Earl Roberts made one of his effective speeches accepting the fellowship. He said it was quite two years since the late Sir Wm. MacCormac wrote to ask him to accept the honor which the college offered. But while the war was going on, he was not inclined to accept any honors or rewards. Now all was changed, and he was delighted to be present. He accepted the honor on behalf of the navy, army, and auxiliary forces to whom he owed everything. It was equally true that all three owed a great deal to the Army Medical Corps. Only those who had been in South Africa could appreciate the devotion of the officers and men of that corps or the admirable way they mastered difficulties. The way they met and conquered these difficulties excited his highest admiration, and he did not forget, nor was he likely to forget the support rendered to the army medical service by their professional brethren, who went out to help them in the field. He mentioned Sir W. MacCormac, Sir. W. Stokes, and many survivors. Though, as the president had told him, the Honorary Fellowship did not give him the right to use the scalpel or the forceps, he would always, in all circumstances, do all he could to help the sick and wounded.

Mr. W. H. Power, medical officer of the Local Government Board, has this week issued a report on lead poisoning by water derived from Moorland sources. It contains the results of a survey by Dr. Houston, of fifty-eight reservoirs, in thirty-five of which the water could take up lead. In many this was traced to peaty sources, which frequently possess an action on lead. Filtration through sand seems to neutralize this action. Dr. Houston says it is not only necessary to test reservoirs and main streams, but the tributaries and subsidiary feeders during different seasons of the year and under ordinary and extraordinary conditions of rainfall.

The disruption of Victoria University is decided on. Founded in 1880, it comprised Owen's College, Manchester, and other colleges in Liverpool and Leeds. Liverpool wanted a university all to herself, and the question of granting it has been argued before the Privy Council, of which the committee has decided, with approval of the King, in favor of separation. But before giving practical effect to this decision, the committee desires the Leeds College to have the opportunity of submitting a draft charter for the incorporation of a university for Yorkshire, and also the three institutions are to consider in detail points on which joint action is desirable, and how that can be secured without restricting the liberty of each. How far increasing the number of universities will be beneficial remains to be seen.

The atmosphere of the "Tube" railway has been much talked of, and on Wednesday the County Council had before it a report of its Public Health Committee. This stated that the amount of carbonic acid was high in the carriages, but curiously enough the greatest quantity was not in the smoking compartments. Samples taken at midnight and in the early morning were fair. About 66 per cent. of the samples contained two and one-half times as much as the outside air. Dr. Andrews considered twice as much ought not to be exceeded. Microorganisms were present in some excess of the outside air, but not greater than in inhabited rooms generally.

When is a nurse not a nurse? Answer—when she is "qualified." I am indebted for this reply to a committee appointed by the Local Government Board in January, 1902, of which the report has just appeared. There was some difficulty experienced at times in procuring poor-law nurses in emergencies. The term "trained nurse" is always understood to mean one who has had three years' training. This report proposes an inferior order of one year's training in the smaller work-houses, and these inferior ones are to be called, in order to distinguish them, "qualified nurses," and are to be recognized as fit to fill any post in the nursing service of the poor-law system. Farther, they are to get certificates of training. So the country may be flooded with a number of women certified as "qualified." It is only to be expected that they will leave the work-house service and seek employment with the public. They will exhibit their diplomas as "qualified nurses" and be ready to undertake all sorts of practice.

Thus, the diploma traffic of the Obstetrical Society will be outdone by that of the Government Board.

Mr. Coroner Troutbeck persists in his folly, and, as I predicted, we are learning something more about autopsies. I feared there might be something in the statement that busy practitioners were tempted to perform post-mortems in a rather perfunctory manner. Now it appears that a professed pathologist may run the risk of a similar charge. At an inquest the other day the one employed by Mr. Troutbeck had to admit he had employed the porter to open the body, as he suffered from sore hands, and he talked of having done so in thousands of cases. It seemed he did not touch any of the viscera, though he stated their condition!

Another coroner has been exposing his office to contempt—saying if a doctor "cannot tell anything without cutting up a body and annoying the relatives and the whole street" he would do without him, if possible. Other equally silly remarks show that this gentleman is unfit for his office, and I should like to see his conduct laid before the Lord Chancellor.

THE WORK OF THE FRESH-AIR SOCIETY.

To the Editor of the Medical Record:

Sir: During several summers past I have inspected the vacation parties which the New York Association for Improving the Condition of the Poor have sent down to Sea Breeze, their establishment on Coney Island. The main purpose of these inspections has been to exclude cases of infectious disease. During the last summer but one such case developed—a case of whooping cough.

I observed last summer that some untoward conditions existed, as in other years; but they appeared to me to be considerably mitigated. The number of unvaccinated children was certainly much less than in other years; and these unvaccinated were most of them infants of but a few months. I only occasionally came upon cases of pediculosis, molluscum contagiosum, and like affections, born of uncleanliness. Infants were not so dreadfully overclothed; still at every examination there were instances of this species of torture. There were also constantly appearing instances of illness due to over-feeding or irregular feeding; but this condition of things will obtain, I suppose, so long as children have appetites, and mothers are tender and solicitous. As before, mothers comparatively young appeared with large families—up to nine children. Of these mothers not a few were haggard and careworn; several were consumptive.

Cases of "running ear," sometimes accompanied by the dreadful odor of necrosis—were not infrequent. There were far too many cases of adenoids and hypertrophied tonsils. These children, mouth breathers, with unexpanded lungs, contracted chests, pinched alæ, and sallow faces, presented quite ideal conditions for the reception and maintenance of the tubercle bacillus.

I came upon not a few babies who had been at the breast for from sixteen months to two years or longer. The reasons why mothers continue this lactation, and its baneful sequelæ, are known to medical men.

I have each year observed among these children a large proportion of cases of granular lids. Last summer I found some 10 per cent. affected, somewhat fewer than in former years. It is a matter of great satisfaction to note in this connection the work which the New York Health Board is doing. Its examiners are finding from 10 to 20 per cent. of the children in the public schools to be afflicted with granular affection. For instance, in one class of about sixty, on the lower East Side, an examiner found twenty-three such cases. Most of these children are of immigrant parentage from Europe—people who have come over in the steerage. The disease, indeed, must be much more rife in Europe than among our native population, as one may satisfy himself who would inspect the steerage contingent of any German or Dutch ship coming to our port.

Among isolated cases which had for me a somewhat gruesome interest, the following might be noted:

A girl in her teens, blind since three days after birth—a case of ophthalmia neonatorum; another with an immense goiter, the exophthalmos and the tachycardia being also very manifest; an idiotic child, who became so after recovery from cerebrospinal meningitis (such recoveries, attended as they are with such sequelæ are hardly to be wished for); a child with facial paralysis, which followed upon a button having remained for a long period in her nostril; a woman who alone supported her husband and family, because he had an aneurysm, which must inevitably prove fatal; an infant, with an enormous hydrocephalus, certainly larger than an adult's head; a girl of eighteen, who had already undergone an operation, and was joining the party in order to become strong enough for another on her return to the city; a mother in the same circumstances (these cases are not infrequent); a woman with hysterical deafness (unfortunately unaccompanied by aphonia), which, she declared, came upon her in an instant, and which is likely to leave her as suddenly; an imbecile boy; choreic children; cases of Pott's disease of the spine; syphilitic infants, whose fathers had had "blood poisoning"; women with heart and kidney lesions written upon their faces; a child who was a cretin; a woman whose left side had been burned, the cicatricial tissue being so tense that she had to remain erect, and could not bend over—and so on, a panorama gruesome enough, as our friend Thomas Carlyle might have said. Year before last there was an optimistic and most genial, light-hearted mother of nine children. I had asked her was she well. "Sure," she had answered, with a grin and a twinkle of the eye; "only for that I couldn't stand the racket." Since then this woman has died of consumption.

I think most medical men comprehend how greatly charity—especially medical charity—is overdone in this city, and how baneful are the influences attending this superzealousness upon our poorer classes. It is, however, a matter of gratification to observe that the work accomplished by this association is beneficent quite without qualification. It concerns itself—so far as these vacations go—not at all with men. Only worn-out women and sickly children get this outing. Women who are tired both in mind and body; widows, or those whose husbands are worse than dead; women who have many children in their families; who have chronic affections of various organs; many old women, too; and infants and children in hot and crowded tenements; all these have their lives prolonged through the activity of this excellent organization.

It is worthy of reflection that lack of education and uncleanliness are the two factors most responsible for the untoward conditions noted in this letter. Descartes was not altogether right when he declared that if the race is ever to attain perfection it must be by means of the medical sciences. However, if the principles of prophylaxis and sanitation were universally grasped and applied, the race would certainly be far advanced toward an ideal state.

John B. Huber, A.M., M.D.

44 East Sixty-fourth Street, New York City, January 27, 1903.

PROPHYLAXIS OF VENEREAL DISEASES.

To the Editor of the Medical Record:

Sir: At the last (fifty-third) meeting of the American Medical Association, held at Saratoga Springs, June 10-13, 1902, a joint resolution from the Sections of Cutaneous Medicine and Surgery and Hygiene and Sanitary Science was introduced in the House of Delegates as follows:

"*Whereas*, There is a burning necessity to check the spread of venereal diseases, and, assuming that the States cannot, with impunity, ignore the condition, it lies in the province of the medical profession to discuss and recommend to the respective State legislatures and municipalities means not regulamentative, but social, economic, educative, and sanitary in their character, to diminish the danger from venereal diseases.

"*Resolved*, That the Section on Cutaneous Medicine and Surgery of the American Medical Association invite the section on Hygiene and Sanitary Science to coöperate with the Section on Cutaneous Medicine and Surgery in bringing about a propaganda in the different States, looking toward a proper recognition of the dangers from venereal diseases, and to arrange for a national meeting under the auspices of the American Medical Association for the prophylaxis of venereal diseases, similar to the International Conference for the Prophylaxis of Venereal Diseases, which meets again this year at Brussels, under the authority of the Belgian Government."

This was later submitted to the House of Delegates, which endorsed the action of section and adopted the following:

"*Resolved*, That a joint committee of six from the sections on Hygiene and Sanitary Science and Cutaneous Medicine and Surgery be appointed by the President to stimulate study in and uniform knowledge of the subject of the prophylaxis of venereal diseases, and to present to the American Medical Association a plan for a national meeting similar to the International Conference for the Prophylaxis of Venereal Diseases, which meets again this year in Brussels, under the auspices of the Government of Belgium."

The Committee on Prophylaxis of Venereal Diseases consists of Dr. Henry D. Holton, Chairman, Brattleboro, Vt.; Dr. Ludwig Weiss, Secretary, 77 East Ninety-first street, New York; Dr. George M. Kober, 1600 "T" street, Washington, D. C.; Dr. W. H. Sanders, Montgomery, Ala.; Dr. L. Duncan Bulkley, 531 Madison avenue, New York

City, and Dr. Frank H. Montgomery, 100 State street, Chicago, Ill.

The peculiar social, racial, and political conditions of our country are so different from those on the Continent that they necessitate an expression of solely American ideas on this mooted question, both from a socio-economic and sanitary point of view.

The Committee desires the support of the medical profession, and the aid and powerful collaboration of the medical press of the country to help it in this work. It takes the liberty of soliciting expressions and views editorially and otherwise, and would be glad of personal correspondence from those supporting the movement, and who will contribute by papers, etc., to make it a success in case the House of Delegates should favor the holding of such a Congress.

By giving this a place in your esteemed paper, the Committee feels that you will have aided materially in forwarding the work entrusted to it.

Ludwig Weiss, M.D.,
Secretary of Committee.

New York, March 4, 1903.

Progress of Medical Science.

Boston Medical and Surgical Journal, March 5, 1903.

Cytodiagnosis: A Study of the Cellular Elements in Serous Effusions; a Preliminary Report.—Percy Musgrave reports six cases in which a cytodiagnosis was made. He states without hesitation that the descriptions given by Widal and other observers have been accurate, so far as his limited observation has gone; not only from observations made on the reported cases, but from several preparations made from abdominal fluids. The writer believes that this procedure will be found of clinical value after a more thorough observation and study. If it is found that the cytological formulæ are accurate after careful control of the cases studied, it is plain that the immediate results which can be obtained by this method, and which the French observers claim are more accurate than any clinical method now practised, will be of much value in diagnosis as well as prognosis.

A Research into the Means of Controlling the Blood-pressure.—George Crile says that in many instances the control of the blood-pressure is synonymous with the control of life itself. Saline infusion in shock has a limited range of usefulness. In collapse it may be effective. The blood tolerates but a limited dilution with saline solution. Saline infusion in shock raises but cannot sustain the blood-pressure. Adrenalin acts upon the heart and blood vessels. It raises the blood-pressure in the normal animal; in every degree of shock; when the medulla is cocainized, and in the decapitated animal. It is rapidly oxidized by the solid tissue and by the blood; its effects are fleeting; it should be given continuously. The pneumatic rubber suit provides an artificial peripheral resistance without injurious side effects, and gives a control over the blood-pressure within a range of from 25 to 60 mm. mercury. By the combined use of artificial respiration, rhythmic pressure upon the thorax, and adrenalin injected into the jugular vein, animals which were apparently dead as long as fifteen minutes were resuscitated.

Symptoms Simulating Appendicitis Caused by an Intra-abdominal Band.—James A. Keown reports the case of a boy of eight years, who for two years had suffered more or less distress in the abdomen in the vicinity of the umbilicus. After a long period of freedom from pain he was suddenly seized with vomiting, pain in the abdomen, and marked tenderness at the umbilicus and over McBurney's point, with rigidity. The temperature rose to 102° on the second day and slowly subsided during the next week. The patient was seen by another physician who diagnosed the case as appendicitis. The mother became alarmed, and as the existence of appendicitis could not be ruled out, the patient was operated upon. The appendix, except for the fact that it was six inches long, was found to be normal. On more careful examination for the source of the pain, a band was found running from a loop of small intestine upward to the umbilicus. This was ligated and removed; the stumps were turned inward, covered by peritoneum. This, on examination, was found to leave an opening part way on the bowel side. At about the end in connection with the bowel, the peritoneum was granular and red. The abdomen was closed, and the patient made an uneventful recovery.

Journal of the American Medical Association, March 7, 1903.

Fevers of Doubtful Nature in Infancy.—Basing his statements on his personal experience in Cuba, J. L. Duenas expresses his belief in the fact that many of the summer fevers in Havana, generally regarded as either malarial or attenuated forms of typhoid are in reality of gastro-intestinal origin, and advances the following reasons for his belief: (1) "Etiologic investigation always reveals more or less transgression of dietetic hygiene, as shown by abnormal discharges. (2) Epidemiologic investigation shows, on the other hand, that the disease is more frequent during the warm weather and coincides with the development of fever of typhic nature, with the different types and varieties of gastrointestinal accidents, in many children under two years of age, and with the remittent prolonged cases of fever in children above that age. Its frequent repetition observed in the same child, and always obeying to the same cause, dissipates all ideas of typhoid or yellow fever; diseases which do not attack the same person twice in accordance with the opinion generally established and admitted. (3) The bacteriologic examination demonstrates the existence of great number of bacillus coli communis in virulent condition, as well as of other saprophites in the potable waters of Havana. Very frequently unboiled water is administered to nursing children. (4) The hematologic examination reveals the absence of plasmodies in the blood obtained from these small patients as well as the absence of the serum reaction of Widal. (5) Quinine, even given hypodermically, is useless unless intestinal elimination is previously established.

The Identity of Nerve Force and Electricity.—J. E. O'Brien summarizes his study of this subject by calling attention to the fact that the construction of nerves has been closely though unconsciously imitated in electric cables, and contends that experiments on nerves should be interpreted according to the electrical peculiarities of cables, and not as if they were bare conductors. Nerves are insulated, distributed, and arranged like fine electric conductors. Their purpose and use are the same as the purpose and use of electric conductors, namely, communication from point to point. They convey some form of force, and there is not such a gulf between its velocity and that of electricity as has been supposed. This force must be electricity because: (1) Electricity is always present when nerves act. (2) Electricity is the form of force that would do the work required. It is the form of force that would work with such construction. (3) Because the terminal and central mechanisms connected with the nerves correspond to the terminal and central mechanisms connected with electric systems of communication and do similar work in sending, receiving, relaying, switching, transforming, accumulating, retarding distributing, and translating impressions. (4) Finally because electricity, with such construction of conductors and of terminal mechanisms is the only form of force that we know of that would do all the work required. He therefore maintains that nerve force is electricity, and that it would advance knowledge of the nervous system and its functions to accept this proposition.

Mercury in Syphilis.—Eugene Fuller advises careful attention to the teeth and gums during the administration of mercury. The toothbrush should be used thoroughly, and the mouth rinsed twice daily with peroxide. If the patient bears the remedy easily, well and good; if not, we may use the fumigation and inunction methods. If an individual presents himself during the primary stage of syphilis and keeps under observation so that mercurial treatment can be inaugurated as soon as a definite diagnosis can be made, we should begin with mouth administration. If the drug so administered is satisfactorily tolerated, and succeeds in not only dissipating the symptoms which may be present, but also in preventing the development of new ones, then there is no good reason for displacing the method first adopted in favor of another. Not infrequently in such an instance, however, mercury by mouth, although well tolerated, may not, especially during the first few months of its administration, be potent enough to hold the disease entirely in abeyance. In such cases a hypodermic injection given from time to time will satisfactorily supplement the effect of the mercury taken by mouth. If a person presents himself for the first time late in the secondary stage of the disease, where, owing to anæmia, facial or other prominent eruptive manifestations, alopecia, cephalalgia, rheumatoid pains, mucous patches or like developments, it may be of the greatest importance to quell symptoms quickly, not only for the good of the individual, but also to prevent the fact that syphilis has been contracted from becoming generally known; then hypodermic medication is to be recommended, owing to the quickness of the ensuing results, a marked fading in connection with an eruptive lesion and decided cessation in connection with pain being noted even after the first injection. In a case such as this after the disease is well under control, then it may be that another form of medication can be substituted.

Medical News, February 28, 1903.

Thyroid Extract in Hæmophilia and Other Forms of Hemorrhage.—Eugene Fuller reports a case of hæmophilia in a boy of fifteen years, which resisted all treatment till thyroid extract was administered, five grains three times a day After the second dose all bleeding stopped. The improvement in his general condition was marked. In the case of another patient, a man fifty-five years old, this same drug was productive of brilliant results. The patient had been suffering from nephritis for some time, and a short time before the writer saw him, hæmaturia, profuse and nearly constant, developed. A perineal section was made, as it was thought that the bleeding came wholly from the prostatic sinus, and not at all from the kidney. Severe secondary hemorrhage soon followed, and persisted for several days. The thyroid extract in five-grain doses by mouth, three times a day, was given, and the hemorrhage promptly and permanently stopped.

Hyoscine in the Treatment of Morphinism; Its Office and Value.—George E. Pettey declares that hyoscine not only occupies, but fills, when properly used, as important a place in the treatment of morphinism as does chloroform or ether in the practice of surgery. In a series of nearly 400 cases in which the writer has used this remedy, only in two or three cases has delirium or delusions of any kind been present as long as forty-eight hours after the last dose. In persons who have been treated by the methods he advocates, that is, through elimination of all toxic and effete material, and then the control of the acute withdrawal symptoms with hyoscine, the perfect recovery of all the mental faculties has been one of the most uniform and striking features. Hyoscine cannot be considered a substitute for morphine, and there is no reason for seeking such a substitute. It is unfit for prolonged use. By the use of hyoscine the sufferings of the days following the abrupt withdrawal of morphine are so alleviated that the patient can pass these few days in comfort, and escape the nerve strain and shock necessarily attending such an ordeal of suffering.

The Discrepancy between Clinical Manifestations and Pathological Findings in Appendicitis.—Nathan Jacobson refers to several cases of appendicitis, and concludes that we must not depend too much upon finding the so-called classic symptoms of the disease. It is evident that they are not always unfolded so that a positive diagnosis can be made early. We are not to be misled by apparently mild constitutional manifestations. Local signs are to be regarded as more significant, and can be relied upon to a greater degree than can constitutional manifestations. The persistence and the aggravation of any manifestation is to be viewed with alarm, and strongly suggests progression of the disease. The diagnosis of catarrhal appendicitis because of the apparently mild symptoms presented is often unwarranted. The restriction of the inflammatory process to the mucous surface of the appendix without ulcerative distruction thereof, at any point, is probably of infrequent occurrence. True conservatism, if by that we mean the conservation of life, is along surgical and not medical lines in every case of progressing appendicitis. The writer believes that every case in which the diagnosis of appendicitis can with positiveness be made, demands surgical rather than medical care. It is simply a question as to when the surgical operation should be performed. As a rule, the early operation affords the most encouraging prognosis.

Medical News, March 7, 1903.

Periduodenal Abscess Secondary to Ulcer of the Duodenum.—William Seaman Bainbridge declares that there is very scant information in medical literature on perforative ulcer of the duodenum, which does not involve the general cavity of the peritoneum. Although this disease is comparatively rare, there are, including the author's case, twenty-six on record. Twenty-two of these cases died without the diagnosis being made. In two an operation was performed, and the diagnosis made at the time that the abdomen was opened. One was cured. In another, diagnosis was accurate, operation performed, but the patient afterward died from the disease. In the author's case diagnosis was made, but the condition of the patient prevented surgical interference. The most frequent symptoms of this condition are vomiting, pain, tenderness and resistance in the epigastric and right hypochondriac regions, constipation or obstipation, sudden onset and shock. Many patients cannot lie on the right side, as it causes more pain. Usually there is a previous history of gastric or intestinal disturbances. A number of cases have followed a direct injury to the abdomen or some severe physical strain. Melæna or hæmatemesis are not common. They are more frequent in ulcer than in abscess. Temperature, if present, is generally slight. Complications may give rise to fever. It occurs more often in the male than in the female. It occurs in young or old. Of all the conditions which periduodenal abscess simulates, next to general peritonitis, appendicitis is the most frequent. The diagnosis is always difficult. If symptoms indicate the presence of ulcer (pain in the stomach two to six hours after eating, point of tenderness to the right of the twelfth dorsal vertebra, vomiting, specially hæmatemesis), and if sudden severe pain, marked increase of vomiting or collapse appears, operation is imperative. Exploratory laparotomy should be resorted to when abscess is probably present.

The Sanitary Aspect of the Mosquito Question.—John B. Smith states that a number of insects have been found as intermediate hosts for diseases of animals. Positively proved against mosquitos are yellow fever, filariasis, elephantiasis, and certain malarial fevers, all of which depend for their existence upon the presence of certain parasites in the blood or lymph of the individual affected. Malarial fevers are carried by the insects belonging to the genus Anopheles. The plasmodium malariæ is an animal, a protozoon, which lives and develops in a red-blood corpuscle. Its life period may be from two to four days. When ripe, it bursts and scatters spores in the general circulation. Each of these enters a red blood-corpuscle as soon as possible. For the transmission of malaria from one person to another, there is required: A patient suffering from the disease, in whose peripheral circulation are the sexed organisms or gametocytes; the proper species of anopheles at just the right time to draw these organisms into its digestive system; undisturbed development at a temperature not much below 80°, for at least a week. An uninfested individual, who is not immune, and who is bitten by the diseased mosquito. Dormancy is a matter of temperature. Anopheles selects preferably cellars for hibernation. These insects do not feed before they become dormant, and are, therefore, incapable of carrying over the plasmodium in any stage. The organism lies dormant in the blood of malarial patients ready to begin development when conditions favor. Unless there is a chance to get malarial blood, anopheles cannot of themselves produce malarial disease. The writer relates how certain breeding-places were treated twice with chloronaphtholeum and each time the larvæ were killed off. More than half of these breeding-places can be permanently cured at little expense, and most of the balance can be reached by compelling proper drainage, repair of gutters and other channels for carrying water. This field belongs to the local sanitary authorities. Good sanitation demands the removal of mosquito-breeding pools, and the abolishment of the mosquito pest. If all the local authorities throughout the State acted toward the same end, even a single year would show marked results. No mosquito larva lives in any ripple area in any body of water, and very few, indeed, escape their natural enemies in permanent bodies of water not too much choked with vegetation. The writer believes that the day is not far distant when the shore mosquito will be only an exceptional occurrence.

New York Medical Journal, March 7, 1903.

Expression of the Lid Margin as a Therapeutic Measure in Blepharitis and Its Complications.—P. Fridenberg makes it a point to pay special attention to the condition of the marginal glands, and to the detail of retention and septic inoculation in all cases of chronic blepharitis, as well as in those cases of superficial keratitis and corneal infiltrate, in which the presence of an infective lid element could be recognized. He has also made it a part of routine treatment to express, massage, and disinfect the lid margin in all cases of superficial inflammation in which there is the slightest evidence of retention, and to apply the same measures for diagnostic purposes in many instances to determine the necessity for further treatment of this sort. The clinical histories of several illustrative cases are given.

Incomplete Transverse Congenital Occlusion of the Vagina and a Theory as to Its Origin.—S. M. Brickner offers the following conclusions: (1) Transverse sæpta of the vagina are rare, occurring in about one in 5,000 cases, about .002 per cent. (2) They are derived from an inclusion by Müller's ducts of cells from the Wolffian duct or ducts after the formation of the genital cord, and are therefore epiblastic in origin. (3) Their perforation is proof of the normal conduct of Müller's ducts in all other respects. (4) Transverse sæpta of the vagina being normal in adult sheep, whales, dugongs, the manatee, and the chimpanzee, they represent in the human being a reversion, "a return to an ancestral type." Their function is purely speculative, but may have to do with the facilitation of conception; and when they appear in the human female may have a similar purpose in harmony with other minor defects of development. (5) The treatment of this condition is excision of the sæptum with

suturing of the cut edges. In unmarried women no treatment is necessary. If the sæptum is first seen in early pregnancy, it may be excised; if during labor, a crucial incision will be sufficient with subsequent removal of the sæptum. The prognosis for the child is usually bad unless the sæptum is incised early or unless it is not too strong to be burst by the advancing head; for the mother, it may result in serious lacerations or fatal hemorrhage.

The Present Method of Medical School Inspection in New York City.—C. Herrman gives the details of inspection as at present in vogue. The inspector visits the classroom once every week and examines each child. The examination is only partial, but sufficiently thorough to detect the acute exanthemata, and contagious diseases of the eyes and skin. Instruction is also given to the teachers, so that suspicious cases may be set aside for the inspector's special attention. Full details are given of the mode of procedure in case measles, scarlet fever, etc., are found. These children are sent home and visited by an inspector of the Health Department to confirm the diagnosis, and no such child may resume school attendance without the presentation of a certificate that the Department has disinfected the premises. No attempt is made to infringe in any way upon the rights of the family physician, and no prescribing is done. In order to prevent as far as possible the spread of diphtheria, each pupil is provided with an envelope in which his pencils and penholders are placed. When a case of diphtheria occurs in a class-room, cultures are taken, not only from the suspected throats, but also from the children sitting around the patient. Recently, nurses have been appointed to assist in the more crowded schools. They there carry out the treatment of such cases as impetigo contagiosa, ringworm of the face, acute conjunctivitis, etc. They also visit the homes of the pupils excluded on account of parasitic diseases of the skin and scalp, and treat these cases, also giving instructions to the mother, the object being that the child shall lose the least possible amount of time from school.

American Medicine, March 7, 1903.

A Slate Pencil Three and One-Half Inches Long Lodged in a Girl's Cheek for Three Weeks.—Stewart Le Roy McCurdy reports this unusual case. A girl of seven years had a fall downstairs, with a resulting wound in the face. The wound was closed with one stitch. It left a scar three-quarters of an inch external to the right side of the nose, on a line with the inferior margin of the alæ. After repair had taken place, a lump was discovered in the tissues beneath and external to the wound. This hard substance was in front of the malar. It was movable and had no connection with the maxilla. An exploratory incision was made, and a wooden slate pencil was removed. The anatomic relationship of this foreign body is of interest. As it penetrated the skin its point was deflected backward upon the anterior surface of the maxilla into the zygomatic fossa, underneath this arch toward the temporomandibular articulation, passing external to the coronoid process. It did not injure the external maxillary artery, but the point of the pencil must have reached if it did not pass it.

Direct Fixation in Fractures.—George W. Guthrie quotes various authorities on this subject, among whom is Estes, who says that in fractures, exploratory incision for the purpose of adjusting the fragments by sight, often absolutely indicated for proper treatment. The danger is not increased when proper aseptic precautions are observed. The open method, in proper cases, is the only safe method. Various writers use a clamp made on the principle of the "iron dog." A nickeled steel plate is described, which is used to maintain coaptation in compound fractures. In resections of the large joints, one or two nails or pins of steel, or some other metal, are a great help in maintaining apposition and immobility. If they are not silver, they should protrude from the wound, and be removed after a suitable time. There are numerous cases reported which have been successful, in which nailing has been done. Hatch is quoted as advocating the method of treating fractures by converting all compound fractures into simple ones, and, when necessary, making simple fractures first compound and then simple again.

The Treatment of Suppurative Inflammation of the Kidneys.—Frank Warner declares that numerous as are the causes of suppurative inflammation of the kidneys, there is still a considerable sameness in the producing factor of all: First, a plain catarrhal inflammation; second, an infection. (*a*) This infection, from within, conveyed through the blood; (*b*) from without, infection carried into the bladder through the urethra, perhaps by a catheter. The most frequent cause is a renal calculus. Pus in the urine, as a symptom, may mean many different things: An abscess in one or both kidneys, a pyonephrosis, an interstitial nephritis, or a pyelitis. Pyuria more often means that the pus comes from the bladder. As in all cases of pyelitis, the health is greatly impaired, a tonic, reconstructive course of treatment should be remembered, while attempting to render the urinary tract as sterile as possible. The writer is convinced in having examined many specimens of urine in cases of slight alteration of the normal urinary flow, that there are quite a few of these cases which are the result of a very mixed grade of pyelitis, and that many of the patients are promptly cured by timely administration of urinary antiseptics, especially if these are backed by a judicious tonic course of treatment.

Philadelphia Medical Journal, March 7, 1903.

Gangrenous Destruction of the Pituitary Body, with Disintegration of the Blood, Following a Fracture of the Sphenoid Bone and Subsequent Infection.—Eugene Wasdin reports this case. The patient was a man of twenty-four, who in a fall suffered a compound fracture of the lower jaw opening into the buccal cavity, and fracture of the body of the sphenoid through the sella turcica. Infection resulted in localized gangrene in the contents of the sella, and the lobes of the pituitary body, with general intoxication. There is some doubt as to the route of the infection from the fracture of the maxilla, but it must have been along the lymphatics of the inferior dental nerve and through the foramen ovale with the third division of the fifth nerve to the ganglion and into the line of fracture, destroying the pituitary body. Without the infection from the fractured jaw the sphenoidal fracture would probably not have resulted badly, and, although there were pain and vague head symptoms early in the case, it was only at the time of the local reaction at the side of the former that jaundice was noted, the first symptom of blood destruction. This came from adrenal insufficiency due to the primary changes in the pituitary body. The patient died on the twenty-second day after the injury. There was intense hæmatogenous jaundice. The influence of the pituitary body over the secretion of the adrenal glands through the cervicosympathetic system, and the importance of the adrenal secretion in the preservation of the integrity of the blood account for the facts in this case, so that it is not necessary to look for the source of a virulent toxin as the cause.

The Ductless Glands as Organs of the First Importance in Vital Functions, and Their Relationship as Such to Disease and Therapeutics.—Charles E. de M. Sajous embodies in his paper the results of investigations begun in 1889. His conclusions are: When the venous blood reaches the pulmonary alveoli, the marked affinity of the adrenal secretion in the plasma for oxygen causes it to absorb this gas from the alveolar air. The carbonic dioxide in the blood is thus forcibly replaced by oxygen and expelled with corresponding vigor The red corpuscles, after this operation, bathe in an oxygen-laden medium, and their hæmoglobin becomes converted into oxyhæmoglobin. The physiological function of the internal secretion of the adrenals is loosely to combine with the atmospheric oxygen in the lungs and to endow the blood-plasma with its oxidizing properties. The anterior pituitary body governs the functional activity of the adrenals and is directly connected with these organs through the cervicothoracic ganglia, the splanchnic nerves, and the semilunar ganglia of the sympathetic system. All general symptoms witnessed in disorders in which the blood is invaded by a poison of any kind are, in reality, manifestations of overactivity, insufficiency, or inactivity of the adrenals. The thyroid gland, the anterior pituitary body, and the adrenals are functionally interdependent and constitute a system, the "adrenal system," which has for its purpose to sustain physiological oxidation and the metabolic activity of all tissues. As to the function of leucocytes, he concludes that: Neutrophile leucocytes ingest proteids and certain hydrocarbons, sugar and starch, in the digestive canal, and convert these into peptone, myosinogen and fibrinogen granules. Eosinophile leucocytes elaborate hæmoglobin from the proteids, bilirubin, and iron, ingested by their parent-cells, the neutrophiles. They take part in the formation of the epithelium of the pulmonary alveoli and supply the underlying plasma with hæmoglobin. Lecithin is the active constituent of the myelin of nerves. The axis-cylinder contains plasma, the adrenoxin of which, by combining with the lecithin, liberates nervous energy. Basophile leucocytes convert fats derived from intestinal foodstuffs into myelin granules. Neutrophile leucocytes form: Peptones, which combine with adrenoxin to sustain general metabolism, *i. e.* the vital process; Myosinogen, which combines with adrenoxin to supply contractile energy to muscles; Fibrinogen, which combines with adrenoxin to supply heat energy to the blood. Eosinophile leucocytes form: Hæmoglobin, which loosely combines with adrenoxin to insure its storage in erythrocytes. Basophile leucocytes form: Myelin, the

active principle of which, lecithin, combines with adrenoxin to develop nervous energy. As to the splenopancreatic internal secretion: The greater part of the trypsin of the organism is formed in the splenic vein. The splenopancreatic internal secretion is represented by the trypsin which reaches the portal vein by way of the splenic vein, and which continues in the blood-stream the cleavage processes begun in the intestinal canal. The main function of the splenopancreatic secretion, trypsin, is to protect the organism from the effects of bacteria, their toxins, and all toxic albuminoids, including vegetable poisons and venoms. In regard to the pituitary body, the writer found that while the anterior pituitary body insured oxygenation of the blood through the adrenal secretion, the posterior pituitary body adjusted the functional activity of all organs through the nervous system. In regard to disease, the organ primarily at fault in pulmonary tuberculosis is the anterior pituitary body. Vulnerability to any disease, whether inherited or acquired, means insufficiency of this organ, that is to say, of the adrenal system. In the treatment of tuberculosis, adrenal stimulants will often prove inadequate if the alkaline salts are not administered simultaneously, while the use of alkaline salts without adrenal stimulants will prove unavailing, though perhaps beneficial for a time. The writer then considers fever. To administer antipyretics is to defeat Nature's effort to relieve the organism of pathogenic elements. Steadily, as the febrile process advances, the alkaline salts are consumed, and, being indequately renewed, the vital and defensive functions are increasingly hampered until life ceases. The power of the organism to antagonize the constitutional effects of pathogenic germs, their toxins and other poisons, is directly proportionate, all else being equal to the functional efficiency of the adrenal system. When a favorable reaction does not follow the use of saline solution, it is because the adrenal system also requires direct stimulation, such as that afforded by strychnine, digitalis, etc., administered subcutaneously.

Deutsche medicinische Wochenschrift, February 12, 1903.

Priority in the Discovery of the Dysentery Bacillus and the Serumtherapy of Dysentery.—K. Shiga claims this, and says that the work of Kruse, recently published, adds nothing new to the subject except the identity of the bacillus found in Germany to that previously described in Japan. Shiga proves his claims by quotations from Kruse's previous publications and those of v. Drigalski and Lentz. The same remarks apply to the serumtherapy of this disease.

A Stomatitis Epidemic in South Africa During the Recent War.—J. C. J. Bierens de Haan describes an epidemic which broke out among the troops in South Africa, and in many of the inhabitants who came in contact with the same. The outbreak of the disease took place simultaneously with a great shortage in the supply of salt, and the trouble rapidly subsided when this article was supplied in sufficient quantity. The stomatitis was of the ulcerative variety, but was not attended by any constitutional symptoms. As a rule it was readily cured by the employment of mild antiseptics and astringents. Bacteriological examination of the cases was not possible, and hence the primary etiology is unknown. An accessory cause was undoubtedly the deficient supply of salt above noted.

Berliner klinische Wochenschrift, February 16, 1903.

Hardening of Children.—Walter Krebs takes exception to the recently expressed views of Hecker upon this subject. In judging the effect of the water treatment upon children, Hecker furnishes no observations upon the power of the children to resist cold *previous* to the institution of the treatment. All control observations were hence excluded. Furthermore, children which have been submitted to the treatment are undoubtedly more exposed by their parents or care-takers than those who have not been treated. Similar conditions, therefore, not being present, an opinion is not possible concerning the liability for "catching" cold between so-called "hardened" and "non-hardened" children.

Acute Inflammation of the Sigmoid Flexure.—A Bittorf reports two cases as caused by impacted fæces. In both cases the inflammation was probably of the catarrhal type and readily succumbed to the action of cathartics (castor oil). The general symptoms consisted of fever and the concomitant appearances. Locally there was meteorism and a distinct area of circumscribed resistance in the left iliac region. No vomiting was present. The action of the bowels had been regular up to the day of the attack. The amount of indican in the urine was increased. In this class of cases the differential diagnosis lies between sigmoiditis and appendicitis, perinephritic abscess, and, in women, inflammatory diseases of the uterus and its appendages. Sigmoiditis, of itself, may also proceed to abscess formation. The diagnosis of such formation is somewhat difficult, although to total enumeration of the leucocytes, as in appendicitis, may be of aid. The prognosis is usually favorable. Recurrences are, however, somewhat frequent. The treatment consists in the administration of cathartics, except in those cases in which abscesses have formed, when opium should be given and local applications of ice applied.

Münchener medicinische Wochenschrift, February 17, 1903.

A Case of Blower's Paralysis.—Ed. Stadler reports the case of a bass trumpet player, who after excessive work became unable to perform upon his instrument, in that after playing for a few minutes he could not produce the high-pitched tones, and thus played out of tune. For all ordinary purposes there was not paralysis of the lips or facial muscles. The portion of the lower lip covered by mucous membrane was somewhat more susceptible than normal to pressure, and when blowing upon his trumpet saliva constantly dribbled from the corners of the mouth. The general condition of the patient was excellent. Strümpell, Turner, and Oppenheim have previously reported similar cases. They are to be regarded as a variety of artisan's neurosis.

Amaurotic Idiocy.—C. Gessner reports a case in Bamberg. This disease is rare in Germany, but has been observed by several authors in England and America. The patient was one year and a quarter old, and until seven months previous had been apparently perfectly well. At that time there developed a weakness and stiffness of the lower extremities, which gradually increased in severity. The back muscles and those of the neck and head became progressivaly involved, so that before long the child lay upon the bed with a spastic paralysis of nearly all the muscles of the body. Vomiting was not at first present, but developed later. Ophthalmoscopic examination revealed the presence of the characteristic retinal changes of this disease which have been described by other authors. Death took place after about eight months of sickness.

Hysterical Tachypnœnia with Organic Cardiac Lesions.—H. Curschmann, Jr., reports a case which shows that hysterical accelerated breathing may occur in association with organic cardiac lesions without being in any way dependent upon the same. The patient gave a history of repeated attacks of rheumatism, and presented a non-compensating mitral regurgitation of long standing. The attacks of hysterical breathing occurred at frequent intervals, the number of respirations varying from 40 to 100 per minute. During the attacks the cardiac frequency was about 80 per minute. Cardiac stimulants (digitalis, etc.) in no way alleviated the attacks, but they readily succumbed to treatment with valerian and a mild faradic current (suggestion). During the attacks there was present hysterical meteorism, and the facial expression and general behavior of the patient was characteristic of hysteria. The value of an accurate diagnosis in such cases is apparent, for the whole course of treatment is vitally influenced thereby. Another case is reported which was of traumatic origin. No cardiac valvular lesions were present, but the myocardium was degenerated. Here, during the attack, the cardiac frequency was from 108 to 120 per minute. The administration of strophanthus improved the myocarditis and lessened the pulse rate, but in no way reduced the frequency of the respirations. The latter was somewhat improved by suggestion.

French and Italian Journals.

Arsenic, a Normal Element of the Living Cell.—According to recent researches of Armand Gautier, it has been established that small quantities of arsenic are found in man, principally in the thyroid gland. But these researches have been contradicted by several authorities. Gabriel Bertrand, however, in his experiments on animals, has been able to demonstrate in an absolute manner that arsenic is a normal element of the living cell, which is found in all animals and in all organs. Besides the biological interest of this fact, it has great importance from a medicolegal point of view.—*Le Bulletin Médical*, February 4, 1903.

A Case of Pseudobulbar Paralysis Due to a Unilateral Cerebellar Lesion in a Child of Five Years.—Luigi Concetti concludes that his case, which is perhaps the only one that has ever been described in the pathology of childhood, has positively demonstrated the possibility of a bulbar paralytic syndrome, with absolute structural integrity of the bulb. This syndrome can occur from a unilateral lesion of the cortico-ganglional centers. For the production of this pathogenetic condition, the unilateral lesion must be situated profoundly enough to destroy not only the cortico-ganglional-bulbar paths, but also those which originate in the opposite hemisphere, and reach the bulb

after decursating in the corpus callosum.—*Il Policlinico*, January, 1903.

Arterial and Capillary Nævi in Affections of the Liver and Biliary Passages.—Gilbert and Herscher speak of the arterial and capillary angiomata that are encountered in patients suffering from affections of the liver and biliary passages, alcoholic and biliary cirrhoses, biliary lithiasis, and jaundice. The arterial angiomata are found on the face and hands; they have an elevated center of violent color, from which small vessels radiate out. They look like vascular stars. The capillary angiomata are more generally found on the trunk, and are in the form of small red stars, surrounded by a white areola, scarcely visible. The arterial angiomata beat perceptibly, but this is not true of the capillary form. Histologically, the arterial angiomata are composed of a mass of vessels with irregular lumen. The capillary nævi consist of dilated capillaries. The arterial angiomata are the rarer form.—*La Presse Médicale*, February 7, 1903.

Phosphorus in the Treatment of Rachitis.—Luigi Concetti gives directions for preparing the solution of phosphorus to be used to avoid possible poisoning. Properly dissolved and administered, he considers it the surest and most rapidly successful treatment for rachitis. In from one to two months the symptoms proper to rachitis itself, such as pain and impaired mobility, are overcome, and symptoms referable to the nervous system, such as laryngeal and respiratory spasm, hyperæsthesia, irritability, night terrors, tetany, etc., disappear, or are greatly reduced in a few days. It is probable that the phosphorus acts upon the toxic products which on the one hand attack the bony system and on the other the nervous system. The author cites a number of cases in support of his opinion as to the value of phosphorus, and believes that cases of failure are exceptional.—*Rivista di Clinica Pediatrica*, January, 1903.

The Nature of the Phenomena of Rotation around a Longitudinal Axis in Animals with Unilateral Lesions of the Cerebellum.—Sergio Sergi concludes, from his experimentation: (1) That the phenomena of rotation around a longitudinal axis in animals with a unilateral mutilation of the cerebellum is of the same nature as the movements in a riding school, and the rotary motion of the hand of a clock. (2) All these movements are produced by an absence of motor and sensory equilibrium between the two halves of the body. (3) In the rotary movements of animals from whom half of the cerebellum has been removed, the motor equilibrium, which is the mechanical condition of the phenomena, is represented either by hypertonicity and hypervitality of one side over the other, or by the atony and asthenia of one side; the sensory lack of equilibrium is shown by visual and labyrinthine vertigo. —*Il Policlinico*, January, 1903.

The Functional Power of the Liver in Children as Determined by Experimentation with Levulose.—Domenico Crisafi, from his experiments on healthy children, concludes that there is no relation between the amount of levulose utilized by the economy and the weight of the body. From his experiments on children suffering from various diseases he concludes: (*a*) That the amount of levulose to be administered should be from 25—40 gm. in children under five years of age, and from 40—60 gm from five to twelve years. (*b*) In acute infective diseases the liver usually retains its functional powers. (*c*) Nephritis and slow tuberculous processes appear to occasion the most disturbance to the hepatic function. (*d*) The phenylhydrazin test is the most delicate of all for the discovery of even slight traces of levulose in the urine. (*e*) Levulose constitutes the best test of the functional powers of the liver.—*Rivista di Clinica Pediatrica*, February, 1903.

Fibromata of the Broad Ligament.—Henri Strohēker states that these tumors may have an abdominal evolution, abdomino-pelvic or purely pelvic. As to their origin, these are recognized: Interstitial fibromata of the broad ligament, called primitive fibromata, without uterine connection; pediculated fibromata (polyps of the broad ligament); sessile uterine fibromata, which rise from the lateral border and penetrate the ligament; pediculated uterine fibromata, springing from one of the segments of the uterus; fibromata which, springing from the adnexa, or round ligament, grow into the interior of the ligament The functional symptoms, and especially the complications, present a considerable interest. The diagnosis is often very difficult to make. The course and duration are extremely variable. The prognosis is not absolutely good. Every tumor which gives rise to phenomena of compression ought to be operated upon. The method of choice is the abdominal route.—*Annales de Gynécologie et d'Obstétrique*, January, 1903.

Generalized Cancer of the Stomach.—Roque and Bancel report this case. The patient was a young woman who had succumbed to cancer of the stomach. The affection was of very rapid evolution (four or five weeks). At autopsy an enormous tumor was found, which had invaded the lumbo-abdominal, mesenteric, and mediastinal ganglia, as well as the pancreas, spleen, suprarenal capsules, and the aorta and vena cava, which were compressed and contracted. The diagnosis could not be made. The existence of a pulsatile tumor and the perception on auscultation of a double souffle suggested, for some time, an aneurysm; these symptoms were due to compression of the aorta. Later, the possibility of tuberculous peritonitis was thought of on account of multiple adenopathies and fever. The appetite was unimpaired to the last; intolerable pain necessitated the use of morphine, there was absence of cachexia and abundant ascites. Vomiting was frequent in the last stages. Death occurred suddenly after this rapid evolution of the new growth.—*Lyon Médical*, February 8, 1903.

The Pathogenesis of Gastric Tetanus.—Luigi D'Amato reports the case of a man who suffered from gastrosuccorrhœa which had lasted five years and which was not amenable to treatment. He was suddenly taken with tonic contractions of the upper limbs, trismus, and other symptoms of tetanus, and died in coma. In order to ascertain whether the theory of gastric autointoxication in this disease was correct, the author instituted a series of experiments on animals. The conclusions which he reaches are the following: That in the case reported the cause was undoubtedly autointoxication, because in animals poisoned by gastric contents, the same symptoms were produced as in the patient—myosis, respiratory disturbances, contractions, anuria, and trismus. Moreover, the various organs of the patient, as the nervous centers, the liver and the pancreas showed the same lesions as those which we are accustomed to find in various intoxications. The author is not willing to generalize on the matter since other investigators have obtained results differing from his.—*La Riforma Medica*, February 4, 1903.

A Rare Case of Intestinal Occlusion.—T. Calabi and L. Gaiardoni report the case of a man sixty years old, who had previously suffered from varicose ulcers of the legs, and from an inguinal hernia which had not been operated upon. For about a year he had been subject to periods of violent pelvic pain, which made their first appearance after a severe contusion of the upper pelvic region. These pains would disappear after rest in bed, and the administration of a purgative oil. Finally the attack failed to yield to this treatment, and was accompanied by severe vomiting. The patient's general condition was so grave that no operation was possible, and death ensued. At autopsy it was found that a portion of the intestine had entered the bladder through a perforation about 8 cm. in circumference, the edges of which were swollen, smooth, grayish white and indurated like cicatricial tissue. It is supposed that at the time of the contusion the intestines were driven in through the thinned walls of a greatly distended bladder. It is probable that the mucosa of the bladder was not ruptured, but that a species of hernia was found, which at a later period ruptured and caused the fatal issue.—*Il Policlinico*, January, 1903.

Melanotic Tumor of the Skin; Ganglionic Invasion of Slow Progress.—Roche describes a patient of forty-eight years who had noticed about five years before the development of a small blackish tumor, in the left plantar region. This growth was about the size of a cherry and painless. It increased in size slowly. The patient made a little hole in his shoe, in which the tumor could lodge. At the end of a year and a half the size had increased to that of a two-franc piece. The tumor was then removed by the thermocautery. The wound healed normally, but in fifteen days there developed in the left groin a group of ganglia as large as nuts, painless, but causing, in walking, a sensation of tension in the inguinal region. The ganglia were removed. They were blackish. For two years the patient was in good health. Then he began to feel, when he walked, a painful feeling of heaviness in the left iliac fossa. A tumor was found here, hard, bosselated, and adherent to the pelvic walls. By rectal examination it was found to reach deeply into the small pelvis. On operation the tumor was found so intimately connected with the large vessels that, after some of the ganglia were removed, the wound was closed and drained. These ganglia are blackish on section. Although the clinical history pointed to melanotic sarcoma of the skin, the histological examination, without contradicting it, does not corroborate the clinical diagnosis. The exact nature of the tumor has not yet been determined. The slowness of ganglionic invasion is an interesting and unusual feature.—*Journal de Médecine de Bordeaux*, February 8, 1903

Annals of Surgery, February, 1903.

Cases Illustrating Some Important Points in the Diagnosis and Treatment of Abdominal Contusions Associated with Visceral Injuries.—G. E. Brewer reports nine cases, three of which recovered. The cases variously presented ruptures of the liver, spleen, kidney, intestines, internal iliac vein, innominate, bone, ureter, and bladder. This class of injuries calls for prompt operative measures. In every case, one of the arm veins should be exposed so as to allow of immediate saline infusion. Brewer believes that the treatment of extensive fractures of the spleen by pressure and packing is preferable to splenotomy, it being equally as effective in arresting hemorrhage. It is accompanied by less shock, saves time, and preserves an important organ. The same general principles apply to the liver. From a study of twenty cases of visceral injury following abdominal contusion, and verified by operation or autopsy, the author finds that the most important symptoms present in the earliest stage are pain, tenderness, and muscular rigidity. The association of these three is almost pathognonomic of peritoneal irritation. In the absence of spontaneous pain, localized tenderness with rigidity is strongly suggestive of visceral injury. Of the three, muscular rigidity is the most reliable and sometimes the only sign present. In such instances it may be looked on as nature's effort to protect an injured organ from further irritation.

Other signs are vomiting (more common in injuries affecting the stomach and upper bowel), free fluid and free gas in the abdominal cavity. Concerning the diagnostic value of localized signs and symptoms, the author offers the following: If, following an abdominal contusion with or without evidences of superficial injury, there are localized pain and rigidity over the epigastrium with the presence of free gas in the peritoneal cavity, a rupture of the stomach may be suspected. If, under the same circumstances, their is pain and tenderness limited to the right hypochondriac region and rigidity of the upper half of the right rectus muscle, with free fluid in the peritoneal cavity, and with a progressive weakness, pallor, cold perspiration, restlessness, air hunger, thirst, and a rapid, weak pulse, rupture of the liver with severe hemorrhage is to be inferred. The same symptoms and signs limited to the left hypochondrium suggest a rupture of the spleen. Pain and rigidity about the umbilicus or in the lower part of the abdomen without other symptoms suggest rupture of the intestine. The diagnosis is rendered more probable, if, in addition, free gas can be demonstrated in the peritoneal cavity. Pain in the hypogastrium, with vesical tenesmus and the passage of a small amount of bloody urine or an empty bladder, indicate rupture of that organ, while pain in one flank, with hæmaturia and the formation of a retroperitoneal exudate, suggests contusion or rupture of the kidney.

An Operation for the Radical Cure of Aneurysm Based upon Arteriorrhaphy.—R. Matas submits the following propositions: (1) That the recognized advantages for the radical operation for the cure of aneurysms of the peripheral arteries, as demonstrated by the statistics of the last decade, can be greatly increased, and the sphere of application of this operation can be broadened by the adoption of the method of suture and obliteration of the sac instead of the classical ligation of the arteries, with or without extirpation, as hitherto practised. (2) That the closure of the arterial orifices which supply the aneurysmal sac, whether these be single or multiple, by means of suture, and within the aneurysmal sac itself, greatly simplifies the technique of the radical operation, and is a reliable means of securing hæmostasis. (3) That in favorable cases—and the saccular aneurysms with a single orifice communicating with the lumen of the larger arterial trunks are the most favorable—it is possible, by careful suture, to obliterate the aneurysmal opening without obstructing the lumen of the parent artery, thus protecting the limb from the risk of gangrene. (4) It is also possible in favorable cases of fusiform aneurysms of traumatic origin, and in all those in which the sac material is healthy and pliable, to restore the lost continuity of the artery by building a new channel which will connect the two main orifices of communication and restore the interrupted circulation in the parent vessel. This result can be obtained by utilizing the sac in the manner previously described by the author. (5) That the fear that atheroma and other degenerative changes will interfere with the healing and repair of the arterial tunics has been greatly exaggerated is shown by the abundant experience of the aseptic period in the ligature of sclerotic arteries in continuity, in the absence of secondary hemorrhage in the amputated stumps of the aged, diabetic, and other arterially diseased subjects, and is still demonstrated more fully by the observations and statistics of the partisans of the radical operation by extirpation who have reported numerous successful results in spontaneous as well as in traumatic aneurysms. (6) The fallacy and dangers of the old operation of Antyllus lie (*a*) in the fact that the preliminary ligation of the main artery above and below the sac will not always control the bleeding from the collaterals which often open into the aneurysm or into the main trunks between the orifices in the sac and at the seat of ligature. This compels a more or less extensive dissection of the sac out of its bed as one of the necessary features of the procedure, in order to secure all the collateral vessels that empty into the sac, unless the uncertain process of plugging the openings and packing the sac itself is resorted to. If the sac is dissected, as is usually done to secure the collaterals, the difficulties of the operation are increased, and the vitality of the limb is endangered by interfering with the collateral circulation which, in many types of aneurysm, is most freely developed in the neighborhood of the sac. (*b*) Another serious objection to the old Antyllus operation is that the sac remains an open cavity in the bottom, being packed or drained and allowed to heal by granulation with the danger of infection suppuration and secondary hemorrhage. (7) The uncertainties and dangers of sac extirpation are even more apparent on account of the greater risk of injury to the accompanying satellite veins and nerves, which blend with the sac so that only a partial extirpation is at times possible. Moreover, there is the danger of interference with the collateral circulation with the risk of mortification in the distal parts. All of these risks are avoidable, or at least reduced to a safe minimum, by the author's method.

Archives of Pediatrics, February, 1903.

Pilocarpin in the Treatment of Scarlet Fever.—E. W. Saunders holds that this drug should not be used where there is coma or threatened coma, cardiac weakness, or any embarrassment of the respiratory function. The peculiarly beneficial effects of pilocarpin in scarlet fever are due to its effects upon the salivary and muciparous glands, coupled with the absence, generally speaking, of all tendency to myocardial or neural degeneration, and of pulmonary complications. The beneficent effects of the drug are moderate reduction of the temperature (when not hyperpyrexial), relief of suffering due to the parched and fissured mouth and lips, rapid improvement in the state of the oral and faucial mucous membranes, and prevention of glandular infection. If the nasal membrane be infected, there is no good result to be expected so far as this condition and the subsequent aural complication are concerned.

Two Instructive Cases of Cerebral Pneumonia and Their Treatment.—Louis Fischer reports two cases in which the most noteworthy symptoms were the following: Unilateral spasms, twitchings of the muscles of the shoulder and arm, and of the leg and foot, constantly present; twitchings of the muscles of the eye and a constant rolling of the eyeball; the head was thrown backward; the patellar reflex was absent, and the plantar reflex was slight on the affected side; distinct evidences of pneumonia, bronchial breathing, and marked dulness on percussion; convulsions and marked stupor later in the disease. When the crisis appeared in the pneumonia, the cerebral symptoms subsided. Marked nervous depression and extreme hyperæsthesia of the body, which continued for weeks after all inflammatory symptoms had subsided. Cold packs were given, and creosote carbonate administered in one case. The vital point in the treatment consisted in giving a supporting diet, consisting of eggs beaten up with sugar and Tokay wine, concentrated soups, and milk predigested with peptonizing powder.

The Prognosis of Tuberculous Peritonitis in Children.—G. A. Sutherland concludes from his studies that in uncomplicated tuberculous peritonitis the prognosis is good. When tuberculous pleurisy is present, the prognosis is still favorable. The prognosis is rendered less favorable in the case of (*a*) a strong family history of tuberculosis, (*b*) an infancy passed under bad hygienic and dietetic conditions, (*c*) a constitution of feeble resistant power, (*d*) a history of severe infective illness in early life. The prognosis is rendered less favorable in the presence of one or more of the following symptoms: continuous pyrexia, rapid wasting, persistent diarrhœa, rapid pulse, or recurrent acute exacerbations. Also in the presence of one or more of the following complications: tuberculous ulceration of the bowel, extensive caseation of the mesenteric lymph nodes, or of tuberculous masses, localized suppuration from infection through lymph nodes, or the intestine; obstructive symptoms from bands or matting of the intestine. The prognosis is bad in case of rupture of a suppurating lymph node, or the perforation of an intestinal ulcer into the peritoneal cavity; pulmonary tuberculosis, tuberculous meningitis, and general miliary tuberculosis. In tuberculous peritonitis the prognosis is not appreciably affected by simple laparotomy.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held March 5, 1903.

ANDREW H. SMITH, M.D., PRESIDENT.

Intracellular Catalytic Processes in the Pathogenesis of Cancer.—Dr. JOHN C. HEMMETER of Baltimore presented a paper with this title. He said it was now accepted as one of the truths of both physiology and pathology that the cells of the mammalian organism could change their form and structure under certain conditions. Physiologically they might do so according to age and various extrinsic and intrinsic influences. It was often impossible to draw a sharp line of demarcation between changes of this kind, which were normal, and those which were abnormal. Cancer pathogenesis was, in part at least, the problem of the growth of cells under different conditions, and hence one had a right to expect that the solution of the problem might be aided by the adaptation of recent discoveries in physical chemistry on cell growth. Molecule for molecule the cell contained within it everything that the entire organism contained. The two principal theories concerning the pathogenesis of cancer were the histogenetic and the parasitic. Recent contributions from the Harvard Cancer Commission tended to invalidate the parasitic theory. The histogenetic theory did not permit of experimental proof of its correctness. Thiersch had sought to find the cause of cancer in a reduced resistance of the connective tissue. Another theory assumed that there was a normal resistance to growth, and that when this was removed carcinoma was the consequence. All of these theories had in common the view that malignant neoplasms were due to some indefinite power of growth within the cells. The speaker said that while we were not quite ready to deny the bacterial theory he did not see that we could indorse it. The growth in a parasitic disease was never disseminated by the cell, but by the parasite, whereas in malignant tumors the dissemination of the disease was by the spreading of the cell. In no infectious disease was it found that cells from the primary inflammation were driven about. According to the parasitic theory, the parasite must live in the cell; and as the cell must multiply indefinitely the parasite could not seriously injure the cell. It was necessary to assume that every cell contained a parasite, and that each parasite multiplied just as rapidly as the cell; in other words, this condition necessitated that the cycle of development of the parasite must coincide with the rate of multiplication of the proliferating cells. It was safe to say that the implantation of malignant neoplasms had been successful only in animals of the same species. Personally, he was of the opinion that such implantation should be not only into an animal of the same species but even into the same organ from which it originally came. Typical congenital neoplasms had been reported in children whose parents were not affected with malignant neoplasms, and it was difficult to understand how such a malignant growth could develop during intrauterine life, if the parasitic theory were correct, without the parent participating in this growth.

Experimental Production of Cancer.—The speaker said that he had taken up the study of the experimental production of cancer about three years ago, having been led to do this by receiving a carcinoma from the stomach of a dog. It was remarkable how much surgical damage could be done to the stomach of the dog and how completely it would be repaired. Silbermann had found that by denuding the gastric mucosa in the neighborhood of the pylorus and depriving the animal of hæmoglobin by the injection of pyrogallic acid a permanent lesion could be obtained. This observation he had confirmed, as well as that of certain observers to the effect that such an ulcer sometimes became carcinomatous without any effort at inoculation. Continuing his experiments he had found that four out of ten dogs so treated were subsequently inoculated successfully with carcinoma, and that, in another series, five out of ten dogs developed carcinoma around the edges of the gastric ulcer by the injection of a cell-free extract of carcinoma. All digestive ferments were just as much catalyzers in their action as was colloid platinum—that is, they accelerated or retarded chemical action without entering into the resulting chemical product. The percentage of salt in normal salt solution was theoretically that of the blood plasma, and one would expect that a cancer cell would act like a normal blood cell in the blood plasma or in normal salt solution; however, it had been found that the cancer cell became swollen when so treated. This had led to certain studies in osmotic pressure. These changes in the cancer cell in normal salt solution were very suggestive, because they indicated an inherent tendency to growth. The immediate causes of cell subdivision were as yet unknown. According to Virchow, it was formerly held that not only the form of the cells but their growth could be affected by external stimuli. Weigert held that tissue growth might result from the removal of the normal inhibition of tissue growth. All of the chemical processes in a cell were conceived to be due to catalytic agents. The growth of a cell necessitated the synthesis of albumin. All of the intracellular and constructive and destructive processes probably went on by virtue of enzymes. Modern bacteriologists had imagined the structure of the cells to be like soap-foam, though infinitely more finely subdivided. If normally a cell were made up of myriads of small cells each containing its separate enzymes, then it was easy to understand that very slight damage, causing a breaking down of the partitions and a mingling of enzymes which should be kept separate, might cause anarchy in a previously orderly household. This was the chemist's conception of the origin of a malignant neoplasm. Enzymes were affected by heat, a fact which was of interest in connection with his experiments in the production of cancer, for he had found that after heating the solutions to be inoculated up to 60° C. he could no longer succeed in artificially producing cancer. Somewhere between the cavity of the stomach and the intestines the peptones and albumoses must be reconstructed again into albumin in order to be available for the uses of the system, and it was probable that this was affected by the same enzymes which broke them down. It should be remembered that the end products of digestion were peptones and albumoses, and that these substances were not found in the blood; indeed, peptone was a poison, and if injected into the jugular vein of an animal would cause the death of that animal. This reversibility of the enzymes just referred to, although not fully demonstrated, was probably a fact, and it probably afforded a self-governing factor in cell growth. In Virchow's great work on cellular pathology three nodes of extension of cancer were recognized, viz., (1) immediate extension; (2) dissemination by metastasis; and (3) a transference by means of liquids which possessed the power of creating an infection, thus causing the individual parts to form a reproduction of the same mass which was originally present. The speaker thought it possible that in this third mode of extension Virchow saw the possibility of the dissemination by means of catalysis or the action of enzymes. It was possible that the serum contained a substance capable of destroying cancer cells unless the latter were present in inordinate quantities. If this were true, it was most important to discover a means of augmenting this natural defense. At this point the speaker digressed to say that while the results of his experiments had presented the histological appearance of cancer, he did not wish to be quoted at the present time as claiming that he had actually produced cancer experimentally. He had certainly produced a histological condition closely resembling carcinoma of the stomach, but it was possible that if the animal had been kept alive longer this abnormal proliferation would have

disappeared, or, at least, would not have continued to grow.

Primary Cancer of the Appendix.—Dr. A. V. Moschcowitz read this paper. He said that reports in the literature of primary carcinoma of the appendix vermiformis practically dated back only to 1896. There were yet only about twenty such cases on record. The clinical picture was still very meagre, though he had had the opportunity of operating upon three cases of undoubted primary carcinoma of the appendix in the past eighteen months. The majority of the reported cases were of recent date, practically within the last six years. That the gross appearance of the appendix alone was not sufficient for the recognition of the condition was shown by the report of three cases in which the existence of cancer of the appendix was not even suspected until after microscopical examination. He believed this pathological condition was far more frequent than appeared from the statistics hitherto published. Only sixteen of the published cases were available for the study of the clinical picture. In eleven cases the patient was under the age of thirty, showing that carcinoma of the appendix developed at a relatively early age. This really meant that carcinoma of the appendix was most common at that age when acute inflammation of the appendix was most frequent. There was apparently no relation between the length of the appendix and the occurrence of carcinoma. In the reported cases the tumor had varied from a microscopical size to that of a marble. The variety of carcinoma could not be ascertained from the reported cases, although the prevailing type appeared to be adenocarcinoma. In his own three cases, two were medullary carcinoma and one adenocarcinoma. In all of the reported cases the tumor was situated in the mucosa, and from this point infiltrated the other tissues of the appendix.

The weight of evidence seemed to be in favor of the view that the inflammation of the appendix was primary, and the carcinoma secondary thereto. It should be noted that the carcinoma began in the mucosa, that tissue in which the inflammation was most marked. Primary carcinoma of the appendix was more frequent in the female than in the male in the proportion of four to one. In one reported case of carcinoma of the appendix after death metastases were found. In one of his own cases the carcinoma was removed nineteen months ago, and at an operation on the same individual, done only a few weeks ago, there was no recurrence of the disease.

Dr. Robert F. Weir said that he had first encountered primary carcinoma of the appendix in the year 1894. The appendix had been removed in the quiescent stage, without any suspicion of malignant disease being present, but to his surprise the pathologist reported that there was a carcinoma at the tip of the appendix. He had been able to keep this patient under observation for three years, and during that time there had been no evidence of recurrence. While Dr. Hemmeter's masterful paper had presented this complex subject of the pathogenesis of cancer in a remarkably lucid manner, he could not help feeling disappointed because theories rather than facts had been laid before us. The Harvard school had presented the subject in a way which seemed to settle the question, and the Buffalo school had done the same thing, but in a very different way. Practical men were still waiting eagerly for the facts that must eventually come from so much earnest scientific research.

Dr. James Ewing said that he had been extremely pleased at the cold, philosophical statements made in Dr. Hemmeter's paper. The most important feature of that communication was that dealing with the transplantation, or perhaps the actual development, of carcinoma by experimental means. This brought up the question of what constituted a cancer. Dr. Hemmeter had carefully guarded his position in this respect by saying that he had succeeded in producing what was recognized by histologists as adenocarcinoma of the stomach of a dog. He would say that if Dr. Hemmeter wished to prove this fact to a third party the only satisfactory way was to demonstrate the specimens themselves. He made this statement with all due deference to the author's opinion, and with full appreciation of the sincerity of the claim. The photograph presented to him a condition which showed chiefly an adenomatous character, and before concluding that this was a carcinoma he would like to know how often such a condition might be found in dogs in which an artificial gastric ulcer had been produced in this way. The photograph was suggestive, but it was far from conclusive proof to his mind of the presence of carcinoma. He would feel better satisfied if the tumor were more of the type of a pure carcinoma than one of the adenomatous type. With regard to the method of experimentation, he would criticise the manner in which the fluid had been prepared for injection. There was no reason for the assumption that the filtered fluid was bacteria-free, because it was known that a few microorganisms would pass through even the finest porcelain filter. We had been told that when the cancer cells were placed in normal salt solution they swelled up, indicating an increased capacity for multiplication. This was certainly an interesting observation, but with regard to its significance it might be impossible to draw any conclusions. He would like to know whether other cells had been tested in this way, for other cells of the body varied considerably in certain anatomical and pathological states. It was quite probable that the bulk of the products produced by cells were referable to the action of ferments, and the group of processes included in the term, cell catabolism, was dependent upon the action of these ferments. Recently there had been added to the chemistry and physiology of the cell certain processes which were not due to catalysis, but were related to the subject of immunity. Many observers were of the opinion that these theories of immunity would bring out certain new processes in the cells which would have an important bearing on the pathogenesis of cancer. For a long time he had been interested in this subject of the catabolism of tumor cells. According to this theory, the cells in tumors had lost the power of work and had assumed an excessive capacity for growth. This meant that they had lost the presence of, or the activities of, these catalyzers or ferments. On account of the synthetic building up of new molecules in the cells there were excessive efforts at multiplication. If it were a fact that tumor cells had lost largely their power of work and were devoting themselves to cell growth, then there should be very concrete evidence of this. Some tumors had apparently lost most of their function, as for example, cancer of the breast in the advanced stages, when there was little tendency to the production of milk. It was not true, in his opinion, that the cells had necessarily lost any considerable portion of their capacity for work. In other tumors the ordinary functions of the cells were not lost, but were even made use of in the body. For example, there were malignant tumors of the liver in which the manufacture of the bile still continued. Perhaps the most striking example occurring to him at this moment was to be seen in melanotic epitheliomata. These tumors were probably derived from the epithelial cells of nævi, which, in their earlier states, were highly pigmented. The metastases from these tumors showed groups of cells which were even more highly pigmented than the original cells, and the more malignant this growth became the more highly was it pigmented. His own conception of the tumor problem involved largely the idea of tissue tension. This included the mechanical pressure of one cell upon the other, the effect upon function and the distribution of nutriment upon the cells. When the tissue tension was lost the tumor process developed. The essential nature of this process still remained in obscurity. He would admit that the extemporaneous discussion of such a difficult subject was not very profitable, and perhaps he would change his opinion in some respects after he had

devoted several hours to the quiet study of Dr. Hemmeter's paper.

Dr. HEMMETER said that the main object of his paper was to elicit discussion. There could not help being a diversity of opinion upon problems so intricate. Dr. Loeb of Chicago had recently successfully transplanted in rats typical sarcomata of the thyroid, and had continued this for upward of forty generations. The most reliable work on the development of cancer on gastric ulcer had been done by Hauser of Erlangen. Dr. Hemmeter said he had had the good fortune of seeing the specimens of this pathologist, who claimed that he could always tell whether a carcinoma of the stomach had developed upon the basis of a pre-existing gastric ulcer. Formerly he had always looked upon a penetration of the muscularis mucosa as malignant, but the characteristic described by Hauser was that the muscularis mucosa and the muscular layers from the peritoneum fused, as it were, in front of the carcinomatous mass. Again, there was a characteristic shape; in a vertical section it always presented the shape of a fish-hook The reason was that it was always the lower edge of the ulcer that turned carcinomatous, because this lower edge caught the food and the infectious material, and was subjected to the greatest irritation. He had investigated the behavior of other cells than cancer cells in normal salt solution. This part of the subject had presented many practical difficulties, yet he had not found that the other cells acted in the same manner as the cancer cells. In this connection he desired to say that not all the cancer cells behaved in this way, but that the majority of them did. He had also studied normal cells of the same tissue in expressed cancer juice, and had found that the majority of these cells would contract. He had expected, and, indeed, desired criticism, because this would lead to the attainment of truth.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, Held February 26, 1903.

L. J. LADINSKI, M.D., CHAIRMAN.

Demonstration of the Automatic Cœliotomy Retractor.—Dr. ARNOLD STURMDORF presented this instrument and said that, in cases of prolonged retraction, the structural shortcomings of retractors in use at the present time became manifest, as was evidenced by the enormous variety of abdominal retractors in vogue. An abdominal incision in a state of retraction presented an opening more or less elliptical in shape and the points of greatest distensibility in this elastic ellipse were in the center of its lateral borders or through its widest diameter. Therefore, to obtain a maximum of opening with a minimum of force the blades of the retractor should be so shaped as to exert the greatest traction on these points of greatest distensibility. With this factor in view, the disadvantage of the usual flat-bladed retractor became evident. Another essential feature of an abdominal retractor was that it should not slip. The retracting surface having been modelled to conform to the outline of the distended incision, two semi-elliptical retraction blades result, which, when placed *in situ*, formed a metallic ellipse, which applied itself snugly to the wound ellipse, thus preventing the possibility of slipping within the wound. The possibility of slipping out of the wound was obviated by a prolongation of the retracting blade, the free end of which was bent outward upon itself, thus enclosing and protecting the whole thickness of the incised abdominal wall. Another requisite was that the retractor should not bruise or lacerate the abdominal incision. He referred to instances of devitalized wound edges, the result of prolonged retraction with improperly shaped retractors. He recalled the prongs, teeth, fenestrations, and other devices with which many retractors were armed. The speculum which he presented was one in which the blades were modified from Fritch and the self-retaining mechanism from Kelly. It did not encumber the operative field or its surroundings. It maintained its position for any length of time automatically. It enabled the operator to alter the lines of traction in any diameter at will without disturbing the operative field. The retaining mechanism was simple and free from unsterilizable crevices and points.

Vaginal Hysterectomy of Gravid Uterus with Carcinoma of Cervix.—Dr. PHILANDER A. HARRIS of Patterson presented this specimen, which he had removed from a woman, thirty-six years old. She had had two or three children. She presented herself to him about one year ago, and stated that she had been bleeding continuously for six weeks and had had spottings of blood prior to that. From the gross appearance he decided that she had cancer of the cervix. The uterus was spherical in form and larger than it should have been and was not lobulated. From other symptoms he judged her to be pregnant. A vaginal operation was performed. Until a few days ago he could have shown the fœtus in the unbroken membranes; the membranes were quite friable and were ruptured in attempts at photographing. He could only recall one other instance of cancer of the cervix with pregnancy existing, although he believed he had had other cases.

Recurrent Tubal Pregnancy.—Dr. PHILANDER A. HARRIS presented this specimen. The patient gave all the evidences of an ectopic gestation, but sections through the mass gave no evidences of chorionic villi, which made the diagnosis doubtful.

The Treatment by Anterior Vaginal Section of Retrodisplacement of the Uterus, Complicated by Adhesions.—Dr. J. RIDDLE GOFFE read this paper and said that operations for the relief of posterior displacements of the uterus were multiform. Theoretically, any operation that possessed any merit must be based upon some mechanical principle that is applicable to the condition under discussion and that follows nature's plan in accomplishing the same end. This necessitated a brief review of the dynamics of the female pelvis and the normal position of the uterus. He said that it was pretty well agreed that the uterus rested upon its anterior face in a condition of unstable equilibrium. The great principle that nature had invoked in retaining the organs of the human body in position was that of suspension by ligaments. Taken weight for weight, there was no organ in the human body that had so many ligaments as the uterus, and it was logical to infer, therefore, that when the uterus had gotten out of its normal position something was wrong with the ligaments, and it was equally as logical to assume that if one wished to restore the uterus to its normal position and maintain it there, the ligaments afforded the proper tissue to utilize for such a purpose. The ligament which served the most important function in supporting the uterus was the sling of tissue, known as the uterosacral ligaments, reaching from the sacrum to the posterior wall of the cervix, plus the uterovesical ligaments, reaching from the anterior wall of the uterus to the symphysis pubis. So long as the uterosacral ligaments retain their proper tone and length, retroversion of the uterus was impossible. It was to some malign influence affecting the uterosacral ligaments that we must look for the cause of retrodisplacement of the uterus, and consequently to the repair or recovery of function in the uterosacral ligaments that we must look for restoration to normal conditions. He believed that undoubtedly the restoration in the uterosacral ligaments might be secured by a direct operation on the ligaments themselves, and while this operation was the most difficult of all to perform, it was a practical procedure, the technique of which could be secured by skill and practice and could be accomplished either through the abdominal or vaginal incision. The next most valuable tissue to utilize for the purpose in hand was the round ligament, which was strong enough to hold the uterus in an antiverted position. When shortened they allow of the normal mobility of the fundus, and at the same time remove the strain from the uterosacral

ligaments to such a degree as to enable the latter to recover their tone. The ultimate result, therefore, was ideal. The objection to the Alexander operation he considered to be its narrow field of application. He said that Wylie and Mann had found the ligaments satisfactory for the work when shortening by the abdominal incision. Olshausen utilized the round ligaments by stitching them into the edges of the abdominal wound. Dührssen, Wertheim, and Vineberg found the round ligaments efficient when stitched to the edges of an anterior vaginal incision. Byford and himself and many others found equally good results by operating through the vagina and doubling the ligaments upon themselves in accordance with the Wylie-Mann suggestion. Then followed a description of the technique of the operation.

During the past six years he had subjected about two hundred cases to this operation. In many of the cases in which retroversion existed there were complications of endometritis, lacerations of cervix and perineum, as well as complicated diseases of the appendages, and it was therefore logical for him to first curette the uterus, repair the lacerations of the cervix, open into the pelvis through the anterior vaginal fornix, break up adhesions, deliver the uterus and its appendages into the vagina, where, within easy reach and in plain sight, such conservative work as was thought necessary was done upon the appendages, shorten the round ligaments, close the vaginal incision, and finally repair the perineum.

Results of Operation.—In his first series of thirty cases there were three or four cases that did not give entirely satisfactory results, but since then his results had been uniformly perfect, not only in relieving the symptoms but in maintaining the uterus in a normal position. It was not enough for the uterus to be held in place; allowance should be made for the function of gestation and parturition. Vaginal fixation and abdominal fixation thwarted the function of the uterus during either of these physiological processes, but not when the round ligaments were utilized for relieving displacements.

How May We Best Reach and Deal with Adhesions that Hold the Uterus in Abnormal Position?—He found no insurmountable obstacle in dealing with adhesions through the anterior vaginal incision, although he did not hesitate to supplement it with a slight posterior incision when the adhesions at the bottom of Douglas' pouch were firm and unyielding. As contrasted with the abdominal route of attack in dealing with extensive adhesions, the vaginal method, which included both the anterior and posterior incision, had the advantage of bringing one at once at the bottom of the cul-de-sac, where it was most advantageous to begin the separation of adhesions. He said that all operators in dealing with adhesions, even in cases of extensive double pyosalpinx, had found that the line of cleavage between diseased structures and the surrounding organs was best followed from below up, and the first effort of the operator was to secure a passage for his fingers at the bottom of Douglas' pouch along the structure that was least likely to be injured. This, as a rule, proved to be the posterior face of the uterus. In all cases in which the uterus and appendages lay within the true pelvis, he said there was no difficulty in reaching and dealing with them safely and efficiently through the vaginal incision. Guided by the sense of touch and sight, he had found no instances in which the adhesions were beyond practicable reach, except in extensive disease of the appendages involving pus. In all cases of retrodisplacement of the uterus, with adhesions, the vaginal incision afforded a safe and efficient means of relief in dealing with the adhesions and, at the same time, offered the simplest and most ideal method of restoring and maintaining the uterus in its normal position. This conclusion was based upon an experience of about two hundred cases, in which it had been found that the operation was absolutely free from danger to life, was devoid of painful convalescence, and left the patient free of any apparent marks upon her body of having been subjected to operation.

Abdominal Section for Adherent Retroversion of the Uterus.—Dr. Egbert H. Grandin read this paper and said that he would not consider the dynamics of the normal positions of the uterus, because the subject under discussion dealt with pathological factors purely and simply. Therefore, it did not matter whether the retrouterine ligaments, or the vesicouterine ligaments, in health maintained the uterus forward, backward, or laterally. He said the subject under discussion was the treatment of *adherent* retroverted uteri; the consideration of the congenitally displaced uterus was out of the scope of the discussion. The retrodisplaced uterus, due to some pathological entity, was what he considered. In considering this subject, he said that we should bear in mind the causal factors that held the uterus backward. The symptoms were not alone dependent upon the unnaturally fixed position of the uterus, but chiefly upon the complications. The principle causal factor was pelvic peritonitis and, back of this condition and responsible for it, was the entrance of some irritating material into the pelvis, which material might come from the tubes, ovaries, appendix, or possibly through the lymphatics or veins; but, no matter where it came from, this irritating material resulted the same, *i.e.* gluing the uterus backward, while the other organs, the tubes, ovaries and appendix, might be distorted in any direction. When the causal actor came from the appendix, he said this organ might become adherent to the tube of ovary; also, the omentum, the sigmoid flexure, the cæcum, and even the small intestines, might become adherent with, or adherent to, the uterus and appendages. The symptomatology of an adherent retroverted uterus was due to the abnormal position of the uterus and adjacent organs interfering with the pelvic circulation. The uterus became enlarged and heavy; the broad ligaments became varicosed; the function of the bladder and rectum were interfered with. Therefore, one was called upon first to tell by the sense of touch just what was present, and, secondly, to apply such measures as would best relieve the symptoms. He said that those who had studied clinically the diseases of women and who had passed through the cycles of multiform treatments, realized the limitations of the sense of touch and were unwilling in a given case to state just how much of a lesion was associated with the adherent retrodisplaced uterus; and, in those cases in which we must bring to the aid of the sense of touch the sense of sight, we were justified in performing abdominal section. With the abdomen opened he said that one could break up the adhesions; if the intestines were injured one could repair the damage. With the abdomen opened one could judge how much work should be done upon the tubes and ovaries and, if deemed necessary, one could remove the appendix through this incision. Also, and this was highly important, one could lift up the sagging uterus and maintain it in a higher position, and thus restore equilibrium of the uterine and periuterine circulation. Sight aided touch, and to attempt to work through the vagina he believed was doing blind work, imperfect work, and far more dangerous work. He did not think one was justified at all in attempting, through the posterior fornix, to break up adhesions, to pull down ovaries and tubes, and to pack in gauze, thus forming new adhesions; by so doing one might injure the intestines or leave in pus-pockets, and ultimately one would be obliged to resort to an abdominal section to repair the injury done. He said that, as the gynecologists became more surgical, the vaginal incision was rarely made except to aid in diagnosis and evacuate pus. He never had attempted to do this work through the anterior fornix, because he had never deemed it at all logical. Besides the extensive mutilation of the vagina it appeared to him more arduous and *blind*. One might as well reach over a fence to pick up some body from the ground when one might reach it readily from under the fence and, in his

opinion, that was what these men were attempting to do when they advocated anterior vaginal incision for retrodisplaced adherent uteri. The uterus was adherent posteriorly, the appendages were glued and the appendix might be adherent to uterus, tubes, or ovaries. Other complications might exist. Yet such operators, under such conditions, make a sagittal and then a longitudinal incision, push up a bladder to which may be attached a pus tube which may be ruptured, and then they carry the hand over the fundus of the uterus and drag it down into the vagina with a diseased tube or ovary or, possibly, appendix. This he did not consider surgery, but butchery, of which even a butcher would be ashamed. As gynecological surgeons, he asked that the alternatives be faced and that we use the sense of sight as well as of touch. He did not believe, with present methods, the vagina could be properly sterilized. During such operations the bacteria coli communis might gain entrance to the wound from the rectum.

Dr. Bache Emmett said that there was merit in the various procedures. The posterior vaginal incision he had only practised for purposes of examination and liberating imprisoned pus; the access was so easy that he had been tempted to proceed further. The anterior vaginal method had given him satisfaction, and every thing that was done was visible. With reference to the argument that no scar was left in the abdominal wall which gave an advantage over the abdominal route, he did not think it was necessary to heed this at all, except in young persons. He thought the anterior method could be selected in a large number of cases. Because sight to him meant something, he preferred the anterior abdominal section in performing operations for retrodisplacements of the uterus. The abdominal route was to be chosen because there might be infected parts that would escape observation of operation was performed per vaginum.

Dr. Frederick Holme Wiggin had had much experience in working through the anterior vaginal incision and believed there were many advantages to be had in this over the abdominal incision. He took issue with Dr. Grandin in his statement that the vagina could not be sterilized. The vagina was very vascular, and wounds there heal readily. He employed no vaginal packing after the operation. At close of such operations he introduced a solution of iodoform in ether 10 per cent., and then placed in a self-retaining catheter in the bladder. For cleansing the vagina he employed the following method: The vagina was douched with a solution of boric acid prior to operation. At the time of operation the vagina and vulva were cleansed with tincture of green soap; this was followed by alcohol, then a bichloride solution in alcohol, 1-300, and then with sterilized water. Where there were many adhesions to deal with, he preferred to go back to the abdominal route. In almost all cases in which the functions of the intestines have been interfered with, and with a chronic appendicitis, if an abdominal section was required, there would also be required a removal of the appendix. In cases with loss of appetite, with no desire for food, but a desire for stimulants, he usually found trouble with the appendix, which was probably secondary to the other conditions.

Dr. Robert A. Murray said that gynecologists should cultivate the sense of touch, but he had never seen an operator who could say absolutely, before opening the abdomen, either by the vaginal or suprapubic route, what he was going to find. Since almost all cases of adhesions around the uterus were due to tubal trouble, frequently pus being present, one should be prepared not only to break up the adhesions, but also to do whatever conservative work was required upon the tubes. He said it had been stated that if one fixed the uterus to the abdominal wall dystocia always followed, yet it was not proven that if the anterior portion of the uterus was drawn up *tight* against the abdominal wall that this would follow. A great many things can be done by the abdominal route that could not be done by the vaginal. The appendages could not be handled so well through the vaginal route. Long after operations by the vaginal route patients have appeared with marked symptoms which were the results of adhesions, some being very serious and some even fatal. He said that in abdominal work, with union by first intention, the resulting scar could hardly be seen.

Dr. S. W. Bandler said he had seen a good many cases operated upon by this method and had spoken in favor of it. He was surprised that Dr. Grandin should take such a decided stand against the vaginal method of work, on the ground that it was unsurgical. Whether the abdominal or vaginal route was the one of choice depended upon the operator. If the vaginal route was a good one, as Dr. Goffe had led them to believe, and if one was able to do it dexterously, he saw no reason why it should not be the route of choice. He had seen and followed two hundred cases. Through the vaginal incision the uterus, tubes, and ovaries could be delivered, cysts opened, and any conservative work done that was deemed necessary. The vaginal incision could be so extended that practically as large an incision could be obtained as was usually made by the abdominal route. He believed the sense of touch was as necessary when working through the abdominal incision as through the vaginal incision. The posterior vaginal incision was a great aid in loosening adhesions. He took exception to the term vaginal fixation; fixation to-day was not really a fixation, but a suspension. Abdominal fixation would cause dystocia; if suspension be made, dystocia would not result.

Dr. A. H. Goelet said that at the last meeting of the American Medical Association displacements of the uterus was considered, and he felt more and more convinced of the wider range of applicability of abdominal section and ventral suspension for this condition of retrodisplaced uteri and the rather limited application of the operation for shortening the round ligaments. He said that Dr. Goffe had very strongly and clearly drawn attention to the uterosacral and uterovesical ligaments as being important factors in maintaining that organ in position, and, therefore, operations for shortening the round ligaments were only applicable when these ligaments were in proper functionating condition, *i.e.* not relaxed. The round ligaments held the uterus forward only. A number of years ago he performed many operations for posterior displacements of the uterus, and he had become convinced that, in uncomplicated cases, in posterior flexions of that organ, there was no relaxation of the uterosacral ligaments. He believed that any operation for shortening the round ligaments had a limited range of usefulness. He referred to two objections to the vaginal route of procedure—(1) the absolute impossibility of sterilizing the vagina by present methods and (2) the anterior vaginal section destroyed the vesicouterine ligaments. If the posterior vaginal incision was also made, the uterosacral ligaments would be destroyed. Therefore, the uterus would continue to sag in the pelvis. Another point he raised in favor of the abdominal route was, where the adhesions of the uterus were very great, the greater facility of dealing with hemorrhages.

Dr. LeRoy Broun agreed with Dr. Grandin and said that all retroverted uteri were not always associated with pyosalpinx. When the adhesions were dense, he preferred to open the abdomen; if they were not dense, he preferred to work through the vagina.

Dr. Philander A. Harris said that the greatest prejudice arose from those who did not do much work of this kind, or, if they did, who did not make themselves familiar with the technique.

Dr. Arnold Sturmdorf said that if he could do as well as Dr. Goffe he would prefer the vaginal section.

Dr. L. J. Ladinski said that the subject under discussion was the choice of route in performing operations for retrodisplaced uteri and, it seemed to him, that those who

favored the abdominal route preferred to do ventral suspension, and those who preferred the vaginal route favored vaginal suspension or shortening the round ligaments. Personally, he advocated the vaginal route, and his results and experience would not justify him in changing his route of preference.

Dr. J. Riddle Goffe argued that the vagina could be sterilized as well as the skin could. He said it might be claimed that the abdomen could not be sterilized because you met with stitch-hole abscesses. Occasionally, in the vagina, he found evidences of infection; but it was rare. Working through the vagina was not working in the dark; one could see as well the field of operation as though working through the abdominal incision. With regard to dyspareunia following incision into the vagina, he had never seen an instance resulting from the scar that had formed. In the case reported by Dr. Wells it followed the posterior, and not the anterior, vaginal incision. He had had ten pregnancies following his vaginal work, and every one of them had gone through gestation with comfort and through parturition without untoward results.

Dr. A. Reich referred to two cases that had been operated upon by the vaginal route for retrodisplacement of the uterus. Neither of them had any trouble at all during gestation or parturition, and the uteri remained in perfect position.

Drs. Moffat and Hermance of Yonkers were present and added their testimony to the advantages of the vaginal over the abdominal route in operation for retroverted uteri.

Cancer among Negroes.—At the Egyptian Medical Congress, January 15, 1903, Dr. Legrand of Alexandria reported a case and exhibited a photograph of a negress whose breast he had amputated for scirrhous cancer, proving that there exist still, though very rarely, isolated cases among the black races.—*Journal of Tropical Medicine.*

Physical Degeneracy from Environment.—Ivar Janson has made a study of effects of the change of environment on the peasant class from Norway, the change including atmospheric conditions, dirt, and drinking water. We observe first a loss in the buoyancy of bodily poise; the elasticity of the gait is changed to clumsiness; the people seem out of place. The lustre of the hair disappears and gives way to a dryness, followed by falling out. Often digestive disturbances supervene, and constipation becomes very common. This is especially the case among young girls and women, and in their train we get congestion, and toxæmic maladies, anæmia, displacements of the womb, dysmenorrhœa, etc. If these people are young, they become, in a much higher degree than formerly, receptive to the contagion of tuberculosis, and if older, rheumatism becomes prevalent. In this same generation of peoples who have been transplanted into different life conditions and who, on account of pre-existing conditions of sameness, have not yet acquired the toleration necessary to flourish in this new life, we also frequently find a breaking down of the nervous system. In the hospitals for the insane the proportion of Scandinavians is quite appalling, also of German, Swiss and allied peoples. Sometimes we may get the opposite effect, of the same stimulus applied, namely, the kindling into activity of potential mental energies. And from the simple peasant lads we derive acute financiers, politicians who come to the front, great professionals and talented devotees in the various branches of art. This mental activity, however, does not prevent physical decay or degeneration, and often a brilliant career is cut short by tuberculosis, cancer, premature fibrosis, etc. The children of these transplanted people show increased rec ptivity to disease, especially tuberculosis.—*Northwest Medicine.*

Book Reviews.

A Textbook of Clinical Medicine. Principles of Diagnosis. By Clarence Bartlett, M.D., Professor of Clinical Medicine and Associate Professor of Medicine in the Hahnemann Medical College of Philadelphia; Senior Neurologist to the Hahnemann Hospital, etc. With 245 Illustrations, Including Six Colored Plates. Philadelphia: Boericke & Tafel, 1903.

This work includes nearly a thousand pages of condensed facts relating to the clinical interpretation of symptoms. At the beginning the author makes a plea for the careful examination of patients, and the avoidance of slipshod methods which so often favor errors of diagnosis. The outlines of general and special interrogation are given, and are followed by descriptions of the diagnostic points in temperature, pulse, and respiration records. Special chapters are given to the thoracic and abdominal organs, the nose, throat, and larynx, the blood and nervous system, the eye and ear, and a concluding section on *x*-ray diagnosis. The work covers the ground of the more common and many of the uncommon diseases met in the practice of internal medicine, and there has been a wise selection of illustrations, which are particularly numerous.

A Textbook of Nursing. By Clara Weeks-Shaw. Third Edition. New York: D. Appleton & Co., 1902.

This excellent textbook richly deserves the reputation it has already won. The author's good common sense and judgment, and her high conception of the profession of nursing everywhere pervade her writings, and add emphasis to one of the precepts laid down in the introduction, viz.: That the degree of harmony which a nurse is able to maintain with all the members of a family is more convincing evidence of her good sense and fitness for her position than the most brilliant examination papers. Would that every reader would heed the injunction "that a well-disciplined nurse never makes a diagnosis and never prescribes!" While heartily commending the work in its entirety, as a complete and reliable guide for nurses, we cannot see the wisdom of trying to give them that little knowledge of urinary analysis which is only too apt to prove dangerous rather than helpful.

The Nursing Profession; How and Where to Train. By Sir Henry Burdett, K.C.B. London: The Scientific Press, Limited.

The author is widely known as an indefatigable writer and organizer in the hospital world. Although this is the fourth year of this publication, it has hitherto been issued as a part of the author's "Official Nursing Directory." It contains a vast amount of up-to-date and official information concerning nurse training schools in England and its colonies, which should prove of value to those desirous of becoming nurses as well as to officials of these schools, who are besieged with requests for just such detailed information. Only typical nursing institutions in the United States have been considered.

Obstetrical Nursing for Nurses and Students. By Henry Enos Tuley, M.D., Professor of Obstetrics, Kentucky University; Visiting Obstetrician to the John N. Norton Memorial Infirmary, Louisville City Hospital and the Home for Friendless Women. Chicago: G. P. Engelhard & Co., 1902.

This book is an elaboration of the author's lectures in obstetrics at the institutions with which he is connected. The teaching throughout is sound and practical, and reflects the latest and best opinions of obstetricians. There is little to criticise, yet we cannot help feeling that it is wholly unnecessary, and, indeed, undesirable, to devote a whole chapter to the detailed instruction of nurses in the diagnosis of pregnancy. The home modification of milk very properly receives due consideration. The author's remarks on the personal preparation of the mother's food by the nurse, the ease with which the new-born infant acquires bad habits, and the significance of the infant's peculiar language—crying—are worthy of special commendation.

A Manual of Otology. By Gorham Bacon, A.B., M.D. Philadelphia: Lea Brothers & Co., 1902.

The necessity of a third edition of this manual within four years of its first appearance shows the value placed upon the book by the medical public. A number of original illustrations have been added in this edition.

Schwabach's important test, not mentioned in former editions, is described, the importance of a thorough incision in the drum membrane in cases of acute purulent otitis media is mentioned, and the use of anæsthesia in its performance is most justly urged. On page 256 the author reports a new case to prove that tubercle bacilli are at times the cause of a chronic purulent otitis media. On page 299 are enumerated seventeen paths of communication between the ear and the cerebrospinal system, by means

of which septic material or septic organisms may find their way from the former to the latter. The practitioner who considers a discharging ear a very insignificant affair should have his attention called to this fact.

That aural surgery is rapidly gaining the importance it is entitled to in the community is well shown by the statement that in the New York Eye and Ear Infirmary the number of mastoid cases operated upon (and this included cases with cranial and other complications) increased from 167 in 1897 to 271 in 1901.

On page 316 the important fact is stated that a bacteriological examination of the aural discharge will enable the surgeon to determine the necessity or non-necessity of operative interference in obscure cases. Again, on page 328, the author makes a plea for the constant attendance of the aurist upon a case of mastoiditis, so that he may, at a moment's notice, operate if more conservative measures are not of use, and so prevent a possible intracranial complication. The author's description of the spina suprameatum, on page 334, as a guide to the antrum, is not sufficiently explicit to be easily understood by the beginner in Otology. As an additional aid to a diagnosis of a possible brain abscess, it is urged, on page 365, that the presence or absence of a leucocytosis be determined. Other matter adds twenty pages to this edition, and gives it a still greater value than that possessed by former editions.

The Physician's Visiting List for 1903. Philadelphia: P. Blakiston's Son & Co.

A publication which has reached its fifty-second year surely needs but little comment. Suffice it to say that the success implied in this long and honorable record is dependent chiefly upon the simplicity, adaptability, and compactness of this list. In addition to the space for accounts, there are useful memoranda with regard to the incompatibility of drugs, the treatment of cases of poisoning, and tables of weights and measures with a comparison of thermometric scales.

Uricacidæmia; Its Causes, Effects, and Treatment. By Perry Dickie, M.D. Philadelphia: Boericke & Tafel, 1903.

While there is no great demand at the present time for books which, like this one, only claim to be a convenient epitome of the well-known theories of Haig, still the work might have proved acceptable to a certain number of physicians were it not that the author's style is so involved, and the construction of his sentences so faulty that it is only by an unpleasant effort that the reader is able fully to grasp his meaning. These faults have been intensified by the fact that the proof-reading has been wretchedly done. The chapters on diet and hygiene are not without merit, so that it is particularly unfortunate that the author's thoughts should have been so unworthily clothed.

The Practical Medicine Series of Year Books. Vol. III. The Eye, Ear, Nose, and Throat. By Casey A. Wood, M.D., Albert H. Andrews, M.D., and T. Melville Hardy, M.D. Chicago: The Year Book Publishers, 1902.

In this publication the portion devoted to the eye is edited by Dr. Wood; that to the ear by Dr. Andrews, and that to the nose and throat by Dr. Hardy. Taken as a whole, the volume is a decided improvement on the corresponding volume of last year's series. It is printed on better paper, more systematically arranged, and has a better index. Practically all the important matters of the year receive mention, and to one who does not follow the special journals from month to month the book will serve as a sufficiently thorough review. A few illustrations are scattered through the pages, but they are not of any special excellence. If medical books are to be illustrated at all, no pains should be spared to make such illustrations the best possible.

Book on the Physician Himself and Things That Concern His Reputation and Success. By D. W. Cathell. Twentieth Century Edition, Revised and Enlarged by Author and His Son, Wm. T. Cathell, A.M., M.D., Baltimore, Md. 8vo, pp. 403. Philadelphia: F. A. Davis Co., 1902.

More than a score of years ago the Physician Himself took its stand as a helpful guide to the medical man in his relations with his profession and the public. It was the plain talk to the reader on what he should do and not do in order to insure his success in his calling. The attention given to little things bearing on his purely personal side was the distinguishing feature of the work and commanded for it a wide reading. In the present edition the volume has been much enlarged and brought up to present-day requirements. While many of the injunctions regarding dignified behavior, gentlemanly conduct, fair dealing with brother practitioners, and the like would be taken for granted, there is still need for the practical interpretation of those principles of ethics which lie at the foundation of all real success in practice. To the young man commencing practice the lessons in etiquette will be found to be of greatest value in helping him to to decide doubtful points in ethics and in enabling him to avoid many serious misunderstandings with his patients and *confrères*.

Therapeutics of Dry Hot Air. By Clarence Edward Skinner, M.D., LL.D., Professor of Thermotherapy in the New York School of Physical Therapeutics. Editor of the Department of Thermotherapy in the Journal of Advanced Therapeutics; Physician in Charge of the Newhope Hot Air Sanatarium, New Haven, Conn., etc. New York: A. L. Chatterton & Co., 1903.

This author gives a great deal of attention to what is at present a rather obscure and unimportant therapeutic possibility. The tone throughout the abstract general portions is very conservative and reasonable, but, in the treatment of the different diseases, is rather sanguine. Although the author disclaims, in the preface, that dry hot air is a universal panacea, a perusal of the volume rather gives the impression that he believes it is. The book will appeal to those who have large sanataria and extensive apparatus at their disposal, and who are inclined to experiment rather than to the average physician.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Chirurgie Intestinale d'Urgence. Par Albert Mouchet. 12mo, 95 pages. Illustrated. J. B. Bailliere et Fils. Paris, Price, Fr. 1.50.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By Dr. Carl von Noorden. 8vo, 59 pages. E. B. Treat & Co., New York. Part I, Obesity. Price, 50c. Part II, Nephritis. Price, $1.00.

Obstetrics: A Text-book for the Use of Students and Practitioners. By J. Whitridge Williams. 8vo, 845 pages. Illustrated. D. Appleton & Co., New York.

Manual of Bacteriology. By Robt. Muir, M.D., and James Ritchie, M.D. 8vo, 565 pages. Illustrated. The Macmillan Co., New York.

Therapeutics of Infancy and Childhood. By A. Jacobi, M.D. 8vo. Third Edition. 560 pages. L. B. Lippincott Co., Philadelphia. Price, $3.50.

The American Year-book of Medicine and Surgery. By George M. Gould and others. 8vo, 671 pages. Illustrated. W. B. Saunders & Co., New York. Price, cloth, $3.00; half morocco, $3.75, net.

The Anatomy of the Human Peritoneum and Abdominal Cavity. By George S. Huntington, M.D. 4to, 292 pages. Illustrated. Lea Brothers & Co., Philadelphia. Price, $10 net.

The Prize Essay on the Erection of a Sanatorium for the Treatment of Tuberculosis in England. By Arthur Latham, M.D. 8vo, 254 pages. Illustrated. Bailliere, Tindall & Cox, London.

A Compend of Diseases of Children. By Marcus P. Hatfield, M.D. 16mo, 241 pages. Third edition. P. Blakiston's Son & Co., Philadelphia, Pa.

Cours de Mineralogie Biologique. 16mo, 363 pages. By J. Gaube. A. Maloine, Paris. Price, Fr. 4.

The Medical Epitome Series, Physiology. 12mo. By Theo. C. Guenther, M.D., and others. 255 pages. Illustrated. Lea Brothers & Co., New York. Price, $1.00 net.

Transactions of the American Orthopedic Association, Sixteenth Session. Vol. XV, 8vo, 216 pages. Illustrated. By the Association, Philadelphia.

International Clinics. By Henry W. Cattell, M.D. Vol. IV, Twelfth Series. 8vo, 317 pages. Illustrated. J. B. Lippincott Co., Philadelphia, Pa.

The Life Within. 12mo, 385 pages. Lothrop Publishing Co., Boston

The Practical Treatment of Stammering and Stuttering. By George Andrew Lewis. 16mo, 415 pages. Illustrated. Detroit, Mich.

Experiments on Animals. By Stephen Paget. 8vo, 387 pages. C. P. Putnam's Sons, New York.

The Medical Epitome Series, Obstetrics. By W. P. Manton, M.D. 12mo, 265 pages. Illustrated. Lea Brothers & Co. Price, $1 00.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending March 7, 1903:

	Cases.	Deaths.
Measles	225	6
Diphtheria and croup	376	42
Scarlet fever	266	19
Smallpox	..	..
Varicella	147	..
Tuberculosis	303	169
Typhoid fever	46	8
Cerebro-spinal meningitis	..	..

The Results of the Experimental Exclusion of the Motor Function.—M. Rothmann considers the pathological significance of the results of the experimental and clinical studies which have been made on the exclusion of the motor tracts in animals and man. These show that, in the main, the motor function has very great powers of restitution and can stand serious injury without permanent damage. Experimental work on all the higher mammals up to the monkey shows that the pyramidal tracts are not the only conducting paths for the motor impulse, and that their bilateral destruction does not induce serious paralytic manifestations of any permanence. Even including the monkey, the power of restitution is so perfect that the destruction of all the motor tracts of one side of the cord does not induce lasting paralysis. These observations, taken in conjunction with clinical studies in cases in which the intra- and extrapyramidal motor fibers have been diseased show that the acute destruction of the pyramidal tract only, leaving the other motor fibers intact leads to a paresis of the extremities in question which has not yet been found to disappear completely. Acute destruction of the pyramidal tract and the other conducting tracts in the internal capsule or in one side of the cord produces flaccid paralysis of the extremities which after some weeks undergoes incomplete restitution. Even in complete division of one-half of the cord the originally paralyzed leg becomes useful for walking again. The rare, very chronic, cases, described as pure spinal spastic palsy, in which both pyramidal tracts are diseased without lesions of any other portion of the cord ran a course without true paralysis. The hypertonicity of the muscles of the legs which is constantly observed cannot be ascribed to the disease of the pyramidal tracts, since it may be absent in lesions of the lateral columns and may be observed without them. Therefore the only permanent symptom of the exclusion of the pyramidal tracts is the exaggeration of the tendon reflexes. Unilateral lesions of the medulla, on the other hand, show that the pyramidal tract alone is able to continue the motor functions perfectly without any assistance from the other motor tracts. The clinical studies, therefore, correspond closely with the results of animal experimentation, though the pyramidal tract possesses a more important relation to the motor function in man than in animals, and its loss is compensated for but slowly. Still the power of restitution is scarcely less in man than in the higher mammals, though influenced to some extent by his upright posture.—*Zeitschrift für klinische Medicin.*

The Prosthetic Use of Hard and Soft Paraffin.—Gersuny adds several hints to his former communications on the use of paraffin injected under the skin and into the cellular tissues of various regions of the body for the purpose of repairing defects. In discussing the suggestion that has been made to using a paraffin of a higher melting point than 35–40° C., the variety employed by himself, the author says that this does not seem to offer any material advantages. The greater freedom from the risk of embolism which is claimed probably does not exist since the material, at the time of injection at least, is fluid, while the technical difficulties of its introduction under the skin are greater. The assertion made by some that the softer paraffin might become liquified in the event of the patient's bodily temperature rising during some febrile disease rests upon a mistaken idea of the effect of the injection. The material does not remain in the tissues simply as a mass surrounded by a connective tissue capsule, but is permeated in all directions by a new growth of connective tissue trabeculæ, which divide and subdivide it into minute droplets, and it is this connective tissue and not the paraffin itself which gives the prosthesis its firmness and permanence. The formation of emboli may be guarded against by the precaution of first injecting a few drops of cocaine or Schleich's solution. The syringe is removed from the needle and the non-appearance of blood from the butt of the needle indicates that no vein has been injured and the paraffin syringe may be applied and the injection proceeded with. The author designates as "hard" injections of paraffin which has a melting point higher than 35° C., and describes a mixture intended for use in cases in which a softer material is required. This consists of one part of paraffin to four parts of olive oil by volume. When this is used the olive oil undergoes gradual absorption and leaves the paraffin behind diffused through the tissues in a highly subdivided state. Cases in which this mixture was successfully used include facial hemiatrophy, smallpox pitting, pigmentation of the skin and the difference of color and level resulting from Thiersch skin grafting.—*Centralblatt für Chirurgie.*

The Endothelial Phagocytes of the Tonsillar Ring.—J. L. Goodale finds that in the normal tonsils large mononuclear phagocytes are present which appear to be derived from a proliferation of the endothelial cells of the reticulum. In hyperplasia of the tonsils there is a proportionate increase in the proliferation of the endothelial cells of the reticulum, and formation of phagocytes, without, however, a corresponding increase in the number of lymphoid cells, or in the endothelial cells of the blood vessels. In atrophy of the tonsils, the endothelial cells of the follicles are seen first to diminish in number, and endothelial phagocytes are correspondingly few, while the lymphoid cells persist relatively longer. In acute inflammation, the characteristic feature of the process consists of a heightened proliferation of the endothelial cells of the blood vessels, with swelling of their cytoplasm, together with an increased number of lymphoid cells. These changes are relatively more marked than the increased endothelial proliferation of the reticulum with follicles. When circumscribed abscess formation occurs in the follicles, an increased proliferation of the endothelial cells, both of the reticulum and the capillaries, is observable in the vicinity. When an intense irritant acts upon the endothelial cells of the tonsil, degeneration and necrosis result in the immediate vicinity. At a greater distance proliferation appears to be excited in these cells. It seems, therefore, probable that proliferation of the endothelial cells of the reticulum with a formation of phagocytes, is not necessarily dependent upon the influence of bacterial toxins for its production, but appears rather to stand in a definite relation to the size of activity of the organs in question. Proliferation, on the other hand, of the endothelial cells of the blood vessels was found to occur only in association with other phenomena of inflammation.—*Annals of Otology, Rhinology, and Laryngology.*

The Pathology and Diagnosis of Otitis Media Insidiosa (Sclerosis), with Remarks on Treatment.—H. J. Hartz offers the following conclusions: (1) Sclerosis is fundamentally a hyperplasia of the bony capsule of the labyrinth; the hyperplasia is a transformation of cartilage into bone, *i. e.* metaplasia, accompanied by formation of outgrowth of bone, *i. e.* hyperostosis. (2) It is initiated

by constitutional diathesis, such as inflammatory rheumatism, gout, syphilis, and scrofula, by diseased tonsils in the pharynx and vault, suppurations with calcareous deposits in the tympanic cavity, exposure to cold and wet and injury. (3) Its localization is usually in the labyrinth capsule near the stapes articulation with the oval window, inducing fixation of the ossicles. (4) It may involve also the semi-circular canals and cochlea, to produce symptoms of nervous deafness. (5) It may affect simultaneously the sound conduction and the sound perception apparatus. (6) The functional test, the subjective symptoms, and family history permit an early diagnosis of this disease. These are: hyperæmia of promontory, heredity, prolonged bone conduction (Schwabach's test) negative Rinné in varying degree and defective perception of one-half to one and one-half octaves of the lower tones. (7) Probably 10 per cent. of the middle-ear diseases are true sclerosis and are designated synonymously capsulitis labyrinthi, otosclerosis, spongification, dry middle ear, catarrh, and otitis media insidiosa. The therapy is effective in early stages of the disease by hygienic and medicinal treatment. The more advanced cases may be improved by judicious treatment with amelioration of tinnitus.—*Annals of Otology, Rhinology, and Laryngology.*

A Case of Acute Osteomyelitis, with Remarks on the Surgical Treatment of This Affection.—Charles Greene Cumston, after describing a case of acute osteomyelitis of the leg, in which operation brought relief, says that trephining the bone in moderately severe cases is the proper treatment to select, but when the disease takes on an excessively malignant aspect, resection of the diseased bone or amputation of the limb will have to be resorted to. Immediate resection of the diseased bone must be resorted to in the acute cases in which there is complete detachment of the periosteum from the entire bone, in acute osteomyelitis of the bones of the skull, in cases of hyperostosis accompanied by suppuration and necrosis arising from a chronic osteomyelitis, and in those cases of neuralgic osteitis, when after trephining the bone the pain still remains acute. Early resection should be performed in all cases of osteomyelitis when trephining the bone and curettement of the abscess have proved insufficient. Late resection is indicated when there are invaginated sequestra in the newly formed layers of bone, which jeopardize the patient's life on account of the prolonged suppuration which has been kept up by their presence. The periosteal layer must be preserved in resections of the diaphysis, while the periosteal capsular canal must not be encroached upon in resection of the joint. Resection is especially indicated in childhood and adolescence, because during this time of life the osteogenic properties of the periosteum are marked, but nevertheless, in certain cases it has been practised successfully in the adult.—*Pediatrics.*

The Pathogenesis of Intermittent Hydronephrosis.—M. P. Bazy concludes that this affection is due to a congenital formation of the pelvis of the kidney, and accessorily of the ureter. A large pelvis of a horizontal type, sharply bent or shaped like a bagpipe, is the condition most apt to produce hydronephrosis; it is extremely rare, but so also is intermittent hydronephrosis. Accessory conditions in the production of this affection are, narrowing, folding, or torsion of the upper part of the ureter. Movable kidney may cause the disease, but the author is inclined to think that ptosis and mobility are more apt to be the consequences than the cause. Hydronephrosis is caused by the stagnation of a small amount of urine in a congenitally voluminous pelvis, congenitally so formed as to permit this stagnation from the slightest cause. By constant repetition of the cause, the stagnation becomes more and more marked, until the kidney falls from its own weight, and thus causes another condition favorable to stagnation, the ptosis inducing a crisis of intermittent hydronephrosis. Adhesions may form and convert the condition from an intermittent to a permanent one.—*Revue de Chirurgie.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending March 7, 1903:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
California, Berkeley	Feb. 18–25	1	..
Los Angeles	Feb. 14–21	3	..
Sacramento	Jan. 25–Feb. 7	4	..
San Francisco	Feb. 15–22	12	1
Colorado, Denver	Feb. 7–21	30	..
District of Columbia, Washington	Feb. 14–28	6	1
Illinois, Chicago	Feb. 21–28	17	1
Indiana, Elwood	Feb. 22–Mar. 1	3	..
Evansville	Feb. 21–28	4	..
Indianapolis	Feb. 14–28	57	16
Jeffersonville	Jan. 1–31	1	..
Jeffersonville	Feb. 1–28	5	..
Iowa, Davenport	Feb. 21–28	4	..
Kansas, Douglas County	Jan. 1–31	2 imported.	
Wichita	Feb. 21–28	1	1
Kentucky, Lexington	Feb. 21–28	1	..
Newport	Feb. 21–28	1	..
Louisiana, New Orleans	Feb. 21–28	2 imported.	
Maine, Biddeford	Feb. 21–28	3	..
Massachusetts, Boston	Feb. 21–28	2	..
New Bedford	Feb. 21–28	1	..
Newton	Feb. 21–28	1	..
Michigan, Grand Rapids	Feb. 21–28	14	..
Marquette	Feb. 21–28	1	..
Menominee	Feb. 14–21	1	..
Port Huron	Feb. 21–28	5	..
Nebraska, Omaha	Feb. 21–28	3	..
New Jersey, Camden	Feb. 21–28	5	..
Jersey City	Feb. 22–Mar. 1	3	..
New York, Buffalo	Feb. 21–28	1	..
New York	Feb. 21–28	4	..
Yonkers	Feb. 20–27	1	..
Ohio, Cincinnati	Feb. 20–27	11	1
Cleveland	Feb. 21–28	7	2
Dayton	Feb. 21–28	1	..
Hamilton	Feb. 21–28	2	..
Pennsylvania, Altoona	Feb. 21–28	6 imported.	
Dunmore	Feb. 21–28	3	..
Erie	Feb. 21–28	5	..
Johnstown	Feb. 21–28	3	..
McKeesport	Feb. 21–28	2	..
Norristown	Feb. 21–28	1	..
Philadelphia	Feb. 21–28	37	1
Pittsburg	Feb. 21–28	19 (4 cases imported.)	6
Pottsville	Feb. 21–28	4	..
South Carolina, Charleston	Feb. 21–28	7	..
Tennessee, Johnson City	Feb. 21–28	7	..
Memphis	Feb. 21–28	5	..
Utah, Salt Lake City	Feb. 14–28	39 (1 imp't'd)	
Wisconsin, Green Bay	Feb. 22–Mar. 1	1	..
Milwaukee	Feb. 14–28	11	..

SMALLPOX—FOREIGN.

Barbados	Jan. 31–Feb. 13	9	1
Belgium, Antwerp	Jan. 31–Feb. 7	2	..
Brussels	Jan. 31–Feb. 7	..	6
Canada, Winnipeg	Feb. 7–14	1	..
Canary Islands, Las Palmas	Jan. 24–Feb. 7	69	2
Ecuador, Guayaquil	Jan. 31–Feb. 7	..	1
France, Marseilles	Jan 1–31	..	37
Paris	Feb. 7–14	..	1
Great Britain, Birmingham	Feb. 7–14	16	..
Dublin	Feb. 7–14	4	..
Glasgow	Feb. 13–20	1	..
Leeds	Feb. 7–14	16	1
Leith	Jan. 31–Feb. 7	1	..
Liverpool	Feb. 7–14	..	6
London	Feb. 7–14	1	1
Nottingham	Feb. 7–14	2	..
India, Bombay	Jan. 27–Feb. 3	..	28
Calcutta	Jan. 24–31	..	1
Italy, Palermo	Jan. 31–Feb. 14	11	..
Jamaica, Duan Vale	Feb. 1	Present.	
Japan, Kagawa Ken	Jan. 20	Present.	
Yamaguchi Ken	Jan. 29	Present.	
Mexico, City of Mexico	Feb. 8–15	6	2
Netherlands, Amsterdam	Feb. 7–14	3	..
Russia, Moscow	Jan. 24–Feb. 7	9	3
Odessa	Jan. 18–25	5	..
St. Petersburg	Jan. 31–Feb. 7	29	9
Warsaw	Jan. 31–Feb. 7	..	1
Turkey, Smyrna	Jan. 25–Feb. 1	..	1

YELLOW FEVER.

Colombia, Cartagena	Feb. 9–15	..	2
Panama	Feb. 11–18	2	..
Ecuador, Guayaquil	Jan. 31–Feb. 7	..	21
Cuba, Havana	Feb. 14–21	1 (Imported from S.S. Esperanza from Progreso.	1
Mexico, Coatzacoalcos	Feb. 7–14	1	1

CHOLERA.

India, Calcutta	Jan. 24–31	53	..

PLAGUE—FOREIGN.

India, Bombay	Jan 27–Feb. 3	..	551
Calcutta	Jan. 24–31	..	97
Karachi	Jan. 25–Feb. 1	26	10
Mexico, Mazatlan	Jan. 24–31	46	31
Mazatlan	Jan. 31–Feb. 7	43	22

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Original Articles.

THE PRESENT STATUS OF THE X-RAY TREATMENT OF MALIGNANT TUMORS.*

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THIS subject, while a comparatively new one, has assumed front rank in the amount of interest it has aroused among both the profession and the laity. Cancer in the broad and, I think, proper sense, including all the varieties of malignant tumors, is unquestionably on the increase, while our means of combating it have, up to the present time, failed to keep pace with this increase. Hence, it is no wonder that we are ready to grasp any new means of curing it or of rendering its victims more comfortable. It is strange that while the *x*-ray has been used for six years or more, and while numerous cases of superficial epithelioma have, from time to time, been reported as having disappeared under its influence, that, up to very recently, no serious attempts have been made in a systematic way, to test its value in al varieties of malignant tumors.

To Dr. J. E. Gilman of Chicago and Dr. Carl Beck of New York must be given the credit of being among the pioneers in advocating the *x*-ray in the more deeply seated forms of cancer. In a paper presented before the Clinical Society of Chicago, December 29, 1900, entitled "The *x*-Ray in Carcinoma' Gilman stated that he had "treated twenty-five cases of true cancer and allied troubles with a loss of only two cases, one of them an epithelioma of the throat and another a scirrhus of the left breast." In this paper he gave an account of an extensive inoperable carcinoma of the breast, treated in June, 1900, with very great improvement. Of course, none of these cases had remained well sufficiently long to be called a cure. Yet, the remarkable results which Gilman claims to have obtained, though received with a great deal of skepticism, undoubtedly did much toward arousing interest in the subject.

Gilman, in his latest paper on "The Treatment of Malignant Neoplasms with the *x*-ray" (*North American Journal of Homeopathy*, January, 1903), makes the following statement: "I have at present over 100 cases of the various forms of the cancer family under treatment and observation. I have within the past four years treated over 200 cases of which I have the results, with a record of recoveries somewhat greater than the average recoveries from typhoid fever in ordinary practice."

After making this general statement, without any detailed report of the cases, without the mention of a single case in which the disease entirely disappeared and the patient remained well sufficiently long to justify one in regarding it as a cure, he concludes that "we have arrived at a stage of rational treatment which will reduce the mortality of cancer to an insignificant factor." He even goes on so far as to state that excepting recurrent and far advanced cases in which generalization has occurred, "not 1 per cent. is lost.

On May 6, 1901, Dr. Carl Beck showed before the German Medical Society of the City of New York, a case of recurrent melanotic sarcoma of the leg, treated in the early part of 1901, by means of the *x*-rays, with exposures varying from ten to forty-five minutes, with the remarkable result that a local recurrence about the ankle entirely disappeared, together with a number of metastatic tumors of the groin. The case, however, was too far gone and later continued to progress, causing death in the latter part of the year.

Dr. Francis Williams of Boston, in his well-known book upon the *x*-ray and in his later monographs, has given abundant evidence that superficial epitheliomas may be made to disappear under the *x*-ray treatment.

Pusey and Grubbé of Chicago, Skinner of New Haven, and Morton and Johnson of New York, not only confirm the statements of Williams as regards epithelioma, but have also shown that the larger and more deeply seated growths, for example, sarcoma of the neck, and recurrent carcinomas of the breast, may likewise disappear under similar treatment.

Pusey states that "the definite effect of the *x*-ray on sarcoma is demonstrated as conclusively as a demonstration can be made in medicine. It is impossible to believe the disappearance of this sarcoma was simply a coincidence with the exposures to the *x*-ray. At the time the treatment was begun, the tumor was growing rapidly and its subsidence was *pari passu* with the accumulation of the effects of the rays. The patient had no concurrent disease and no other treatment."

Pusey believes that in cases of sarcoma which cannot without any risk be treated successfully by surgical means, the effect of the *x*-ray should be tried. He further believes that cases of sarcoma which have been operated upon should have the *x*-rays subsequently used as a prophylactic measure against recurrence.

Pusey further reported two remarkable cases of Hodgkin's disease treated with the *x*-ray, showing marvelous improvement.

In a later report* Pusey gives a detailed account of his cases treated with the *x*-rays up to date. There were eight cases of epithelioma of the face and nose; six cases of carcinoma of the breast; six of deep-seated carcinoma of the neck and head; four of carcinoma of the abdominal cavity, and three cases of sarcoma.

Some of Pusey's cases, especially those of cancer of the breast are worthy of note.

CASE I—Female, aged forty-eight years. Re-

*Read before the New York Surgical Society, November 17, 1902; the subsequent histories of the cases, however, are given up to January, 1903.

**Journal of the American Medical Association*, April 12, 1902.

current carcinoma of the breast. There was a large carcinomatous mass at the site of the scar with much œdema of the arm. At the end of four months' treatment, all nodules had disappeared. The case is illustrated by photograph before and after treatment.

Case II—Female, aged fifty-eight years. Recurrent carcinoma of the breast, pronounced inoperable by Fenger. Pusey states that one square foot of cancer area was present, with an ulcerated portion of two by three inches. The treatment was begun in November, 1901, and after two and one-half months the disease had entirely disappeared. A photograph before and after treatment was published.

Case III—Female, aged forty-nine years. Recurrent cancer of the breast. Treatment was begun in October, 1901. After two and one-half months entire disappearance, confirmed by Dr. Ochsner of Chicago.

Pusey states that in three other cases of carcinoma of the breast the *x*-ray treatment had little if any effect upon the disease, the treatment being continued in one case for sixty-six sittings.

Wallace, in Washington (*American Medicine*, August 9, 1902), reports five cases of cancer of the breast treated with the *x*-ray, all of which were discharged without improvement.

One of the most important of the early cases of sarcoma treated with the *x*-ray is that of Dr. E. R. Fiske of Brooklyn. The patient, Mr. H——, seventy-one years of age, had been previously operated upon six times at the New York Hospital, for recurrent, round-celled sarcoma of the neck. He was under my care at the General Memorial Hospital in June and July, 1901, being treated with the erysipelas toxins, without success. In addition his external carotid artery was tied, with no apparent influence upon the progress of the growth. He left the hospital with a large inoperable tumor involving the cervical and mastoid regions. The growth continued to increase in size until December, 1901, when the *x*-ray treatment was begun by Dr. Fiske. At the end of six weeks' treatment the growth had entirely disappeared. With Dr. Fiske's permission I exhibited the patient at the New York Academy of Medicine in March, 1902, no trace of the disease being present at that time. He subsequently developed metastatic tumors in the axilla and both groins, which, however, also yielded to the *x*-ray treatment.

A letter from Dr. Fiske, dated January 23, 1903, states that the patient is still free from recurrence.

The case is of extraordinary interest inasmuch as the character of the growth had been determined by repeated examinations at the laboratory of the New York Hospital. All the old sections were again carefully examined by Dr. Geo. P. Biggs of the New York Hospital and myself, and the diagnosis of small round-celled sarcoma was beyond question.

Skinner of New Haven, who has had a large experience with the *x*-ray in malignant tumors, has recently reported his results in the *Journal of Advanced Therapeutics* (October, 1902.) He has treated thirty-three cases, which he divides in the following way: (1) Those which ended fatally; (2) those in which bony tissue was involved; (3) abdominal cases; (4) mammary cancer; (5) sarcoma, of which variety he has had two cases only.

The results were as follows: Complete disappearance of the disease in three cases; permanent reduction of the tumor in thirteen; temporary reduction with subsequent increase in one; permanent arrest only of growth in twelve. There was no effect positively demonstrated upon the size of the lesions in fourteen.

As regards pain, permanent relief was secured in fourteen; complete temporary relief in two; partial relief in eight; no relief whatever in four; and in five the original growth was not accompanied by pain.

Skinner states that the general condition of the patients was permanently improved in eleven; temporarily improved in eight; not improved at all in eight; and in six the general condition was not noticeably impaired at the time the treatment was begun.

Gain in weight was observed in six; no increase was apparent in twenty-seven.

In nine cases in which there had been hemorrhage, the latter was lessened in eight and not influenced in one.

There were evidences of systemic toxæmia in fourteen cases.

In five cases there was no apparent evidence of benefit, but of these five three received only two or three treatments. Of the three cases in which the tumors had disappeared, in none had a year elapsed.

At the discussion on the value of the *x*-ray in cancer, at the British Medical Association (*British Medical Journal*, October 25, 1902), Dr. Sequeira of London states that of eighty cases of rodent ulcer treated at the London Hospital thirty-four were entirely healed and the majority of the rest were still under treatment. Some cases had small recurrences, but these were easily treated; while in others there had been sound health and absolute freedom from the smallest recurrence for two years. He states that microscopical examination of the tissues treated showed that the rays have two definite effects—first, the epithelial cells are destroyed, nucleus and protoplasm undergoing lysis; in some cells there was a definite fatty change. The second change was a stimulation of connective tissue elements, causing formation of healthy scar tissue. His experience, showing that glandular affections of epitheilomatous origin were exceedingly obstinate to the action of the rays, is in entire keeping with my own. I have treated one case of recurrent epithelioma of the tongue forming an extensive glandular infiltration of the entire submaxillary and cervical region for three months with the *x*-ray with little or no improvement. Another case of extensive primary epithelioma of the neck, involving the submaxillary glands on both sides, has already had three months' treatment with no effect as regards retarding the progress of the disease.

At the same time with this latter case, there was being treated one with a large epitheliomatous growth behind the ear, not involving the glands, which was very much improved for a time, but finally the treatment lost its effect.

At the meeting of the Edinburgh Medical and Chirurgical Society, on November 5, 1902, Dr. Dawson Turner reported eighteen cases of various forms of cancer which he had treated with the *x*-ray. Nine of these were cancer of the breast, two of the tongue, one of the scalp, one of the cervix, one of the rectum, one of the glands of the groin, one probable sarcoma of the neck. All of these cases were inoperable. Turner states that all but three showed more or less improvement, and in some cases improvement was most remarkable. According to his experience, the best results were seen

in recurrent cancer of the breast and the poorest results in cancer of the tongue. He further states that in no case has there been a definite cure, and that recurrence after disappearance has been generally observed.

Grubbe of Chicago (MEDICAL RECORD, November 1, 1902), reports some remarkable cases of cancer of the breast treated by the *x*-ray.

CASE I—Recurrent cancer of the breast after three operations. Examination reveals a large area of disease with a small skin infiltration, the size of a pea. Gradual disappearance of the nodules under four months' treatment. Improvement in general health.

CASE II—Female, aged forty-eight years. Scirrhous cancer of the right breast, recurrent after operation. Entire disappearance under less than five months' treatment.

CASE III—Inoperable cancer of the left breast, presenting an ulcerated area of seven by five and one-half inches. Twenty minutes' treatment, every other day for three months. Entire disappearance. No recurrence at the end of one year.

CASE IV—Recurrent, inoperable cancer of the uterus. The condition was so desperate that the prediction of death within a month was made. The treatment was begun in May, 1901. At the end of two months the patient had gained twenty-two pounds in weight, the pain had disappeared and the foul discharge had almost entirely ceased. After an additional three months she was discharged "symptomatically cured." At the end of eleven months she had gained thirty-five pounds in weight, and states that she is perfectly well.

At the recent *x*-ray symposium of the New York State Medical Association, Dr. Charles W. Allen (MEDICAL RECORD, November 15, 1902), reported fifty cases of cancer treated with the *x*-ray during the current year. A large proportion of these cases, however (thirty-three), were superficial epithelioma of the rodent ulcer type or other forms of cutaneous carcinoma. Ten cases were mammary cancer; seven recurrent, and three primary. Of this number he states that twenty-six, or 52 per cent., were discharged "clinically cured." Three only were discharged unimproved; five ended fatally.

All of these cases having been treated during the last year, it is, of course, impossible to regard any of them as actually cured. At the same time, the mere disappearance of undoubtedly malignant disease in this large proportion of cases is a fact of very great importance.

The use of the *x*-ray in primary cancer of the breast before, or in preference to, surgical intervention is advocated by Dr. Allen on the ground that there is a very large class of patients who will reject surgical treatment and will never submit to it.

Personally, I do not believe that this class is very numerous. In my own experience I have never met with more than two or three individuals who, after a careful setting forth of the facts, refused to submit to operation for cancer of the breast. This small class of cases, I believe, should have the benefit of the *x*-ray treatment. At the same time, I consider it to be extremely unwise for the laity to become possessed of the idea that in the *x*-ray we have a substitute for operation in cases amenable to operation. Our experience thus far by no means warrants us in regarding it as more than an adjuvant to operation.

Personal Cases.—From February, 1902, to January, 1903, I have treated in private or had under my direction at the General Memorial Hospital seventy-five cases of malignant tumors. The treatment at the hospital has been conducted by Mr. W. P. Agnew and Dr. James Ogilvie. While it is entirely too early to speak of permanent results in these cases, the immediate results have been sufficiently striking to deserve careful consideration. Of these cases twenty-five were sarcoma of the various types; seventeen round-celled, three spindle-celled, one melanotic round-celled, and in five the variety was doubtful. Twenty-one were carcinomas of the breast (seventeen inoperable). In four the treatment was used as a prophylactic measure.

Of the three cases of spindle-celled sarcoma, one, a recurrent sarcoma of the superior maxilla, showed no improvement; one, a recurrent sarcoma of the chest wall, is still under treatment; one, a spindle-celled sarcoma of the cheek, is still under treatment, with slight improvement.

Still another case, formerly under my care, a spindle-celled sarcoma of the abdominal wall and pelvis, the size of an eight months' pregnant uterus, was treated for seven months by Dr. Skinner of New Haven, with general improvement but slight local diminution.

Of the seventeen cases of round-celled sarcoma, all inoperable, four have disappeared entirely, yet in every case a recurrence has taken place in less than a year. In all of these cases the *x*-ray applications were made four times a week, and continued over a period of many months. I think the histories of these cases are of sufficient interest to warrant a brief mention:

CASE I—*Very Extensive Recurrent Round-celled Sarcoma of the Neck, Both Sides, Superior and Infraclavicular, Pectoral and Axillary Regions on One Side and Mediastinal Glands.*—(The early history of this case is given in full in Transactions of the American Surgical Association, 1902.) The patient, M. A., aged forty-five years, was confined to bed and in such a hopeless condition that she was not expected to live more than two months. The toxins had been used and abandoned. On February 10, at the General Memorial Hospital, I began the *x*-ray treatment purely as an experiment. The improvement was more striking and rapid than in any other case that I have observed. The photographs show the changes that took place. No photograph was taken of the original condition, the disease having decreased one-third when the first photo was taken. The tumors steadily disappeared, and by July 1 there remained only a small nodule the size of an almond anterior to the sternomastoid muscle. This I removed under ether purely for pathological study, and the examination by Dr. Geo. Biggs of the New York Hospital confirms the original diagnosis and is of great interest. The patient had regained her normal strength and went to the country for the summer. She returned on September 24 with a local recurrence the size of an English walnut in front of the ear in the lower portion of the parotid. Both groins were filled with multiple tumors, varying in size from a hen's egg to a pigeon's egg. In addition there was an intraabdominal tumor, smooth, globular, fairly movable, apparently originating in the ascending colon or its mesentery. There was undoubted constriction of bowel at this point. Her condition again seemed hopeless, but I resumed the *x*-ray treatment, and in three weeks the nodule in the parotid region had entirely disappeared. At present the groin tumors have entirely disappeared, and the tumor in the abdomen has decreased about one-half. January 19, 1903: The abdominal

tumor is steadily decreasing and the patient's general health is good.

Case II—*Round-celled Sarcoma of Femur, Involving Two-thirds of Shaft.*—A. G., aged nineteen years. Swelling first noticed in lower portion of left femur in November, 1901. This gradually increased in size, being accompanied by loss of weight and deterioration of general health. February 5, 1902, physical examination showed a large tumor extending from the condyles of left femur to the junction of middle and upper third. There was a fusiform enlargement of the entire lower two-thirds of the femur. On the outer aspect of the thigh, about one and one-half inch above the joint, there was a soft fluctuating area just covered by thin and reddened skin. There was a slight impairment of the functions of the joint itself. An incision was made, under ether, into the fluctuating area and two to three ounces of clear serum, similar to that which is found in cystic degeneration of sarcomatous tissue, was evacuated. A curette was passed into the cavity of the bone and typically sarcomatous tissue removed. Microscopical examination by Dr. E. K. Dunham showed it to be a round-celled sarcoma. The patient absolutely refused operation. The *x*-ray treatment was tried entirely as an experiment, four exposures a week being given for a month, at the end of which time the circumference of the tumor had decreased one inch. The treatment was discontinued for two weeks, during which interval the tumor had again increased nearly a inch. The treatment was resumed, and at the end of another month the circumference of the thigh over the center of the tumor was one inch less than the original measurement The treatment was continued the entire summer up to December, 1902. In June he developed some râles in the chest which caused suspicion of lung metastases, but this condition cleared up, his general health improved, and he gained twenty pounds in weight.

December 1, measurement of the left leg was the same as that of the right. There was still some thickening in the lower part of the femur. The old sinus, which had never healed after the exploratory incision, was enlarged under ether and carefully curetted. Examination of the tissues failed to show any trace of sarcoma.

January 15, 1903: During the past six weeks the patient has lost considerable weight, about twelve pounds, and while the leg shows no increase in size, he has slight evening rise of temperature, suggesting possible metastases.

January 21, 1903: Careful physical examination shows a metastatic tumor about 3 inches in diameter in the left pectoral region, freely movable and apparently situated between the muscle and superficial fascia. There is also a small, deeply situated mass in the lower dorsal region just to the left of the spinous processes. These masses are undoubtedly metastatic tumors, and account for the recent loss of weight. The tumor in pectoral region was removed under ether anæsthesia February 4, 1903, and was typical round-celled sarcoma.

Case III—*Sarcoma of the Parotid*—Mrs. M. H., aged fifty-seven years. Small nodule in the region of the left parotid first noticed seventeen years ago. First operation in May, 1901. Recurrence in August. Second operation in January 1902. Impossible to remove entire growth, and the tumor grew very rapidly after that. In April the patient was admitted to the General Memorial Hospital, being given four exposures a week for six weeks, and while at first there was quite some improvement, the treatment soon lost its effect upon the growth. Later the mixed toxins were given in addition to the *x*-ray, but without causing further improvement.

Case IV—*Small Round-celled Sarcoma of the Pectoral Region.*—E. M., aged thirty-five years. Family history good. Had been twice operated upon for round-celled sarcoma of the right pectoral region by Dr. Maurice H. Richardson of Boston, microscopical examination made by Dr. W. F. Whitney at the Massachusetts General Hospital having proved the growth to be round-celled sarcoma. The last operation was performed in October, 1901. The disease then involved the pectoral and axillary regions so widely that it was impossible to make a complete removal. Amputation of the upper extremity was considered, but not thought advisable. The patient was referred to me by Dr. Richardson in October, 1901. The mixed toxins were administered five to six times a week for three months in doses sufficient to produce a marked reaction. The tumor softened, and in January, 1902, a spontaneous opening occurred with evacuation of about a pint of necrosed tumor tissue, as a result of which the growth diminished about two-thirds.

In February, 1902, the *x*-rays plus toxins were administered, causing continued decrease in the size of the tumor. In June, 1902, the growth had entirely disappeared, and the patient returned to Massachusetts in good condition. Since that time he has been working hard every day and has gained twenty pounds in weight. Recent examination, January 5, 1903, shows the patient's general condition still perfect, but about two inches below the clavical, in the pectoral region, there is a small movable nodule, the size of a hickory nut. The patient returned for treatment February 3, 1903, and the tumor has again nearly disappeared under toxins and *x*-ray treatment.

Case V—*Small Round-celled Sarcoma of the Back.*—W. J., aged eight years, family history good. In the latter part of August, 1901, the patient fell from the stoop, striking the back. Two or three weeks later the mother noticed a swelling over the left scapular region, which increased in size rather rapidly. It was soft and fluctuating from the start. The patient was referred to me in December, 1901, by Dr. Polhemus of Nyack, N. Y. A physical examination at that time showed a cystic swelling, the size of an orange, in the left scapular region. The skin was normal, the tumor fluctuating, situated apparently just beneath the skin and superficial fascia. With a small trocar several ounces of dark blood were withdrawn. The diagnosis of hæmatoma was made, and on January 12, an incision was made under ether anæsthesia. About half a pint of fluid blood with some clots was evacuated. There was no evidence of any tumor at this time. The wound was closed without drainage and healed by primary union. Two to three weeks later, the tumor slowly began to re-form; it was still cystic in character and increased steadily in size, until, on May 6, it had become about one-third larger than prior to the first operation. A second operation was performed. This time, in addition to fluid blood and clots, there was a slight thickening of the walls of the cyst, which made me suspect sarcoma. A portion of this thickened tissue was removed and examined by Dr. H. T. Brooks, Professor of Pathology at the Post-Graduate Hospital, who pronounced it small, round-celled sarcoma. Two weeks after the operation, before the wound had entirely healed, the *x*-ray treatment was begun and continued two to three times a week during the

entire summer, with the result that by October 1 the growth had entirely disappeared. In the middle of October he was taken with an attack of scarlet fever which confined him to the house for eight weeks, during which time he had no treatment. I did not see him again until early in December, when there was a well-marked local recurrence about the size of a hen's egg. The *x*-ray treatment was again advised but carried out very irregularly, as the boy lived out of town. In January regular treatment was begun, three times a week, by Dr. Raymond of New Rochelle, and pushed to the point of causing a slight dermatitis. Yet, in spite of this, the growth showed an increase rather than a decrease in size. January 20, 1903, I excised the tumor.

Case VI—*Sarcoma of the Frontal Sinus—Traumatic.*—Mrs. T., aged sixty years. The tumor appeared in the right frontal region near the median line, just above the orbit, eighteen years ago, immediately after a fall. It remained very small, until four months ago, when it began to increase rather rapidly in size. The patient was referred to me by Dr. Geo. Ben Johnston of Richmond, Va., and entered the General Memorial Hospital November 24, 1902. The combined *x*-ray and toxin treatment was begun, but the patient was so weak that she was unable to take more than one-quarter drop of the toxins. After two weeks' treatment the tumor had considerably softened and she was able to see better from the eye which was nearly closed at the time the treatment was begun. The patient's general condition, however, became weaker and the treatment had to be discontinued January 5. The treatment was resumed two weeks later and the patient is slowly improving.

Case VII—*Recurrent Sarcoma of the Testicle.*—R. M. B., thirty-four years old. Retroperitoneal tumor the size of a man's head, with metastatic tumors of the neck. The tumor of the testis was removed a year before. The mass in the abdomen was first noticed in the spring of 1902. The patient had had a long period of *x*-ray treatment prior to his admission to the hospital, August 27, 1902, without effect. He was treated at the General Memorial Hospital for one month with the *x*-ray in conjunction with the toxins, but the patient's general condition was so bad that the treatment could not be given with regularity or pushed to any extent. The treatmeat was abandoned and the patient returned home unimproved.

Case VIII—*Recurrent Round-celled Sarcoma of Testis.*—A. W. Disease was first noticed two years ago. Testis removed in July, 1902, by Dr. Gerster. Recurrence in upper part of scrotum and groin. Partial removal in October, 1902. *X*-ray, combined with the toxin treatment, begun November 25, 1902. Slight improvement; very foul discharge present at beginning, nearly ceased. General condition not so good. Recovery doubtful.

Case IX—*Sarcoma of Neck, Recurrent.*—J. V. D., aged thirty-seven years. Tumor first noticed in March, 1902; operated upon November 24, 1902. Impossible to remove entire growth. *X*-ray treatment begun December 24, 1902. Still under treatment; little effect upon the growth noticed thus far.

Case X—*Sarcoma of Right Pectoral Region and Neck.*—A. P., male, forty-five years old. The tumor was first noticed two years ago. No operation. At present there is a tumor in the right pectoral region, apparently involving two ribs, and a tumor the size of an egg in the right cervical region. *X*-ray treatment begun December 31, 1902. At present, February 25, 1903, there has been no appreciable change noticeable.

Case XI—*Very Large Inoperable Lymphosarcoma of the Neck.*—G. C., male, aged thirty-eight years. First signs of the disease noticed one and a half years ago. Two operations since. At the last one the growth was found so deeply attached that no attempt was made to remove more than a specimen for microscopical examination. The patient entered the General Memorial Hospital, September 19, having had about forty *x*-ray treatments prior to admission, with no effect upon the growth. *X*-ray plus toxin treatment advised, but continued for one week only, when the patient decided to have the treatment carried out at home. The case was regarded as hopeless.

Case XII—*Sarcoma of Neck.*—L. S. H., aged fifteen years. First operation November, 1901, by Dr. Dowd. Recurrence shortly afterward. Second operation September, 1902, by Dr. Dowd. The *x*-ray treatment was started September 29 as a prophylactic, and continued four times a week, for three months, when the patient was discharged. At present there is no return.

Case XIII—*Melanotic Sarcoma of the Iliac Glands.*—Mrs. N., aged thirty-seven years. Five years ago the primary tumor in the ankle was removed; no local recurrence, but four operations since performed for recurrent growths in the femoral and iliac regions. *X*-ray treatment was begun in February, 1902, and continued fairly regularly for nine months. The growth was held in check, but there was no marked decrease in size. At present, March 5, 1903, slowly improving; she has gained fifteen pounds in weight.

Case XIV—*Spindle-celled Sarcoma of the Cheek and Back.*—Mr. W., aged forty-one years. The tumor appeared in the skin of the left scapula in the early fall of 1902; at about the same time a similar growth appeared in the skin over the angle of the jaw on the left side and gradually extended by infiltration of the adjacent skin. Growth was rather rapid. The tumor of back was removed by Dr. Tomes of Brooklyn; examination showed it to be spindle-celled sarcoma. A section of the tumor of the face, examined by Dr. Geo. P. Biggs, showed it to be fibrosarcoma; it was considered to be of a low type of malignancy. The *x*-ray treatment was begun in October, 1902, four times a week. In addition to this the toxins were given, chiefly in the scapular region, occasionally in the growth of the face. The tumor diminished considerably in size under two and a half months' treatment. The toxins were then discontinued, but under the *x*-ray treatment alone the growth began to increase rapidly and the combined treatment was resumed December 20. At the present time, January 12, 1903, the tumor of the face is slowly decreasing again, in size, and there is no sign of a return in the back. February 25, 1903, the patient is losing flesh rapidly and shows signs of internal metastases.

Case XV—*Spindle-celled Sarcoma of the Superior Maxilla.*—Mr. T. N., aged forty-six years. First signs of the disease were noticed in January, 1899. In June a mass the size of a walnut was removed through the mouth from inner side of antrum. The swelling returned within a few weeks, and partial removal of the superior maxilla was done in August. The swelling again returned, and in June, 1900, he entered the Presbyterian Hospital of this city, where Dr. McCosh performed another very extensive operation. In October the patient returned to the hospital with a large recurrent sarcoma, which was considered inoperable by Dr. McCosh. The toxins were then tried for several months, and while, at first, the improvement was striking, they soon lost their influence upon the

growth and were discontinued. February 10, 1902, the *x*-ray treatment was begun and given for three weeks, without effect upon either pain or growth of tumor.

Case XVI—*Sarcoma of the Right Thigh, Originating in the Femoral Glands.*—W. H. D., aged sixty-five years. Enormous swelling of thigh and leg. *X*-ray treatment by another physician from the end of June to October 21, with the result that the tumor greatly decreased in size and the œdema disappeared. Skin of thigh and abdomen deeply bronzed. In November, 1902, the disease again began to increase in size. *X*-ray treatment was resumed December 15, being given three times a week of five to six minutes' duration. The effect upon the tumor masses was very remarkable; they immediately began to soften and disappear, and at the end of two weeks the thigh had decreased to almost the size of the other. With the disappearance of the tumor general health rapidly deteriorated. The treatment was stopped. The patient continued to fail and died on the 5th of January.

Case XVII—*Recurrent Spindle-celled Sarcoma of the Chest Wall.*—Mr. S., *x*-ray treatment as a prophylactic measure, December, 1902. Six treatments only were given.

Case XVIII—*Small Round-celled Sarcoma of the Thigh.*—Mr. W. J. P., aged twenty-two years. Recurrence after three operations within six months. Toxin and *x*-ray treatment both tried persistently during the summer of 1902 for three to four months. Apparent retardation of growth at first, but later growth continued uncontrolled by treatment and finally metastases developed in lung.

Case XIX—*Round-celled Sarcoma of Thigh.*—Mrs. M. V., aged thirty-seven years. Recurrence after two operations within six months. Combined *x*-ray and toxin treatment given for a month without the slightest apparent effect.

Case XX—*Round-celled Sarcoma of Parotid.*—Mr. R. B., aged twenty-five years. First noticed tumor in September, 1901. Operation in November. Recurrence in December, and in January a second operation was performed, but it was impossible to remove the entire growth. Neither the toxins nor the *x*-ray, which were tried successively, showed any influence upon the disease. The patient's general condition rapidly failed and he died early in April.

Case XXI—*Sarcoma of Neck.*—Mr. K., aged fifty years. Sarcoma the size of an egg; inoperable. *X*-ray treatment begun September 19. Duration of treatment too short to note result.

Case XXII—*Sarcoma of Parotid.*—Mrs. B., aged thirty years. Tumor the size of an orange, firmly fixed to the deeper parts and entirely inoperable. *X*-ray treatment began April 7, 1902, at the General Memorial Hospital, and continued for four weeks. As there was no apparent improvement at the end of this time, the treatment was discontinued.

Case XXIII—*Recurrent Sarcoma of Orbit.*—E. B. T. Combined toxin and *x*-ray treatment was given at the General Memorial Hospital from June to October. The growth was at first held in check, but later the treatment had apparently no effect.

Case XXIV—*Intraabdominal Sarcoma, Retroperitoneal*—I. A., aged forty-two years. *X*-ray. Two years' duration. Symptoms of involvement of right kidney. *X*-ray begun November 10, 1900, continued for six weeks. Slight improvement in general health at first, later no effect.

Case XXV—*Sarcoma Right Superior Maxilla.*—J. S. aged fifty-five years. First noticed ten years ago. Operated upon 1894, 1900, 1901, 1902. *X*-ray begun January 5, 1903. Very little effect noticed in three weeks' treatment.

Case XXVI—J. B., male. Family history negative. In the fall of 1901 the patient noticed a small, hard painless nodule in the outer part of the left axilla. This increased steadily in size until April 9, 1902, when it was operated upon at the Seney Hospital, Brooklyn, in the service of Dr. L. S. Pilcher. The history kindly given me by the house surgeon, stated that there was a tumor mass along the anterior border of the left axilla under the greater pectoral muscle, which was removed by dividing the muscle. The axilla was found filled with hard and enlarged glands, varying in size from that of a bean to a pigeon's egg; some of these glands were closely adherent to the great vessels of the neck. These glands were carefully dissected out. (The specimen was lost and no microscopical examination was made, but supposed to be sarcoma.)

Soon after leaving the hospital, a local return was noticed, and in the latter part of June, 1902, the patient was referred to me for treatment. Examination at that time showed the left pectoral region occupied by a tumor involving the pectoral muscle, and extending from the clavical around into the axilla. It was fairly firmly fixed and inoperable. The patient was admitted to my service at the General Memorial Hospital, and the *x*-ray treatment was administered four times a week by Mr. Agnew and continued the entire summer until the middle of August, when the patient had a slight attack of pneumonia. At that time the tumor had entirely disappeared. After recovering from the pneumonia, he returned to his home in Brooklyn, but came back for outdoor treatment three times a week for nearly two months, the idea being to prevent a return of the disease. At present the boy is in perfect health, without any trace of disease to be found. January 19, 1903: The patient has recently developed enlarged glands above the clavicle while regularly taking the *x*-ray treatment. One of these glands I removed on January 10, and microscopical examination by Dr. E. K. Dunham showed it to be tuberculosis of a lymphatic gland.

Summary of the Cases of Sarcoma.—Twenty-five cases of inoperable sarcoma were treated between February, 1902, and January, 1903. Anatomically classified, they are as follows: Six of the neck; three of the thigh; three intraabdominal cases; three of the parotid; two of the pectoral region; two of the testis; one each of the femur, back, frontal sinus, iliac fossa, chest wall, and superior maxilla.

In four cases of inoperable round-celled sarcoma the tumors entirely disappeared, and up to November 17, the time of the reading of the paper, three had remained free from recurrence.

At present, January 23, 1903, recurrence had taken place in every case. In one of these cases, an inoperable sarcoma of the neck and pectoral region, which disappeared in June, there was extensive metastatic development in both groins and the abdomen in September. The groin tumors have entirely disappeared under renewed *x*-ray treatment, and the abdominal tumor is slowly decreasing in size. As to the present condition of the other four patients, I would refer to the histories of the respective cases given in the foregoing.

Seven other cases have shown improvement. Three of these were round-celled, one melanotic and two spindle-celled. One of the latter is so recent that it is hardly fair to consider it. In another spindle-celled or fibro-sarcoma the toxins were used in addition to the *x*-ray.

In thirteen cases no improvement whatever was noted; one of these was a round-celled sarcoma of the upper portion of the orbit; one an intraabdominal sarcoma, retroperitoneal; one a lymphosarcoma of the neck; one a retroperitoneal round-celled sarcoma secondary to sarcoma of the testis; one a round-celled sarcoma of the muscles of the thigh; one a round-celled sarcoma of the parotid; one a sarcoma of the iliac fossa; one a spindle-celled sarcoma of the superior maxilla.

In two cases the treatment has only been used about a week, and it is too early to state the result. In one case, a sarcoma of the neck, in which the treatment was used as a prophylactic, there has been no recurrence.

In five other cases of sarcoma in which I advised the *x*-ray treatment, but in which it was carried out by other men, I have been watching results with interest. One of these, a recurrent, round-celled sarcoma of the superior maxilla, involving the orbit, was treated by Dr. W. B. Snow for nine months with very remarkable improvement during the first four to five months. The growth at one time had nearly disappeared, but gradually extended more deeply into the orbit and frontal sinuses, causing death in November. The second case, a sarcoma of the mastoid region, very nearly disappeared, under treatment by Dr. W. J. Morton begun in January, 1902, but later the patient developed two or three attacks of cellulitis of the neck with much discharge from the ear, greatly weakening her general condition. She finally died in November, 1902. In a third case, a very extensive round-celled sarcoma of the skull, the *x*-ray and toxins were both used with very little if any effect in checking the disease, which proved fatal in two months. In the fourth case, a sarcoma of the neck and tonsil, of very rapid growth, in a girl of ten, both *x*-ray and toxin treatment were advised and carried out in Baltimore under the direction of Dr. Finney. There was slight improvement at first, but later the tumor grew rapidly in spite of treatment. A fifth case, a spindle-celled sarcoma of the abdominal wall and pelvis, the size of an eight months' pregnant uterus, has shown remarkable improvement under the *x*-ray treatment, administered by Dr. C. E. Skinner of New Haven. The patient was under my care for a year, and while at first the tumor decreased greatly under the mixed toxins, later the treatment failed to check growth and *x*-ray was advised. She has been under treatment now for one year and her general health is much improved. The tumor has decreased some in size, but is still large.

I have, further, treated one case of advanced Hodgkin's disease with the *x*-ray, with remarkable improvement.

The patient, W. B., aged forty-three years, was referred to me September 25, 1902, by Dr. Frank Hollister. No tubercular history. In the spring of 1902 he first noticed a small swollen gland in the left sub-maxillary region. This was quickly followed by a similar swelling on the right side of the neck. In a short time the entire sub-maxillary and submental regions were filled with large glandular masses. Then the glands in the axilla and groins began to enlarge. At the time of his admission to the hospital he had lost considerable weight. In addition to the large glandular tumors already mentioned, there was a hard, immovable tumor consisting of the greatly enlarged spleen, occupying the entire left side of the abdomen, extending to within two inches of the right ant. sup. sp. and within one inch of the symphysis pubis. The patient was put upon the *x*-ray and toxin treatment, the *x*-rays being applied to both his neck and abdomen, thirty minutes a day, four times a week. Frequent blood counts showed the trouble to be typical Hodgkin's disease. Improvement was very quickly noticeable and has continued constant until the present time. He was discharged from the hospital November 1, 1902, and since that time the *x*-ray treatment has been continued three times a week. At present, February 25, 1903, the patient is apparently well; he has regained his normal weight and resumed his usual work. The cervical glands are still very slightly enlarged and the splenic tumor is about one-third the original size at the beginning of treatment. It should be noted that Williams's two cases of Hodgkin's disease, which showed remarkable improvement under *x*-ray treatment, both relapsed in about six months.

Cancer of the Breast.—Twenty-one cases.—In fourteen of these the disease was recurrent and inoperable. One case was advanced primary carcinoma, but not beyond operation. The patient, however, absolutely refused surgical intervention. The *x*-ray treatment was given very irregularly, but the disease has been held in check since March, with slight improvement. In four cases the *x*-rays have been used immediately after operation as a prophylactic measure. On one of these, a carcinoma of rather rapid growth, in a young woman, aged thirty-three years, I operated in May, removing the breast, portion of the pectoral muscle, and axillary glands. I advised the *x*-ray treatment, and about a month after operation the patient went to a private institution, in New York, where she received thirty-five treatments. The patient states that a static machine was used and exposures were made without removing the clothing, and that no effect whatever was noticed upon the skin. During the treatment she had severe neuralgic pain in the scapular region and arm. Physical examination November 20, 1902, showed two hard, recurrent masses, one just beneath the clavicle, attached to the periosteum of the ribs, another on the inner border of the sternum, very firmly fixed. The right arm is much swollen, being one inch larger than the left. The patient has a great deal of pain.

In this case the disease developed and continued to progress in spite of the *x*-ray treatment. However, I believe that the treatment was not pushed to the limit necessary to insure the best result. In November she was treated with a coil and with the exposures pushed to the limit of a dermatitis. She has shown some improvement.

The second case, an advanced, recurrent cancer of the breast, in a single woman, aged forty-eight years. Primary operation, consisting in removal of the tumor itself, without axillary glands or breast tissue, was done in India. The recurrent growth involved both the greater and lesser pectoral muscles and extended into the axilla. On June 30, at the General Memorial Hospital, I removed the diseased tissues with the pectoral muscles as far as possible, but was unable to do a radical operation. Considerable carcinomatous tissue was undoubtedly left behind. She was immediately put upon the *x*-ray treatment and has since July 1, had thirty exposures, with the effect that the induration in the neighborhood of the wound has entirely disappeared, and there is at present no trace of any thickening or hardening either in the pectoral or axillary regions and there is no swelling of the arm. (January, 19, 1903, there is no evidence of the growth present.)

In the third case, operation for carcinoma of the breast with removal of the axillary glands was performed in May, 1902, in a young woman, aged thirty-two years. The *x*-rays have been applied twenty-

five times since as a prophylactic. This patient has no trace of a return.

In the fourth case, a carcinoma of both breasts in a woman aged thirty-three years of very rapid growth and extensive involvement of the axillary glands on both sides, double operation was performed September 9, 1902. The breast tumors were about the size of two fists each, and large masses of glands filled up the axillæ. Sufficient apparently healthy skin was found to close the wound without skin-grafting and the *x*-ray treatment was begun immediately after the wounds had healed. The patient has now had seven weeks' treatment and is at present in good health.

In three cases of recurrent carcinoma of the breast, the recurrence being in the form of small nodules just beneath the skin in the vicinity of the scar, the tumors disappeared entirely after three to four weeks' treatment. In two cases, however, a return followed a few weeks later. In one case the recurrent growth is again yielding to the treatment. The other case is being treated in a distant city. The third case is very recent.

Still a fourth case (recurrent carcinoma of breast) of this kind was in a patient of mine who was referred to Dr. Morton last January for *x*-ray treatment. After three to four weeks, the tumor (the size of a bean) disappeared, but the patient soon developed signs of lung involvement and died a few weeks later.

Most of the other cases were large recurrent masses in breast and axilla, and while nearly all of them showed some slight improvement, in none has the growth entirely disappeared.

Breast Cases.—Case I.—*Cancer of the Left Breast*—Miss D., aged sixty-four years. The patient had been operated upon three times, the last time by myself, in June, 1901, when a small recurrent nodule, the size of a Lima bean, was removed from the periosteum of the seventh rib, at about the internal mamillary line. Six months later another small nodule appeared and was excised under ether In the early part of March a small nodule could again be felt, apparently starting in the periosteum of the fifth rib. This disappeared under six weeks' treatment with the *x*-ray. The patient then left the city, and the subsequent history shows that the nodules returned shortly after treatment was discontinued. Final result unknown.

Case II.—*Cancer of Left Breast.*—Miss G., aged iorty-eight years. Was operated upon in Calcutta, January, 1900, the tumor only being excised; breast not amputated and axilla not opened. Noticed recurrence about a year later. Operation at the General Memorial Hospital, June 27, 1902. A large mass deeply involving the pectoral muscle and axillary glands was removed. Thorough removal could not be accomplished on account of the too extensive involvement. As soon as the wound had healed the patient was put upon the *x*-ray treatment, which was continued three times a week for about two months, then, after an interval of a month's rest, was resumed in October. The indurated area in the pectoral region, which was left after operation, has resumed a normal condition and there has been no swelling of the arm. Up to the present time, February 25, 1903, the patient has had forty treatments and is in excellent physical condition, without any local signs of disease or metastases.

Case III—*Cancer of Left Breast.*—Mrs. M., aged fifty-one years. Left breast removed for cancer eight years ago, a second operation done one year later. In July, 1902, she developed a mass of enlarged glands in the left supra-clavicular and cervical regions. *X*-ray treatment was begun at the General memorial Hospital on July 29, and continued until October 22. The glands showed decrease in size, but did not disappear.

Case IV—*Cancer of Right Breast.*—Mrs. B., aged thirty-eight years. First operation was done in the early part of 1901, six weeks after it had been first noticed. The tumor recurred within six weeks, and on June 10, 1901, a second operation was performed at Bellevue Hospital, the breast and axillary glands being carefully removed. A little over a month after this the patient noticed a local return, consisting of two small nodules; the larger, the size of a Lima bean, just beneath the skin at the former site of the breast, the other somewhat smaller. After a month's treatment with the *x*-ray, three times a week, the nodules entirely disappeared.

Case V—*Cancer of Right Breast.*—Miss S., aged thirty-three years. *X*-ray used as a prophylactic measure. Removal of right breast and axillary glands for carcinoma in May, 1902. Primary wound healing; *x*-ray treatment immediately after for six weeks. Second period of treatment, October, 1902, for four weeks, three times a week. At present, January 12, 1903, there is no return of the disease.

Case VI—*Cancer of Right Breast.*—Mrs. H. A. H., aged forty-two years. No operation. Two tumors of right breast, one the size of a goose egg, the other that of a walnut; axillary glands involved; tumor not attached to the pectoral muscles and not considered inoperable. Operative treatment very strongly advised, but absolutely refused by patient. *X*-ray treatment begun in March, 1902. Patient came for treatment very irregularly and for weeks had no treatment at all, seldom more than two treatments a week. In spite of this the tumors diminished considerably in size, and at present, January 12, 1903, are not more than one-third of their original size. The disease is typical carcinoma of the breast, although no microscopical examinations have been made in this case.

Case VII—*Recurrent Cancer of Left Breast.*—Mrs. H., aged fifty years. Three operations have been performed within the preceding two years, under cocaine. The patient absolutely refused to have the breast removed. A small local return, apparently in the periosteum of the rib, just above the breast, appeared in December, 1901. In January, 1902, I referred the patient to Dr. Morton for *x*-ray treatment. A small nodule, the size of a bean, entirely disappeared under four weeks' treatment with the *x*-ray. In spite of this fact, a few weeks later, the patient developed symptoms of involvement of the pleura lung and died six weeks later.

Case VIII—*Cancer of Breast, Recurrent.*—Mrs. M., aged forty-four years. Tumor of right breast first noticed two years ago. Breast removed February 1, 1902; recurred a few months later. *X*-ray treatment begun December 22, 1902. Condition at time: Extensive local recurrence involving pectoral region and axilla with much œdema of arm. Severe pain. After three weeks' treatment at the General Memorial Hospital no decrease in pain and swelling of arm increased. Local condition not improved.

Case IX—*Cancer of Breast, Inoperable.*—Mrs. S., aged sixty-two years. Tumor appeared December, 1899. Inoperable July 15, 1902, when *x*-ray treatment was begun September 19 and continued twice a week until November 3. Axillary glands decreased in size; no change in size of breast tumor. Patient then went to a nearer hospital for treatment.

Case X—*Cancer of Breast*—Mrs. McC., aged forty-seven years. Tumor in left breast of two and one-half years' duration. Operation two years ago. *X*-ray treatment begun November 26, 1902. Result: no improvement.

Case XI—*Cancer of Breast.*—Mrs. M., aged fifty

years. Tumor of left breast. Recurrent after operation. *X*-ray treatment begun September 5, 1902, at the General Memorial Hospital; continued three times a week. Decrease in pain and softening of tumor. Improvement temporary.

Case XII—*Cancer of Breast.*—Mrs. G., aged forty-two years. Tumor of right breast, first noticed in April, 1902. No operation. When she consulted me, May 2, 1902, the tumor was inoperable and axillary glands much involved. *X*-ray treatment from May 15 to December, 1902; twice a week from May to September, later three times a week. August 15, pain had disappeared. September 8, enlarged glands had nearly disappeared. Slight improvement in main tumor.

Case XIII—*Cancer of Breast.*—Mrs. B., aged sixty years. Right breast removed for carcinoma January, 1898. Recurred March, 1902. Large tumor over sternum and involving same; axillary glands also involved. *X*-ray treatment begun November 11, 1902, and given four times a week at the General Memorial Hospital. Result: slight temporary improvement

Case XIV—*Cancer of Breast.*—Mrs. F.; *x*-ray treatment begun August 18, 1902, twice a week. No improvement. Duration of treatment four weeks.

Case XV—*Cancer of Breast.*—Mrs. C., aged fifty-four years. Tumor first noticed December, 1900. Operation July, 1902. Recurrence. *X*-ray treatment begun September 8, 1902. Duration of treatment, six weeks. Result: Improved.

Case XVI—*Cancer of Breast.*—Mrs. M., aged fifty-four years. Tumor of right breast. First operation in 1883; second in 1898; third in 1901. Local recurrence with axillary involvement. *X*-ray treatment begun September, 1902, three times a week. Slight improvement.

Case XVII—*Cancer of Both Breasts with Axillary Involvement; X-ray Treatment Immediately after Operation as Prophylactic.*—L. D., single, aged thirty-three years. About two years before noticed tumor of breast soon after severe injury from a fall. No operation until September, 1902, when both breasts were entirely transformed into large tumors and both axillæ were filled with glands the size of hens' eggs; no œdema of arms. She was referred to me by Dr. Tracy of Meriden, Conn. I removed both breasts and axillary glands at same operation, and the wounds healed by primary union. The *x*-ray was begun at once and continued four times a week until December 23. While taking the *x*-ray treatment several small shot-like carcinomatous nodules developed in the skin near the site of cicatrix of left side. The patient's health remained perfect until December 30 when she began to lose flesh and develop symptoms pointing to metastases.

Case XVIII—*Cancer of Both Breasts, Inoperable.*—R. P., aged forty-one years. First noticed tumor in September, 1902. Probable duration much longer. Extensive involvement of both breasts and axillary glands. Skin nodules over entire chest, abdomen, back and neck, with secondary tumor in orbit. *X*-ray treatment begun December 29, 1902.

Case XIX—*Cancer of Breast.*—Mrs. McD., aged forty years. Cancer of right breast of four years' duration. Inoperable, involving periosteum of ribs and sternum. *X*-ray treatment begun December 8, 1902. Very marked improvement; decrease in size; cessation of pain.

Case XX—*Cancer of Breast.*—Mrs. R., aged forty-nine years. Tumor of right breast of fifteen months' duration. Operation two months after the growth was first noticed. Speedy return, Inoperable, with extensive œdema of arm, and great pain. *X*-ray treatment begun December 5, 1902. The pain was increased by the *x*-ray; swelling of arm not changed. Died one month later.

Case XXI—*Inoperable Carcinoma of Both Breasts with Metastatic Tumor of Orbit and Extensive General Carcinomatosis of Skin.*—Mrs. P., aged forty-four years. First noticed tumor of orbit few months ago. Did not know she had trouble with breasts, although both were completely involved with typical carcinoma. Small nodule removed from skin confirmed diagnosis. *X*-ray treatment begun December 28, 1903; February 25, 1903, skin tumors much improved. Pain less and general condition better, though the patient is losing flesh.

Cheloid of Both Arms.—E. F., male, aged sixty years. Cheloid following burns of arm eighteen months ago. *X*-ray treatment begun September 26, 1902, four times a week. No improvement.

There were fifteen cases of epithelioma of the head and face, including three of recurrent cancer of the tongue, and three of the superior maxilla. In none of these has the growth entirely disappeared. In one case, a large rodent ulcer of the forehead, there is only the slightest trace remaining. In a second case, a very extensive primary epithelioma of the mastoid region, in a man aged sixty-five years, the growth increased in size considerably. The treatment was kept up for more than six months. During the last six weeks the improvement ceased, and the patient was finally discharged in December, 1902. In one, case of epithelioma of the chest, one-half an inch in diameter, the growth entirely disappeared in four months

Abdominal Cancer.—Up to January 1, 1903, I have observed eleven cases of abdominal cancer treated with the *x*-ray: Two cases of carcinoma of the sigmoid and rectum, five of the uterus, one of the bladder, three large intraabdominal sarcomas, one of them a very extensive growth, secondary to round-celled sarcoma of the testis, filling up the entire abdominal cavity. One case of inoperable recurrent cancer of the uterus involving the abdominal cicatrix, in a woman thirty-five years of age, showed no improvement after a month's treatment.

In a second uterine case, treated in August, 1902, involving the cervix, and considered inoperable by Dr. G. W. Jarman, the discharge ceased entirely after a few treatments, and at the end of three months Dr. Jarman stated that the disease had apparently entirely disappeared. I have not made a physical examination since the treatment was discontinued, but in a letter dated January 15, 1903, the patient states that she is in perfect health and has no vaginal discharge. No recent examination has been made, however, by her physician. The other uterine cases all showed decrease in discharge and the pain was diminished.

In one case, a carcinoma of the rectum and sigmoid, treated by my associate, Dr. Finley R. Cook, there has been decided decrease in the size of the sigmoid tumor, improvement in general symptoms, and several pounds gain in weight. The patient was getting worse rapidly before the treatment was begun. There has been, however, very little, if any, effect in controlling the pain, even larger doses of morphine being required than prior to the beginning of the treatment. In this case the interstitial injections of the mixed toxins were given in addition to the treatment with the *x*-ray, for a period of three months. (March 9, 1903: The patient is still under treatment, and the tumor has decreased so much that it can hardly be felt on palpation.)

My case of extensive inoperable round-celled sarcoma of the neck, pectoral region, and axilla, which disappeared under the *x*-ray treatment in June and recurred in September, is of further interest in con-

nection with the influence of the *x*-ray upon abdominal growths. When she returned in September, the most extensive recurrence, or rather, metastasis, was in the region of the ascending colon, forming a tumor the size of a large grape fruit, freely movable and apparently located in the mesentery of the ascending colon. Under the *x*-ray treatment with a high tube, four exposures a week, for the last six weeks, this mass has decreased one-half in size, although she is rather stout and has a thick layer of adipose tissue over the abdominal wall. (February 21, 1903. The tumor is still slowly decreasing.)

The Relative Merits of the Toxins and X-Rays in Inoperable Sarcoma.—The time has been too short and experience too limited up to the present to definitely decide this question. It is fair to say, however, that in several cases of inoperable round-celled sarcoma in which the toxins had been tried and failed, the *x*-ray caused entire disappearance of the tumors. Yet, all of these cases are of recent date, yet in all there has been a speedy recurrence.

On the other hand, in a much larger number of cases of inoperable sarcoma, the tumors have entirely disappeared under the toxins and remained well from three to ten years after treatment. I have had twenty patients with inoperable sarcoma remain well from two to ten years after the disappearance of the tumor under the mixed toxin treatment. Of these, fifteen patients were well from five to ten years.

I had the opportunity of observing the effect of the *x*-ray upon only three cases of spindle-celled sarcoma, and found it to be exceedingly slight in all. Yet, it is just in this class of cases—the spindle-celled—that the result of the toxin treatment has been by far the most satisfactory, nearly 50 per cent. of the cases of inoperable, spindle-celled sarcoma having disappeared under the treatment in my own experience. In the round-celled variety, however, upon which the influence of the toxins is much less pronounced, the immediate results from the *x*-ray treatment seem to have been the best. In one of my cases, a very large inoperable round-celled sarcoma, two-thirds of the growth had disappeared under the toxin treatment, and at this point the *x*-ray was used in addition to the toxins with the result that the entire tumor disappeared three months later.

In deep-seated and inaccessible growths the results from the toxins will probably prove better than from the *x*-rays.

There is no objection to using both methods of treatment at the same time, and there is reason to believe that the combined treatment will give better results than either used alone. There are a large number of cases of inoperable sarcoma treated either with the *x*-ray or the toxins, in which inhibitory action is almost, but not quite, sufficient to check the growth, and it seems but reasonable to suppose that the combined action of the *x*-rays and toxins might be sufficient not only to check the growth, but to cause it to disappear.

Technique.—I believe that it is impossible to lay down any dogmatic rules as to an ideal technique. The method is still in the early experimental stage; the question of the relative value of the static machine and the coil is still unsettled. The evidence at present would go to show, however, that the results are about as good from the use of one apparatus as another, provided the ray is sufficiently powerful. In tumors of large size, a 12-inch coil is probably better than an 8-inch, and a high tube better than a low tube. My own cases were treated with the Willyoung and Queen 12-inch coils. The method is wholly experimental as yet, and we are merely groping in the dark and here and there picking up facts that promise, when correlated, of being of great value in perfecting our methods. There is already one serious result that has come from the laity having, through the press, obtained exaggerated ideas of the value of this method.

Patients with cancer, always with the natural dread of the knife, and prone to try all means first, are seeking *x*-ray treatment when the tumors are in the early stages and easily removable. While some few of these cases may possibly be cured by the *x*-rays, probably a larger number will become inoperable before consulting the surgeon.

Dangers.—Numerous lawsuits have been brought for injuries from burns caused by either careless application of the rays, or unusual susceptibility on the part of the patients to their influence. It is, therefore, very important that, before undertaking to treat a case, the physician should guard himself against trouble of this sort. The patient should be told beforehand, that a burn may occur; that, in fact, it may be wise to push the treatment so far that in all probabilities a burn will occur. Patients must assume the risk of such results. In my own experience I have had only two slight burns, which healed up in a few weeks without a scar. One curious result, unlike anything I have thus far seen reported, occurred in the case of sarcoma of the femur that I mentioned above. This was a general, eczematous, bullous dermatitis, of very severe type, with a large amount of scab and exudate, starting in the area subjected to the rays and spreading over the entire body. This has yielded very slowly to treatment.

Danger of Toxæmia.—From too vigorous an application of the rays in large and very vascular tumors, the rapid breaking-down or tissue necrosis is followed by the absorption of so much of the toxins or products of degeneration, that the patient is liable quickly to develop the symptoms of toxæmia, which may easily prove fatal, as has been the case in several instances that have come to my knowledge. There is also the possible danger that in the rapid breaking down some of the living tumor cells may be carried to remote parts of the body, causing metastases.

With our present knowledge I do not believe we are justified in using the method in any but inoperable growths, and chiefly those of external origin. At present there is no convincing evidence that the *x*-rays do much good in internal growths, for example, cancer of the stomach, abdominal organs, including bladder, uterus, and rectum. I have tried the *x*-ray in a number of cases of this character at the General Memorial Hospital without much improvement. I should not advise the *x*-rays in any operable growths. It is far better to remove the tumor and then give *x*-ray exposures for a period afterward, as a prophylactic against recurrence. The value of this after-treatment can only be determined by systematic trial in a large series of cases over a long period of time. Yet there is a strong *a priori* reason for expecting beneficial results from such a source.

There comes up for consideration, however, a class of cases which, while operable, may, I think, be regarded as suitable for at least temporary treatment with the *x*-ray before resorting to operation. I refer to sarcoma of the extremities, in which the only operation would necessitate the sacrifice of the limb.

It might be argued with good ground that a delay of even a few weeks while trying the *x*-ray in such cases, for example, in a periosteal sarcoma of the femur or tibia, might be enough to allow metastases to occur in the lungs or elsewhere. On the other hand, it might be said with equal propriety, that the chance of curing, for example, a sarcoma of the femur,

even by hip-joint amputation, is so slight (hardly 2 per cent.) that the risk of delay might well be taken.

In still another class of really operable cases there are many who believe that the *x*-ray will yield better results than excision; that is, small epitheliomas of the face. In the discussion of inoperable cancer before the recent meeting of the British Medical Association, no less an authority than Malcolm Morris, who is himself a firm believer in excision as the only rational method of treatment in almost all forms of malignant disease, advocates the *x*-ray in many cases of operable epithelioma and rodent ulcer of the face, because of the excellent cosmetic results and destructive effect of the rays upon insidious non-evident foci. And yet, we must not suppose that all cases of small and superficial epitheliomatas of the face will yield rapidly to the *x*-ray. I have a woman under treatment with a small epithelioma of the bridge of the nose extending to the inner canthus of the eye, that has had *x*-ray treatment for five months with only very slight improvement. In another case, an epithelioma of the forehead, the treatment was continued steadily for nearly a year, before the disease disappeared. Thus far there has been a tendency to early recurrence in these cases.

My experience thus far leads me to believe that while in the *x*-ray we have a most valuable therapeutic agent for inoperable cancer of all varieties, in the great majority of cases the beneficial influence of this agent is only temporary. Yet, in a small proportion of cases, mostly superficial epithelioma and sarcoma, the tumors have disappeared and there is reason to hope that in a few of these cases a permanent cure may result.

These results while sufficient to warrant us in advising the treatment in all forms of *inoperable* malignant disease (not too far advanced) by no means justify us in offering this method as a substitute for operative treatment in primary operable tumors.

Conclusion.—Let us look for a moment at the results thus far obtained. We find abundant evidence that the *x*-rays have an inhibitory action on all forms of malignant tumors. Yet, the number of cases is insufficient to enable us to state what particular varieties are most susceptible to this influence. So far it would seem that sarcomas primary in the lymph glands yield most readily to the treatment. Superficial epitheliomas might be placed in the same category. Several cases of recurrent carcinoma of the breast have been observed in which the growths have entirely disappeared after prolonged exposures of the *x*-rays. Yet all these cases have been too recent to be classed as cured. In fact, *sufficient time has not yet elapsed in a single case of cancer treated with the x-ray to justify us in regarding it as cured.* While this should, on the one hand, prevent us from reporting patients as cured in whom the tumors have merely disappeared under treatment, it should not, on the other hand, lead us to minimize the importance of these immediate results, even be they no more than a prolongation of life or an alleviation of suffering. One cannot witness the marvellous melting away or disappearance of an undoubtedly malignant tumor under a few weeks' or months' treatment with the *x*-ray, without feeling that we have a new and powerful addition to our hitherto scanty means of attacking this disease. The knowledge of this new agent is so slight that there is added hope in our very ignorance. For by deeper insight into its nature, gained by further experience, we may hope to better utilize its power, and thus accomplish greater results. In the meantime, while the *x*-ray has a legitimate place in the treatment of *inoperable* cancer, present data do not warrant us in advising the method in *primary operable cases.*

5 Park Avenue.

SIGMOIDOPROCTECTOMY FOR CANCER OF THE RECTUM.

By GEORGE W. ROBERTS, M.D.,
NEW YORK.

In spite of the numerous methods which have been and still are advocated as beneficial to, or curative of cancer in general, the one resource which has stood the test of time and is of avail in any considerable proportion of cases, is the early and complete removal of all cancerous tissue by surgical means. We are now in possession of a tolerably good idea of the routes by which the growth extends, and have learned much of the reasons for our earlier failure in the surgical treatment of this affection.

We are obliged to assume that early recurrence after operation means that our operation has been incomplete, either necessarily or inadvertently. As this statement may be considered somewhat broad, it perhaps deserves elucidation. It refers to *early* recurrence only, for the question may arise in some of the later recurrences whether or not they are true recurrences at all. As we are not yet in possession of a well-accepted theory of the cause of cancer, it is quite possible that we shall ultimately classify the cancer which recurs from four to ten years after removal of the primary growth as an entirely separate lesion, dependent upon the continued action of the original cause, whatever that may be demonstrated to be.

We are familiar with the clinical behavior of the different forms of cancer, and we recognize that it now and then develops following operation, or recurs if you choose to use that term, at a date so late that it could not possibly have been present at the time of operation, and now have reached appreciable size long before the recurrence took place.

Pathological research has taught us that the macroscopic appearance of tissues contiguous to a cancerous growth is not to be trusted, that peninsulas and islands of cancer are of frequent occurrence; but above all, that the lymphatics many inches away from the primary growth not only *may* be, but almost always *are*, involved, even though the primary growth is still young. Furthermore, the microscope shows that although these lymph nodes are perfectly normal in macroscopic appearance, they may be cancerous, and that we have no test short of microscopic examination by which we can distinguish the healthy from the recently involved lymph nodes.

Working upon this basis, operators in various special fields have evolved, more and more, radical methods, all tending toward wide removal of the growth or the organ itself, and especially toward removal of the lymphatics in the centripetal direction as far as the anatomy of the part will permit. In other words, the tendency is toward removal of the lymphatics to such a distance that the procedure must be suspended on account of interference with vital organs.

The more marked examples of this tendency are to be found in the work of Halstead in his breast amputation, and in that of Kelley and Cullen in their work upon cases of uterine cancer. Not only does this work appeal to our surgical sense, but statistics are rapidly becoming available which justify the more thorough and far-reaching method. Especially does this apply to cases of

cancer of the breast, for, before the advent of the Halstead operation, many active surgeons questioned whether amputation and removal of the macroscopically diseased glands were worth while, whether such cases were not as well off if not operated upon.

To-day, however, while we are obliged to admit a very material percentage of recurrence, scarcely any surgeon of experience questions the advisability of radical removal of the entire axillary lymph apparatus and the execution of the other details of the Halstead method.

Kraske, Schwartz, Edebohls, and others have taken the initiative in a similar direction in their operations for cancer of the rectum; but we regret to say that their examples do not seem to have been very enthusiastically followed by surgeons in general, nor even by rectal surgeons, if we may judge by the recent textbooks of Tuttle, Gant, and Matthews.

The importance of this subject is apparent to any one who has in charge a case of cancer of the rectum; but to those who have not, a few statistics may be of interest. About 5 per cent. of all cancer is located in the rectum, and over 6 per cent. in the rectum and sigmoid. Of all intestinal cancer about 80 per cent. is in the rectum.

Of the cases of rectal cancer only about 7 per cent. are at the anus, and 26 per cent. in the infraperitoneal portion of the rectum, while 67 per cent. are in the supraperitoneal portion of the rectum. These figures, compiled from many sources by J. P. Tuttle and others, show this condition to be much more prevalent than one would at first suppose, and if Roswell Park's statement that statistics show cancer to be rapidly on the increase is true, the subject must of necessity grow in importance.

We have not up to the present time any very pleasing statistics to quote as to the results of operative treatment of cancer of the rectum, yet it is true that even the imperfect methods of the past have proven vastly superior to a palliative or "let alone" policy. The average case of cancer of the rectum proves fatal within one year unless it is operated upon. The average life after *successful* operation is two years and a half, while the primary death rate is about 20 per cent.

Assuming the three-year limit without recurrence to mean cure, Hupps' table, made up from the records of various operators, shows that about 15 per cent. are cured. Tuttle reports that, counting a *four-year* limit as a cure, his own records show the ultimate recovery of 21.8 per cent.

Various operators have reported many cases which have been traced for long periods and found still free from recurrence: Cripp, one case, twelve years; Quenu, one case eight and a half years; Boeckel, one case eight years; Kocker, one case, each ten, fourteen, and sixteen years.

From these figures we can draw at least some solace and look hopefully for the results of a more perfect procedure.

We do not believe that a radical technique has been generally adopted, and it is with the desire to add even a little to the definition of this subject that we take the liberty of reporting in abstract two cases previously reported, and a third, as yet unreported, in which we assisted a friend to operate; also to record in as detailed a manner as we may, an operation which was conceived independently, but which corresponds very closely with the previously published method of Schwartz.

More mature experience and thought have led us to modify somewhat the technique reported in the paper above referred to, and it seems that the technical modifications are so vital that they warrant description at this time.

Analysis and comparison of the various operations which have been and are commonly executed for the radical or palliative treatment of cancer of the rectum, would necessitate a monograph upon the subject, and we therefore refer anyone deeply interested to the recent exhaustive treatise of Quenu and Hartmann and the writings of Kraske, J. P. Tuttle, Matthews, and others. We wish to make, however, this general statement: that each of these methods has some very objectionable features. The majority of them are incomplete in that they deal mainly with the primary growth from below, necessarily ignoring the lymphatics which converge in the sacral hollow very much as the lymphatics from the breast converge in the axillary space, even to its apex.

Many of these methods attack the growth by the posterior route. This results in a bloody and difficult operation, with little better access to the growth than the perineal route, and no opportunity to inspect and remove the sacral lymphatics.

In our opinion, only those methods in which the abdomen is freely opened from above are, in this day of surgical progress, worthy of our attention, and we believe that careful pathological research will demonstrate this fact, as it did in the case of W. B. S., an abstract of which is submitted herewith. Of this class of operations the newer method of Kraske, by the abdomino-sacral route, is unnecessarily severe and bloody, and is weakened by an attempt to preserve the anus, which in many cases must cost the patient his life.

The operation of Schwartz has the serious drawback of a left lateral incision, which must of necessity give rather poor access to the deep pelvis, and again attachment of the gut to the parietal peritoneum is not, in our experience, necessary.

The technique, a description of which follows, has been somewhat modified with each successive case, and there is doubtless room for further improvement. No claim of priority is made, for over twenty years ago Volkmann foreshadowed, in his writings, the general principle upon which it is based, while Edebohls, in the *American Journal of Obstetrics*, August, 1901, reported a somewhat similar procedure, and Schwartz in November, 1898, executed practically the same procedure, except that his incisions were less favorably located.

Operation.—The patient is prepared in the usual manner pursued in our laparotomy cases, which consists of a diet of animal food exclusive of milk, large quantities of water, rest in bed, the avoidance of catharsis, the rectum being emptied by enemata and the field prepared by a method which does not differ materially from that in general use.

The patient is placed in the Trendelenburg posture, and a liberal median incision into the abdomen is made. The liver and other abdominal organs are inspected to determine the possible presence of metastatic growths, and if such are found the operation had best be abandoned in favor of colotomy or some other palliative procedure.

The rectum and sigmoid are now inspected to determine the extent of their involvement. The sigmoid and descending colon having been somewhat pulled down toward the pelvis, the whole upper abdomen is isolated from the field of operation by means of bolsters and gauze packing.

We now proceed to make an artificial anus somewhat after the method of Witzel, as follows: An incision one and one-half inches long, parallel with

Poupart's ligament, and extending through the external oblique, is located somewhat internal to the left anterior superior spine of the ilium, the edges of this incision having been widely retracted, the opening into the abdominal cavity through the internal oblique, transversalis, and peritoneum is completed after the manner of McBurney's appendical incision by separating the fibers rather than cutting them.

Two inches below this and parallel to it (about one and a half inches above Poupart's ligament) a similar incision is made through skin only; dissecting now from one to the other in the subcutaneous cellular tissue, a bridge of skin is raised under which the gut terminus is to be drawn.

We now select about the highest point on the sigmoid (at least four inches above appreciable cancer) which can be drawn out through the upper incision, down under the skin bridge and out at the lower opening; all this is a matter of approximate estimation. The mesentary of the sigmoid at this point is now transfixed by two pieces of coarse silver wire, the gut is milked free of pieces, the pieces of silver wire encircle it near together, and each is twisted down hard. The gut is now divided between the wires, and the mucous membrane of each end thoroughly cauterized with the Pacquelin. The scissors or knife used for this incision are isolated from the other instruments and the field carefully disinfected. A forceps passed through the lower skin incision under the skin bridge, through the upper incision into the abdomen grasps the terminus of the gut and draws it to the skin surface.

This portion of the operation is now abandoned, unless it should be found necessary to liberate the mesosigmoid in order to approximate the gut terminus to the lower skin incision. In this case the liberation is effected by slightly nicking the peritoneal layers of the mesosigmoid without injury to the vessels lying between them.

If it chance that this intestinal section is at a point where the blood supply comes from branches of the sigmoid, as is usually the case, we proceed at once to ligate the mesentery in sections downward toward the pelvis and backward toward the spine, till an open space is reached between the branches of the sigmoid artery and the superior hemorrhoidal. As this part of the operation proceeds, the upper end of the rectal segment is gradually drawn toward the lower angle of the incision. Now, with a pair of long-handled scissors, the right peritoneal layer of the mesosigmoid and mesorectum is incised, extending down beside and close to the gut to the point where the gut disappears into the floor of the pelvis; here the incision passes around the gut anteriorly and toward the left between it and the vagina in the female, and the base of the bladder in the male. This incision is now met by a similar one of the left layer of the peritoneum forming the mesosigmoid and mesorectum.

Lying between the two incisions, back of them, and underneath the flaps which will be formed by dissecting up the peritoneum in an outward direction on each side, is a mass of loose areolar tissue, fat, sacral lymphatics, the superior hemorrhoidal artery and its branches, and little else; working back into this areolar space, after having lifted up somewhat the peritoneal flaps formed by these incisions, we easily reach the superior hemorrhoidal, where it passes over the promontory of the sacrum and find ourselves in a nest of lymph nodes.

The artery is ligated and cut short, thus controling practically all the circulation of that portion of the rectum with which we deal from above. Pulling the rectum now still further forward with blunt scissors and the fingers, we are able to clean out the entire sacral hollow from the promontory downward, leaving all the questionable tissue attached to the rectum as a shaggy mass. This dissection is continued downward quite a distance below the disappearing point of the rectum in the floor of the pelvis.

The incisions at the side and in front of the rectum are somewhat deepened, and the blunt dissection continued until the whole organ is isolated down to the rigid pelvic floor.

The most gratifying part of all this procedure is the ease with which it can be accomplished, and the absolute freedom from hemorrhage after the ligation of the superior hemorrhoidal artery.

If the operation is on the female subject, the vagina having been thoroughly prepared before beginning, the assistant passes a uterine dressing forceps into the vagina, making its blades prominent in the posterior cul-de-sac. We now cut through into the vagina from above, place the proximal end of the rectal segment in the blades of the forceps and start the process of drawing the rectum into the vagina. If, on the other hand, the subject is a male, we reverse the position of the rectum, carrying its superior end down to the very bottom of our posterior dissection, where it is abandoned. In other words, in the female the upper end of the rectum now forms the anterior limb of a loop ending in the incision into the vagina, while in the male it forms the posterior limb of a similar loop ending near the coccyx.

The whole mass of rectum and excised tissue is now dropped into the pelvis, the peritoneal flaps are drawn up over and across it and quickly sutured together with fine catgut. We find that these flaps easily approximate and serve to isolate completely the field of the balance of our operation from the abdominal cavity.

The abdominal portion of the operation is now complete, and we proceed at once with the toilet, the covering over of any raw surfaces and the suture of the abdominal wound in layers according to our usual custom.

A temporary dressing is applied, the patient is placed in the lithotomy position, and from this point on our procedure must vary with the sex of the patient.

Approaching the field of operation from below, in woman the forceps passed through the vagina is attached to the upper end of the rectum, just entering the short incision made from above. We proceed at once to cut from this incision downward exactly in the median line, thereby splitting the perineum straight back to the rectum. As the incision on to the skin surface of the perineum approaches the anus, it divides to encircle it. Retractors are now introduced, the perineum pulled well apart and the lower end of the rectum freely dissected out. If the light is good and the assistants make proper retraction, there is nothing to hinder cutting boldly, rapidly, and wide of the growth, removing the whole mass with very little danger of soiling the wound.

This having been accomplished, the perineum is restored with catgut and silk-worm gut sutures, a small gauze drain having been left in the upper end of the vaginal incision, while the dependent anal wound is left slightly open.

In the male, on account of the proximity of the bladder, urethra, prostate, and seminal vesicles in front, it is better to approach the rectum from behind. This is done by means of an incision

encircling the anus and extending up the median line posteriorly nearly to the tip of the coccyx. This incision is deepened, and we begin the isolation of the rectum from below after having occluded its anal end with either forceps or a ligature. It is not at all difficult to carry this dissection up to a point where we break through into the pelvic fossa and meet the upper end of the isolated rectal segment which we had deposited in the depth of the pelvis.

We have followed the plan of executing this procedure in the lithotomy position. It is possible, however, that a lateral or semi-prone position would be more convenient.

It has not as yet been nccessary to extend the posterior cut as far as the tip of the coccyx. There is no reason, however, why it cannot be extended considerably higher by going to the left of the coccyx as recommended by Kraske and many of the French and German operators.

The completion of the removal of the entire mass through this incision is very little more difficult than in the female; and in the cases which we have observed, the hemorrhage has been neither very profuse nor difficult to control.

The entire mass, having been finally removed from below the wound, is largely closed by means of three or four deep sutures—an opening having been left for drainage.

The completion of the artificial anus has in our cases been determined somewhat by the condition of the patient. If the patient is in a precarious condition (and the operation is necessarily a protracted one) it is not absolutely necessary to spend much time over the careful adjustment of the artificial anus, and it might be wise to leave this matter until the final stage of the operation. We have completed the artificial anus by merely introducing about ten catgut sutures to attach the intestinal terminus to the skin at the lowest lateral incision, and have sutured the skin of the upper incision.

It is a waste of time to sew the intestinal to the parietal peritoneum. We have been in the habit of using an occlusive dressing for our median incision, thus preventing its contamination from the artificial anus. Should it seem desirable to introduce into the abdomen a saline infusion, it can be easily done through the upper lateral incision after the perineal work is completed.

Case I—Mrs. R., aged forty-seven, multipara. Family history negative as to cancer; lost right limb by amputation for tuberculosis of the knee at the age of thirty-two; was operated successfully for procidentia by the writer (amputation of the cervix, perineorrhaphy and ventrosuspension). Has had bloody stools for some months. Examination revealed cancer, extending from within an inch of the anus to a point beyond the reach of the examining finger.

Operation, January 10, 1902, as described above, except that the abdomen was not closed till after the vaginal work had been completed. Result: Apparent complete recovery, marked gain in general health, excellent control of both gas and fæces by means of a hard rubber cup and bandage.

Conclusions.—(1) The accepted methods of operating for cancer of the rectum correspond in lack of thoroughness to the old-fashioned amputation of the breast, supplemented by removal of a few enlarged lymph nodes from the axillary space. This operation has been supplanted by the superior technique of Halstead and a more radical method of dealing with cancer of the rectum, which n cludes removal of the sacral lymphatics, is indicated with equal clearness. (2) In very few cases of rectal cancer indeed is it possible to remove completely even the primary growth from below, for it appears that many inches above the ending of the macroscopic growth cancerous tissue is still found in the mucous membrane (case III). We cannot conceive of the complete removal of the infected glands from the sacral hollow by any of the vaginal, perineal, or sacral operations. (3) While no one should underestimate the misfortune of an artificial anus, it should be remembered that sphincteric control is frequently lost after severe rectal operations, even though the anus is preserved, that in this case the opening is very disadvantageously located for mechanical control, and that an artificial anus constructed as above described is practically perfect. (4) We believe that in the vast majority of rectal cancers the above—or some equally radical procedure—should be executed if the patient is to receive the benefit of modern, instead of obsolete, surgical principles. (5) This procedure presupposes a perfect surgical technique, and rapid but painstaking work, and especially would we emphasize the great importance of completing the abdominal work before attacking the perineal portion of the operation.

Case II—Mr. L., aged forty-two, American, pianopolisher. Father died of consumption, aged forty years; mother of Bright's disease, aged thirty years. No previous illness, always well and strong. One year ago was attacked with diarrhœa, which has continued ever since, always accompanied by considerable gas. Bloody stools for many months. Marked pallor and emaciation. Examination with the proctoscope shows a large indulated mass upon the rectal wall, about four inches from the anus and extending upward three or more inches.

Operation, May 5, 1902, under gas and ether. Time, three hours and ten minutes. Infusion salt-solution one pint. In this case the sigmoid was brought out just above Poupart's ligament, and the anus located upon the anterior surface of the thigh. Reoperated on September 18, 1902, for change of position of anus from anterior surface of the thigh to the abdominal wall. Present condition: Good control of gas and fæces by means of a cup and bandage. Gain in flesh, able to work, and appears perfectly well.

Case III—Mr. W. S.. aged forty years, American engineer. Operated upon by Dr. E. G. Tuttle, assisted by the writer. One year ago noticed an itching about the anus. One month later diarrhœa developed three to four times a day. Two months later blood appeared in the stool and pain of dull aching character in rectum extending to pubes. This has continued, and patient lost twelve pounds.

Operation, October 9, 1902. Time, three hours and twenty minutes. Stimulation with strychnine. Died October 12, 1902, of septic peritonitis. Autopsy shows perfect healing of the peritoneal flaps with perfect condition of the gut terminus. While Dr. Tuttle was the operator, the writer assumes a share of the responsibility for the infection, because owing to the extremely bad condition of the patient we were obliged to disarrange somewhat the usual orderly technique and both work as rapidly as possible.

Pathological examination by Dr. W. H. Dieffenbach: (1) Glands five inches from anal orifice. These were found to be carcinomatous. (2) Glands six inches from anal orifice. These were also found to be carcinomatous. (3) Mucous membrane eight inches from orifice, contained cancer

neses. (4) Mucous membrane eleven inches (about sixteen inches in the fresh state) from orifice, contained cancer nests filled with cylindrical cells.

This last section was but one inch from the extremity of the intestinal excision.

The top of the specimen, mucous membrane and glands, showed no carcinomatous change.

170 West Fifty-ninth Street.

A CASE OF ADENOIDS WITH MALARIA.*

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Some interesting symptoms which developed in one of my patients, after an adenotomy, leads me to make this report. A full history of the case is as follows:

M. T., girl, healthy at birth; but one month later symptoms of nasal obstruction made their appearance and increased until they interfered with her feeding and sleeping. The weight at four and one-half months was sixteen pounds. She was unusually pale, but otherwise seemed well.

On September 18, when she was five months and eight days old, I removed ten small pieces of lymphoid tissue from the nasopharynx without anesthesia. The following day she was very bright, and gained eight ounces the first week after the operation, four ounces in the second week, and three ounces the third week.

On October 4, a little over two weeks after the operation, she became fretful and irritable in the evening, and continued so each evening until the sixth, when she was restless the entire night. On the morning of the seventh the temperature was 105° F. In the afternoon I visited the patient and the temperature had then fallen to 100° F. The strength of her feedings was now reduced, but no diagnosis was made. A member of the family reminded me at this time that a sister of this baby had her adenoids removed when six months old, and that two weeks later she also developed a temperature of obscure origin. It was also suggested that the removal of the adenoids in both cases might in some way account for the temperature. I, of course, gave the suggestion every consideration, and examined the pharynx, nasopharynx, and every part of the upper air tract. The results were negative. The glands of the neck were also examined, as I thought an acute infection might have occurred without any evidence in the pharynx.

On the morning of the eighth the temperature was 100° F., but in the afternoon she became drowsy and the temperature rose to 105.3° F. The family were in the country, and I advised over the telephone their return to the city, which they did the next morning. I again examined the child very carefully, with a lingering suspicion that some infection might have taken place from the nasopharynx. Nothing local or general could be discovered excepting a slight enlargement of the spleen. This, with the sudden elevation of temperature and its rapid fall, made me suspicious of malaria. Further inquiries developed the following interesting facts:

The family had spent every summer in the same locality, and one of three children had developed malaria. The mother, who is unusually intelligent in matters pertaining to her children, had been cautioned against allowing the little ones to be bitten by mosquitos, and to avoid this she made a special effort to procure very fine nettings to protect the baby, and is absolutely confident that it was not bitten during the summer. On September 23 an older brother had a birthday party, and in the excitement attending the entertainment the netting covering the baby was disarranged, and the mother found a mosquito biting the baby on the right cheek. Two bites were found on the same cheek, but only one mosquito was seen. The bites were unusually severe, and were apparent two weeks later. The time between the bites and the appearance of the temperature, being about the accepted period of incubation of malarial fever, was considered an important link in the diagnosis. Blood was taken from the left ear on the evening of the ninth, and on examination showed anæmia, leucocytosis, and plasmodia malaria of the tertian variety. Bisulphate of quinine was begun at once, six grains a day both by mouth, rectum, and inunction. This was continued for a week with some benefit. On October 17 the temperature rose to 104.3° F. Dr. Holt was called in consultation and confirmed the diagnosis, and advised doubling the dose of quinine by mouth, and discontinuing the other administrations. A pronounced chill occurred the same evening, during which the patient became blue and shook violently. The following table of the highest and lowest temperature in twenty-four hours gives also the amount of quinine administered in that time, and shows how it was increased until the maximum dose of twenty grains was reached:

Date 1902.	Highest temperature in 24 hrs.	Lowest temperature in 24 hrs.	Amt. quinine by mouth in 24 hrs.
Oct. 8.	105.3 F.	100 F.	None
" 9.	104.2	102.2	"
" 10.	104.3	101	Grs. vii
" 11.	100	99.4	" vi
" 12.	103.1	98.2	" ii
" 13.	103.2	101.3	" vi
" 14.	103.2	102	" vi
" 15.	103	101.2	" vi
" 16.	103.2	101.1	" vi
" 17.	104.3	98.2	" vi
" 18.	102	98	" xii
" 19.	102.4	99.3	" xii
" 20.	101.1	99	" xvii
" 21.	99.4	98	" xx
" 22.	99.2	98	" xiv
" 23.	99.2	98	" xiv
" 24.	99.3	98.1	" xv
" 25.	99.3	98.1	" iv
" 26.	99.2	98	" viii
" 27.	99.2	98.1	" iv
" 28.	100.2	99	" viii
" 29.	100	99	" viii
" 30.	100.2	98.1	" x
" 31.	100.3	100	" viii
Nov. 1.	101	100	" x
" 2.	99.2	98.2	" x
" 3.	98.4	98.2	" viii
" 4.	99	99	" vi
" 5.	99	98.4	" viii
" 6.	99.1	99	None
" 7.	99	98.4	"
" 8.	99.1	98.4	"

Total amount quinine in 27 days ..... 241 grs.

After the large dose of quinine the temperature rose only once above 100° F., and there was a general improvement in all the symptoms. A blood examination made on the 23d of October showed polymorphonuclear leucocytosis and pigmented leucocytes, both indicating recent malaria. The quinine was given in four-grain doses one hour before the feedings, and was vomited only six times, a second dose being repeated immediately when this occurred, and was always retained. The food was rejected eight times and I believe was due more to the malarial poison than to the quinine. No unpleasant symptoms developed from the quinine, excepting possibly some restlessness on the night of the 27th

*Read before the Pediatric Section of the Academy of Medicine.

of October. The loss in weight between October 8 and November 2 was twenty-two ounces. On November 4, two days later, an increase in weight began, and during the following week there was a gain in weight of nine ounces. The quinine was discontinued on the 6th of November, and up to the present time there has been no return of malaria.

Remarks.—This case has many interesting features for laryngologists and pediatricians. The early appearance of lymphoid tissue and its rapid growth and extreme anæmia are unusual in so young an infant. High temperatures occasionally follow operations on the throat, especially those of the nasopharynx, but they are usually the result of staphylococcic and streptococcic infection, or the forerunner of some contagious disease. From whatever cause, it is very apt to be attributed to the operation if it occurs soon after. I confess a malarial infection in so young an infant was an experience for me, and the early diagnosis saved me considerable anxiety and relieved the operation from any responsibility. The amount of quinine taken without unpleasant consequences was also a new experience.

The knowledge of the exact date of the mosquito bite, and the appearance of the first malarial symptoms ten days later, fixes pretty definitely the period of incubation of malarial fever. As a matter of interest, and to complete the circumstantial evidence as to the method of infection, I procured thirty mosquitos from the locality where the family resided during the summer, and out of this number three of the malarial bearing variety were found.

7 East Fifty-fifth Street.

Acute Paresis.—Stewart Paton and G. L. Rusk report a case, giving its clinical history and pathological findings. It is probable, they say, that cases of acute paresis are of greater rarity than has commonly been supposed. In order to form an accurate judgment as to whether a given case may be grouped under the *forme foudroyante*, it is not only essential that the subacute or chronic initial period be excluded by the history of the case, but the acuteness or chronicity of the pathological process in the central nervous system must be carefully considered. The pathological findings reveal nothing that is essentially characteristic of the disease, although there has been noted in particular a new cell alteration which is in a sense pathognomonic. There is a general and not a localized disappearance of fibers from all cortical areas, the neuralgia shows an increase of the cellular elements, particularly of the large size spider cells with but little, if any increase in the fibers. The blood vessels, particularly the larger arteries of the cortex, are well filled with blood. Many round nuclei are found in the perivascular spaces. In most of the cortical areas numbers of plasma cells are present. They have not been found in the tissue surrounding the vessels. The character of the changes in the various organs, as well as in the central nervous system, suggests a general intoxication. The vascular changes of the cortex are not sufficient to account for the degeneration of the nerve elements.—*The American Journal of Insanity.*

Contagious Insanity.—Georges Carrier holds that insanity is communicable under certain conditions, the insane person being possessed of stronger will and possibly a stronger intellect than the persons who become insane through his influence. The latter are from heredity or disposition open to suggestion as it were, and are passive agents. There are three forms of this contagious insanity; first, that which is *imposed* by incessantly repeated morbid suggestion, the passive agent never originating any delirium or hallucination, but simply repeating those of the active agent, his insanity disappearing when the suggestive element is quiescent. The second form is *simultaneous* insanity, occurring at the same time in two persons intimately connected with each other. The morbid suggestion acts by some inter-mental process and by unconscious imitation. The third form, *communicated* insanity, is characterized by the fact that the passive subject while under the influence of the active subject yet has hallucinations which reflect his own individuality. Persons having this unfortunate effect upon each other should, of course, be separated.—*Archives de Neurologie.*

Dermatoses of the Insane.—James MacFarlane Winfield reports the results of his investigations made to determine whether the mentally unsound are more or less afflicted with dermatological diseases than those in full possession of their mental faculties. Over a thousand patients in the Long Island State Hospital for the Insane were examined. It was proved that the skin shows less tendency to disease when people are obliged to live regular and well-ordered lives. Of these patients, nearly all of whom were from the lower walks of life, there were only 146 examples of pure skin disease, and some of this number were from external causes, or had been contracted before entering the institution. The examination has also demonstrated the fact that the insane are more subject to degenerative dermatosis than those mentally sound. It is further evident that many of the statements of the alienists, so often quoted and reiterated regarding the cutaneous stigmata, are entirely wrong, doubtless because founded on insufficient basis.—*The American Journal of Insanity.*

A Series of Cases of "Non-septic" Puerperal Pyrexia.—J. Lamond Lackie records a number of cases in which there was decided puerperal fever, without septic infection. In one the condition was entirely neurotic and the high temperature entirely disappeared under moral treatment alone. In another the cause was influenza, the patient having evidently been infected by the nurse. Appendicitis was the cause in a third case, but was not diagnosed at the time. The patient had a second attack later. Scarlet fever and diphtheria were responsible for two cases of hyperpyrexia, and in another case the sole cause of the alarming temperature and symptoms, even to the extent of delirium, was retention of urine, both physician and nurse having been misled by the fact that the patient passed a certain overflow of urine a regular intervals, not by constant dribbling, as is more frequently the case. Other puerperal fevers not due to septic infection may be caused by acute constipation, chill, emotion, congested mammæ, sore nipples, or reflex irritation.—*Edinburgh Medical Journal.*

The Preparation of the Patient for an Operation and the Relative Value of the Blood Examination.—A. E. Benjamin considers that the necessary preparation of a patient for an operation is too often neglected and that the time is frequently too short. The general state of the patient before operation is as important as the pathology of the local disease present. Many post-operative complications arise that could be avoided by proper preliminary treatment. The leucocyte count and hæmoglobin estimate should be employed as an aid to diagnosis and as a basis of treatment in surgical cases before operation. By the blood examination we may be able to confirm our diagnosis made from clinical symptoms, or we are able to make a diagnosis of concealed pus when not determined otherwise. We may save our patient's life by delaying the operation until the per cent. of hæmoglobin reaches a safe standard or the white count reaches nearer the normal line. We may be justified in operating at once in a case where the white count is rapidly rising or the hæmoglobin is gradually falling.—*Northwestern Lancet.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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THE FUNCTIONS OF THE DUCTLESS GLANDS.

DR. C. E. DE M. SAJOUS, whose views on the functions of the ductless glands have been widely quoted, bases his arguments on the assumption that there is an affinity of adrenal extract for oxygen, and that it is the carrier of oxygen to the tissues, whence follows the erection of the adrenals into a position of commanding physiologic importance. The oxygen-laden adrenal extract, termed *adrenoxin*, is identical with the "oxidation ferment" found in the plasma by several observers, and with the Lepine's "glycolytic ferment." Oxygen travels via the plasma through various unrecognized plasma channels, *e. g.* the hollow, tubular "axis cylinders" and the dendrites of the nerves, and in the neuroglia fibrils, which are plasma capillaries, and which contain a fluid identical with plasma in staining reactions. The immanent source of all nerve energy is the reaction between the myelin surrounding these plasma tubes and the contained plasmatic oxygen. In the muscles, the myosinogen represents the contractile substance which, upon combining with the oxygen of the plasma, liberates energy of contraction, the function of the nerves being merely regulative. Fluctuations in the temperature of the blood are due to variations in the amount of its fibrinogen, which combines in fixed ratio with the plasmatic oxygen. The adrenals are connected with the anterior pituitary body via the solar plexus, splanchnics, and the cervico-thoracic ganglion. This pituitary body is the most important organ in the economy, being the governing center of the adrenals, and, through them, of all oxidation processes. The efficiency of this pituitary body is maintained through thyroid action, the stimulating principle being the thyroidal iodine compounds. Instead of being due to a direct action on the blood or cellular elements, "symptoms of infection or poisoning are all manifestations, more or less severe, of *overactivity or insufficiency of the adrenal system.* Indeed, *the physiological action of remedies was also traced to the anterior pituitary body.*" Cholera, cholera infantum, and poisoning by arsenic and by toxalbumins, and the intoxications, are all "syndromes due primarily to adrenal insufficiency." Pulmonary tuberculosis is due primarily to lowered adrenal function, and all the remedies for it are adrenal stimulants. Syphilis, too, is due to adrenal insufficiency, and mercury is a powerful adrenal stimulant, and iodine is "nature's own stimulant." The majority of drugs, toxins, and physiological toxalbumins stimulate the adrenals in small quantities, and paralyze them in larger amounts. In tetanus, epilepsy, hydrophobia, septicæmia, and eclampsia, sedatives and depressomotors may easily do harm by depressing adrenal action, and the success of Baccelli's carbolic-acid treatment of tetanus and of the Pasteur treatment of hydrophobia by injection of extract of desiccated cord, is owing to stimulation of the adrenal system. The element of specificity in each disease is an expression of the particular way in which each drug or toxin affects the adrenals, some stimulating first and then paralyzing; others, like hydrocyanic acid, overwhelming them at once. The posterior pituitary body is the chief functional center of the nervous system. It is the anterior pituitary body's co-center in sustaining metabolism, and it is an important feature of the morbid process in influenza, hay fever, hysteria, catalepsy, and other obscure affections. The spleen and pancreas unite in furnishing trypsin to the blood. Its main function in the blood is the destruction of toxic albuminoids. Phagocytosis is the preponderant immunizing factor, but it is trypsin which reduces the toxic albuminoids to inert cleavage products in the digestive vacuoles of the leucocytes. Ehrlich's views become simplified, his amboceptor being adrenoxin, and his complement (Buchner's alexins, Metschnikoff's cytases) being trypsin. Fibrinogen, however, plays a preponderant rôle also in this matter, the process requiring the coöperation of the three factors, trypsin, adrenoxin, and fibrinogen, for trypsin is sufficiently active only in the presence of given proportions of adrenoxin and fibrinogen. Thus in typhoid fever, fibrinogen is missing, whereas in diphtheria, it is trypsin which is lacking in the blood, and the dominant active principle of diphtheria antitoxin is trypsin. The white blood cells have functions exceeding in importance those heretofore ascribed to them, even hypothetically. The neutrophiles are traced from the solitary and agminated follicles to the cavity of the intestine, where they ingest proteids; and through the villi, and the mesenteric and portal veins where they absorb trypsin. They form peptones, myosinogen, and fibrinogen, and distribute these to all tissues, the muscles, and the blood itself. The eosinophiles are daughter cells of the neutrophiles, mitosis occurring in the liver. They are traced to the pulmonary alveoli, where they participate in the formation of the nucleated epithelium. Their product is hæmoglobin. The basophiles take up fat and change it into myelin, which they distribute to the nervous system. Altogether, the views expressed are sufficiently at variance with received opinion to attract attention.

SEWAGE POLLUTION NEAR NEW YORK CITY.

THE Geological Survey of the Department of the Interior of the United States has recently published a manuscript relating to sewage pollution in the metropolitan area, written by Mr. Marshall O. Leighton. The question of uncontaminated water for domestic use is one that concerns the United States very intimately, for owing to carelessness or to the use of unscientific methods of providing a pure water supply, the large cities and towns of this country are, on the whole, far behind those of Europe in this

respect. Some American centers of population, in fact, are notorious for their defective water, and are in consequence continually suffering from disease brought about by their short-sighted policy. Other cities have been taught by bitter experience how fatal it is to neglect the best known means of ensuring as pure a water supply as possible.

Mr. Leighton points out that in this age of commercial and social progress, eventually the public sewer is laid to the nearest and most convenient body of water, and that in the course of time in inland municipalities there may be developed a system of sewerage conducting such a volume of city waste that the largest river on the globe cannot dilute it sufficiently to disguise its presence. Further, the belief that a polluted river will purify itself in the course of some miles is growing dim, and it is becoming daily better understood that for household purposes water must be purified, and that for the sake of the health of the community at large extensive pollution must not be permitted in the vicinity of dwellings.

Mr. Leighton in his paper considers the matter from a standpoint of diminution of natural resources with special reference to the rivers in the "metropolitan area," comprising northern New Jersey, southern New York, and the western part of Massachusetts. He takes into account the water resources of this section, and shows, as closely as available information will permit, the loss which has come about by reason of river pollution.

Among the rivers of New Jersey the drainage system of the Passaic takes the first place, and at any point in this river below the city of Paterson the pollution is very bad. The conditions all along the lower reaches are declared to have become insufferable. The Passaic Valley Sewage Commission, created by an act of legislature of New Jersey in 1896, concluded its report by saying that the pollution of the lower Passaic River appeared to be completely established as a public nuisance, an injury to health, and an increasing menace to property interests from the beginning of the Great Falls to below Newark.

The New Jersey State Sewerage Commission reported in 1901 that "the sewage pollution of the Passaic has during the last year increased in its evil effects. Heretofore the objectionable odors have been limited to the summer months, but during the last autumn the stench continued until the freezing water locked the foulness into the ice. The rainfall was below the average during the autumn, and wide spaces of sewage-befouled mud were exposed to the air, giving forth nauseating odors."

Mr. Leighton summarizes the damage done to the Passaic system by pollution as follows: (1) Abandonment of three water-supply intakes and the establishment of three others, at a total expense of not less than $20,000,000. (2) Extensive decline of power values because of inadaptability of water for use in boilers and in manufacturing processes. (3) Loss of annual harvest of ice weighing 10,000 tons. (4) Absolute destruction of fisheries in lower valley. (5) Impairment of realty values, the extent of which cannot be too highly estimated in view of the fact that similar properties in clean localities have been made of immense value.

With regard to the Hudson, Mr. Leighton says: "Pollution along the middle or navigable section above salt-water influence is unavoidable even if city sewage were entirely excluded from the river. In order to make the whole pure it would be necessary to close the river to commerce, and as its value as a means of transportation far overtops all other values which it may have, such a suggestion is manifestly absurd. We are forced, then, to conclude that, for the present at least, while pollution may unfit the Hudson up to Troy for use as a domestic water supply without filtration, the damage to the resources is insignificant compared to the damage which would occur by excluding sewage from the river. While the water remains fit for filtration, then, the middle Hudson is of more value as a polluted stream than it would be if preserved unpolluted. But if the time should ever come when the condition of the Hudson should approach that of the Lower Passaic, then it would be highly necessary to enforce sewage purification upon the towns and cities along the banks."

The eastern tributaries of the Hudson are but slightly polluted, but the western tributaries, which include its great western arm, the Mohawk, are subject to extensive pollution.

In the paper to which reference has been made, the writer clearly shows that in the case of the Passaic drainage system, the damage done to health, property interests, and value generally by pollution is very great, and the condition of that river calls for effective remedial measures, as well as pointing a moral.

As to the Hudson in its present state, the best known means of purifying water drawn from it for household purposes should be utilized, but otherwise matters had better be left in *statu quo*. As Mr. Leighton says: "The whole question has been modified by the successful introduction of filtration for water supplies. It is manifest that the most potent damage that is ordinarily done to the resources of a stream is its destruction for use as a source of water supply, but, having overcome this difficulty by the introduction of filters, it is more likely that the tendency will be toward toleration of a certain amount of pollution, and the expense of filtration will be regarded as a fixed charge upon the community at large."

Food Adulteration.

The *Yale Medical Journal* directs attention editorially to the report of the New Haven State Agricultural Station in which are given the results of analyses of various articles in common use as food and drink, which were purchased in the open market. The results are as follows: Coffee—of fifty brands examined, five were adulterated, mostly with ground peas and chicory; jellies and jams—of sixty-six specimens examined, only 19 per cent. were pure; tomato catsup—of ninety-four samples, 84 per cent. were colored with coal tar dyes, and 65 per cent. contained chemical preservatives; vanilla extract—of sixty-two samples, only one-fourth were pure; lemon extract—of sixty-six samples, only eight were pure; spices—of 216 samples, 70 per cent. were pure, etc. Of 375 samples of milk intended for sale to families, purchased in twenty-eight towns, over 8 per cent. were adulterated, and in many samples it was

found that chemical preservatives had been used, which is dangerous not only because of the direct action of the drugs, but also because of their being a substitute for cleanliness and sanitary precautions. The editorial continues: "The report gives the name of the brand examined, tells where it was purchased, how much it contained, and what it cost." This is valuable information and in some way or other ought to be brought to the attention of the consumer. It seems to us that our daily press might do more missionary work along this line than it is inclined to. We have seen but one notice of the last report of the Agricultural Station in any daily paper (The New Haven *Register*), and that does not touch the main issue—*i. e.* put the individual consumer in position to utilize this information to his own advantage."

Rural Depopulation of France.

In all civilized countries, there has been for many years a steady but progressive exodus from the country to the towns. The rural population yearly decreases, while the large towns grow more and more overcrowded. In Great Britain, this state of affairs has existed far longer than in any other country, but of late, both in Germany and France, there has been a flocking of the rural inhabitants to the towns. In France, however, in addition to this depletion of the number of country-dwellers by such means, there are other agencies at work which aid in reducing the rural population.

In an address before the Society of Arts of France, Mr. Cloudesley Brereton, in the Journal of that body (December 12), draws a striking picture of the rural life in France, which is commented upon by the *Westminster Gazette*. It appears that much the same causes operate to lead the countryman from his home in France as in other countries. The attractions of town life, higher wages, and conscription are among the most obvious explanations of the depopulation of the rural districts. But there are other causes, says the London *Journal*, which are giving the statesman and philosopher something to think furiously about. "The low birth rate is partly due to the high standard of personal comfort, and partly also to the system of inheritance. Mr. Brereton quotes the witty Frenchman who said that the English system of primogeniture confines the number of fools to one per family, but that the French have discovered a most effectual way of rendering the whole family imbecile. Mr. Brereton also casts a lurid light on the present condition of what was once the most temperate country in Europe, if not the world. The phylloxera was even a more terrible curse to France than was imagined when a Pasteur endeavored to stay its ravages. It made good wine dear. The poor were driven to beet-root spirit, absinthe, and to other horrors for their stimulant. We are told that a workman's breakfast consists of slices of bread floating in spirit. Even children are brought up on this "soup." The inevitable results are already showing themselves. The number of recruits unfit for service in the Northern Departments has increased sixfold; in some cantons recruiting of conscripts is practically impossible. Sixty per cent. of the males and 70 per cent. of the females of the lunatic asylums at Alençon are alcoholics." The above harrowing description of the condition of rural France, it is to be hoped, may be somewhat overdrawn, but it is agreed on all hands that the French are among the largest consumers of alcoholic beverages. The death rate of young children in France is appalling, and can be attributed to a large extent to the alcohol habit of the parents. It would seem now as if a vehement crusade against strong drink may be waged throughout the world.

Climate and Character.

Climate has an undoubted influence on the character. Persons take from atmospheric conditions and surroundings many of their mental attributes; they seem to absorb into their being something akin to the climate and environment. Those born and reared in a rugged, wild and bleak country are generally rugged, hardy and stern themselves, while those brought up in a rich, warm, and genial climate and surroundings are themselves usually of a generous, easy-going nature. The London *Evening Standard*, of a recent date, discusses the subject and says: "In lands of the sun, where the earth offers the necessities and luxuries of life almost without labor, man is sapped of energy, and leads a lotos existence. No effort is demanded of him, and the capacity to do dwindles within him. He lolls sensuously in the lap of nature, a materialist and without ambition."

A temperate, bracing climate is the most healthy, both for body and mind. The strong air imparts force of character as well as power of limb. No one is superior to atmospheric conditions; it affects all, though sometimes unconsciously. Investigations in schools show that pupils are able to do their best work when the weather is cold, calm, and clear. In large factories, it is stated that an unpleasant day will reduce the output by 10 per cent. Again, continued hot weather invariably brings forth a crop of crimes of passion, while the summer is also the season most prolific of suicide. Rain seems to exert a deterrent effect on crime, and fewer deeds of violence are committed on cloudy days than on bright ones.

Whatever there may be said to the contrary, the fact is undeniable that climate influences to a remarkable degree character and conduct.

Regulating the Practice of Medicine and Surgery in Indian Territory.

An act to regulate the practice of medicine and surgery in the Indian Territory has passed the House of Representatives, and is now before the Senate of the United States.

The principal points in this bill are that after its passage no person shall practise medicine and surgery, or either, as a profession, in the Indian Territory, without first being registered as a physician or surgeon in the office of the clerk in the district in which he or she offers to practise. That to thus register the individual must file with the proper official a certificate of qualification, signed by a majority of the board of medical examiners of the district in which he or she is desirous to practise. That immediately after the passage of this act the United States judge of each district in the Indian Territory shall appoint for his district a board of medical examiners, consisting of three persons who shall be citizens of the district and graduates of some reputable medical college recognized by either of the American medical college associations, and who shall thereafter be duly registered under the act, and who shall hold their office for a period of four years, or until their successors are duly appointed or qualified. Another provision of the act reads, "that no person desiring to practise medicine shall be excluded on

account of any particular system or school of medicine that he or she may desire to practise."

Section 12 provides that all physicians and surgeons holding diplomas desiring to practise the science of medicine and surgery in the Indian Territory shall submit the same to the board of examiners for the district in which they desire to practise for examination and approval, for which said applicant shall pay a fee of one dollar to said board, and, upon approval by said board of said diploma, shall not be required to undergo examination. Any person violating the requirements of this act, upon conviction, shall be subject to a substantial penalty.

The Indian Territory has been for long a happy hunting-ground for adventurers of all kinds. It is therefore just that an act of the above description should be passed, in order that the most flagrant specimens of the medical adventurer should be excluded.

Migraine and Obstipation.

Among the causes of hemicrania the hereditary neuropathic handicap plays a great rôle, and Möbius regards the disease as a form of inherited degeneration. Haig incriminates uric acid, which is supposed to produce cerebral ischæmia. Others have brought forward psychic overstrains and excitements, and in young girls have pointed to menstrual disorders. In Schilling's series none of these factors were present; grandparents, parents, and brothers and sisters were, as far as could be ascertained, healthy. The cause in all was habitual obstipation, or a tendency thereto, extending over months. By migraine is to be understood not an occasional headache, but attacks of severe and usually (even though not always) unilateral, frontal, temporal, or occipital (less often diffuse) headaches, connected with pronounced gastric phenomena (sickness, anorexia, and, above all, vomiting), and a slow pulse. As a marginal fringe, irritative, sensory, psychic, and ocular disturbances occur. The migraine of obstipation offers no uniform picture, on account of variation in the marginal fringe. In light cases patients complain of dull headache, disinclination for intellectual work, anorexia, bodily pressure and discomfort, and inclination to vomiting and vertigo. It is striking that the feeling of illness is increased during defecation (which is accomplished only by hard straining) and vanishes, as at a stroke, when the bowel has been emptied. The severer, and the true migraine, cases go to bed at night without eating much, get to sleep with difficulty, or waken after some hours with severe pressure, and wrenching or boring pains in the occiput or in the temples, soon involving the whole head, though remaining predominantly unilateral. Soon there is added violent vomiting of watery fluid and bile, which is followed by gastric pains and abdominal sensitiveness. The pulse is slow, and the patient tosses restlessly, moaning, on the bed. The abdomen is hard and tense, and occasionally individual coils of the intestine can be felt contracted. The urine is scant and dark. These attacks usually recur with greater or less intensity at irregular intervals during two or three days. Involuntarily one here thinks of fecal stagnation as the cause, and in a series of cases, before vomiting set in, Schilling found an increased excretion of indican. He also points out that Ebstein found albuminuria with casts during fecal stasis, which disappeared upon the relief of the latter. Further, the hemicrania disappears upon removal of the constipation, and recurs when the latter is allowed to return. Schilling uses antifermentatives (such as ammon. sulfoichthyol 0.1 or creosol 0.05) as well as purgatives, but especially the wet pack for the body and legs, so as to produce several hours' sweating, and he points out that Dirmoser also praised hydrotherapy in hyperæmesis gravidarum, which he regarded as likewise the outcome of intestinal autointoxication. For a permanent relief, physical and dietetic measures are, of course, to be employed.

Military Hygiene in the Tropics.

In the *Journal of the Association of Military Surgeons*, for January, 1903, Major H. P. Birmingham gives a number of practical suggestions on tropical military hygiene. The first point of importance is the recruiting, as about 50 per cent. of those who were invalided home or who died should never have been sent out. The number of immature youths from seventeen to twenty-one years, whose only hope for life lay in being transported home, was deplorable. The man of poor physique should be unhesitatingly rejected, this term comprising all not absolutely and unqualifiedly meeting the requirements as to chest expansion and general physical development, and particularly excluding the tuberculous whose death warrant is signed by sending them to the tropics. The prescribed relation of weight to height should be *de rigueur*, the slim and lanky, the excessively tall, and the obese, being rejected, as also those having weak hearts. The prematurely aged and the neurotic should likewise be rejected, as they furnish a large contingent to the hospitals, from which very few of them ever return to duty. With few, if any exceptions, the age limits should be twenty-five and thirty-five. Marked caries of the teeth or any skin affection should lead to rejection. Respecting clothing, as men naturally discard everything possible during the day, and yet require protection from chill during the night, Dr. Birmingham recommends for field service, trousers and shirt of khaki flannel, the trousers being connected with the shirt by the belt, passing through loops in each, its weight being thus supported from the shoulders through the medium of the shirt. The flannel must be of sufficiently fine quality to be non-irritant to the skin, otherwise itching and erythema result, which are liable to lead to the dreaded dhobie itch. The abdominal band is to be unqualifiedly condemned. A light woolen sack, and shoes of the proper fit, light weight, and fine quality, are essential. The headgear is of the utmost importance. The depressing, not to say paralyzing, effect of the tropical sun demands full and adequate protection for the head. A proper hat or helmet might be made on the lines of the average native hat, which combines lightness, protection for face and neck, and thorough ventilation. It should stand away from and should not be capable of being pulled down closely over the vertex. For camp or garrison duty the ordinary government clothing will suffice. Regarding dietetics, tropical life has a decided tendency to lower nutrition, and in many instances this tendency is augmented by a greater or less deprivation of the customary aliment. Despite much opinion to the contrary, to maintain health in the tropics one needs as much, if not more, and better food than at home. The diet should approximate as closely as possible the usual home fare, not excepting wine at meals if the individual is so disposed. The notion of the unsuitability of the albuminoids as a component of the diet is a fallacy. Only distilled, boiled, or carefully filtered water should be drunk, and all excesses in eating and drinking should be avoided. This is all that is required to keep the average man fairly well in the

tropics. He may, notwithstanding the foregoing precautions, contract amœbic dysentery, the one dread disease of the Oriental tropics, but in most cases he will not. The tropical diseases concerning military surgeons are, in order of frequency and importance, dysentery (amœbic and specific), malarial and yellow fevers, dengue, beriberi, cholera, and bubonic plague. Sprue or psilosis, Birmingham considers a condition liable to be grafted upon any depressing tropical disease, and not a distinct, morbid entity. "Diarrhœa," almost without exception, means catarrhal, amœbic, or specific dysentery. The prophylaxis of dysentery consists in the most scrupulous attention to food and drink, and the maintenance of the highest possible standard of health. The intelligence and thoroughness with which the prophylaxis of malaria is carried out depends largely on the surgeon. Non-effectiveness among troops from malaria has always been large. In the Philippines dengue was common and widespread; the mortality from it was *nil*. Beriberi was occasional. The plague need not alarm civilized troops, no American soldier having contracted the disease during Birmingham's two years in the Philippines, though the disease prevailed in the islands. In the Philippines cholera has been entirely confined to the natives and the Chinese. With due care and perseverance the health of our troops in the tropics will never seriously suffer.

News of the Week.

A Typhoid Fever Serum.—Dr. Allan Macfadyean of the Jenner Institute of Preventive Medicine claims to have elaborated an efficient prophylactic and curative serum for typhoid fever. It is prepared by injecting into animals a product obtained by crushing typhoid bacilli in liquid air. The intense cold of liquid air does not destroy the toxin but renders the bacilli so exceedingly brittle that it is comparatively easy to break them up by saturation. The serum obtained by repeated injections of these crushed bacilli is both antitoxic and bacteriolytic and is curative as well as protective.

A New Hospital for Contagious Diseases.—Ground has been broken at the foot of East Sixteenth Street in this city for the new hospital for scarlet fever to be erected under the authority of the Board of Health. The institution will cost about $250,000 and will accommodate 225 patients. The new building will relieve the congestion at Riverside Hospital, on North Brother Island, and at the Kingston Avenue Hospital, Brooklyn.

New Professors at Columbia.—At a recent meeting of the trustees of Columbia University, Dr. Livingston Farrand, adjunct professor of psychology, was made professor of anthropology and assigned to a seat in the faculties of philosophy and of Barnard College, and Charles A. Strong, was appointed professor of psychology with a seat in the faculty of philosophy.

The New Bellevue.—The architects who will draw plans for the new Bellevue Hospital, have been instructed by the board of trustees to preserve the exterior plan of old Bellevue as much as possible. For that reason the new building will face the East River. The building will have long wings to the north and south, in order to secure the sun's rays as much of the day as possible. The balconies outside the wards will be preserved. The main hospital building will probably be six stories in height, while the administration building, which will be separate and front on First Avenue, will be lower. The hospital will be constructed of brick with stone trimmings.

New Serum for Tuberculosis.—Professor Behring claims to have obtained a protective serum against tuberculosis by his method of jennerization. This consists in injecting cattle with cultures of human tubercle bacilli, which are little if at all pathogenic for the animals, but whose toxin acts like toxoid in stimulating the production of antibodies. He has found that the serum so obtained is efficacious in conferring absolute immunity against infection with bovine tubercle bacilli in cattle, and believes that a like immunity can be produced in the human species. He even claims that the serum is curative in the case of young children, though it would probably not be in adults.

Destruction of a Hospital in a Tornado.—During a wind storm which visited Townsville, near Brisbane, Queensland, a few days ago, the walls of one of the wards of the hospital were blown in and six of the patients were killed, many others being injured.

Health Statistics of Harvard.—The annual report of the Harvard University physician, Dr. M. H. Bailey, has recently been issued. From it, it appears that during the last academic year there were 5,388 cases of illness. This is little more than an average of one illness each year for each man in the university. Last year forty-eight men were forced to consult the college physician because of overwork. Ten of these cases occurred in May, when the men were studying for the final examinations. There were more cases of indigestion than of any other complaint.

Foot-and-mouth Disease.—This disease has been discovered in the herd of a cattle-dealer in Bedford, N. H. The outbreak is regarded with concern by the officials of the Department of Agriculture, for the cattle belonging to the affected herd were picked up in various parts of New England, and many other cattle that had been stabled with those discovered to be sick are now scattered throughout the State. The United States authorities have issued an order quarantining New Hampshire because of this discovery.

Bequest to Manhattan Eye, Ear, and Throat Hospital.—Mrs. Ann Augusta Thomas, widow of General Samuel Thomas, and her children, Mr. Edward R. Thomas and Mrs. R. Livingston Beeckman, have given $50,000 to the Manhattan Eye, Ear, and Throat Hospital to endow a ward of ten beds, to be known as the "Samuel Thomas Memorial Ward," in the proposed new hospital building for that institution. Announcement of this gift was made at the meeting of the Board of Directors yesterday by Dr. Walter F. Chappell.

Changes in the System of Instruction at the College of Physicians and Surgeons.—A plan is under advisement which will change very materially the course of instruction at present followed in the Medical Department of Columbia University. The new policy will closely follow the methods now used at the Johns Hopkins and Harvard medical schools. A committee on the revision of the curriculum is reorganizing the course. One of the first institutions to go is the system of quizzes which has been necessary in the past, owing to the failure of the college authorities to provide for adequate class-room reviews and recitations.

Mistrust of San Francisco.—The Mexican Government has declared a quarantine for the whole Republic against San Francisco, and vessels from that port will not be allowed to land passengers or cargo at any Mexican port until further notice. The

Minister of the Mexican Government who ordered the general quarantine said that he had information which satisfied him that bubonic plague existed in San Francisco as late as January last. The United States Marine Hospital Service and the health authorities of San Francisco report that there has been no case of plague in that city since December last, although there had been an average of one case every week for three years immediately prior to that time. The Mexican Government evidently attaches great significance to the fact that the health officers of the city of San Francisco and the State of California have been employing every means to conceal the existence of the plague on the Pacific Coast. The outbreak of the plague at Mazatlan, two months ago, is generally believed to have been the result of infection brought from San Francisco.

A Suspected Cholera Ship.—The Anchor liner *Karamania*, which arrived at this port last week from the Mediterranean, lost six of her passengers and crew during the voyage. The symptoms were of an unusual character, but were thought by the Health Officer of the Port to be suggestive of cholera. The passengers and crew were detained at quarantine and the vessel was fumigated. No deaths occurred after the arrival of the ship

Too Much Attempted Legislation for Nurses.—A third "nurses bill" has been introduced in the New York State Legislature. Unless the divergent interests come to some understanding before the hearing on these measures, the Legislature will doubtless refuse to grant any of the requests. These bills all have much of merit to commend them, but their various sponsors had best get together or registered nurses will not be officially recognized for some time to come.

New York State Medical Examinations.—The Secretary of the State Board of Medical Examiners, representing the Medical Society of the State of New York, reports as follows regarding the January, 1903, State medical licensing examinations: Total number of candidates, 103; successful, 75, or 72.8 per cent.; unsuccessful, 28, or 27.1 per cent. Of this number eight had previously passed in the medical primary branches. There was but one "honor" licentiate. Fifty-one candidates appeared for certificates of proficiency in the medical primary branches (anatomy, physiology and hygiene, chemistry). Forty-seven, or 92.1 per cent. of these were successful.

New York State Hospital for the Care of Crippled and Deformed Children.— Drs. H. A. Gates of of Delhi, N. Y., Grant C. Madill of Ogdensburg, N. Y., and Frank Walker Sears of Binghamton, N. Y., have been appointed as consulting surgeons to the New York State Hospital for the Care of Crippled and Deformed Children, at Tarrytown, N. Y.

Streer-car Colds.—At a meeting of the St. Louis Medical Society on February 28, Dr. Fayette C. Ewing read a paper on "Street-car Colds," and offered the following resolutions, which were unanimously adopted by the Society: "Recognizing the fact that many colds and diseases of the respiratory organs are acquired by riding in draughty, ill-ventilated, cold, and crowded street cars, wherein the element of time conspires to produce a prolonged chilling of the body, terminating in localized congestion and consequent respiratory catarrhal affections, it is hereby declared to be the sense of the St. Louis Medical Society that street-car officials should take measures for a more uniform and equable temperature in our cars, with protection against draughts, and especially in such cars as run far out into the suburbs, where passengers must sit still for an extended period of time. And it is further declared that such lines of cars as make long runs, compelling long-distance passengers to endure a temperature under 60 degrees Fahrenheit, be condemned as dangerous and a menace to the health of their passengers and their patrons, who are hereby warned to seek other means of conveyance."

Health of Troops in the Philippines.—The report of the chief surgeon of the forces in the Philippines, for the month ending January 15, 1903, gives the strength of the command at 22,580 men, present sick 1,480, giving a sick rate of 6.51 per cent. On December 15 last this rate was 7.30 per cent., and on November 15 last it was 7.96 per cent. There were 38 deaths during the month, an increase of 4 over the previous month. The deaths were divided as follows: Suicide, 1; tuberculosis, 1; typhoid fever, 2; malarial fever, 1; dysentery, 6; diarrhœa, 1; cholera, 18; other intestinal diseases, 2; all other diseases, 6. Nearly one-half the deaths were due to Asiatic cholera; and nearly two-thirds of these deaths occurred in Company B, of the 11th Infantry, stationed at Ormoe, island of Leyte, which lost 11 men from cholera in four days out of the 85 men in the company. Of the other three companies of the same regiment stationed at thesame post, one lost one man and the other two were unaffected. The outbreak in Company B was believed to be due to an infection of the food. The other six deaths from cholera occurred at four stations. During the month cholera was reported by army medical officers as existing in twenty-four towns garrisoned by United States troops, or in the immediate vicinity of their stations. These towns were scattered widely over the more important islands of the archipelago. The chief surgeon states that in view of the continued existence of a large number of widely scattered cholera foci, from which the disease may at any time be carried by the natives into districts hitherto uninfected or in which the infection has died out, the end of the present epidemic of cholera can hardly be hoped for before the end of the next rainy season. Continued experience with cholera in this division fortifies the belief that cholera infection is readily amenable to sanitary measures, including careful disinfection and strict quarantine. It is not possible, however, to cause the natives to carry out proper precautions or submit to the restrictions through which alone the disease can be controlled. In nearly every instance in which cholera has appeared among troops it has ultimately been possible to trace the outbreak to direct neglect or disobedience of standing sanitary orders. Smallpox is reported as existing in a number of towns in the vicinity of military stations; proper measures relative to vaccination have been taken. The rate of sickness from dysentery and venereal diseases continues high. Four deaths from beriberi, three in native scouts and one in a white soldier, occurred during the month. On January 15 there were 147 garrisoned stations in the Philippine Archipelago. On duty at these stations were 235 medical officers, 20 contract dental surgeons, 1,417 members of the Hospital Corps, and 40 female nurses. During the month, 31 volunteer medical officers were mustered out of the service, and the remaining 48 will terminate their service on February 1. This reduction of the medical force has been made possible through the decrease in the number of soldiers in the islands, and the concentration of the remaining troops into larger posts, where they can be attended to by a smaller number of medical officers.

Philadelphia County Medical Society.—At a stated meeting, held March 11, Dr. G. Hudson Makuen read a paper entitled "Speech-defect in a Case of Organic Disease." He reported the case of a man who from early life presented awkwardness in gait and in movements of the hands, with intention-tremor, exaggerated knee-jerks, staccato speech, and oscillation of the eyeballs on lateral movement, and in which marked improvement in speech was effected by means of systematic training and exercise. Dr. Orville Horwitz read a paper on "The Use of the Electrothermic Angiotribe in Lieu of the Employment of Ligatures in the Open Operation for the Relief of Varicocele." He reported a case in which the operation mentioned was performed with the instrument of Downes, and the result was in every way satisfactory. Dr. John C. Hemmeter of Baltimore read, by invitation, a paper entitled "The Rôle of Intracellular Catalytic Processes in the Pathogenesis of Malignant Neoplasm," in which he pointed out the inadequacy of existing explanations of the etiology and pathology of carcinoma particularly, and in turn suggesting the action of an enzyme as a possible provocative factor.

College of Physicians of Philadelphia, Section on General Medicine—At a stated meeting, held March 9, Drs. C. F. Judson and J. C. Gittings exhibited a patient with a musical heart-murmur. Dr. J. Allison Scott presented a patient with grave anæmia and splenomegaly. There had been repeated attacks of what was believed to be malarial fever, and hyaline bodies had been found in the blood. On several examinations moderate leucocytosis also had been present. The condition had existed for eight years, and it was believed to represent malarial cachexia. Dr. T. L. Coley read a paper entitled "Pulmonary Abscess Producing Dextrocardia; a Case-report." The conditions were believed to be dependent upon rupture into the pleural cavity of an abscess of the lung, following pneumonia, and displacement of the heart to the right. The diagnosis was exceedingly obscure during life, and was cleared up only on post-mortem examination. Dr. D. L. Edsall presented a communication entitled "Concerning the Diagnosis of Liver Disease by Alimentary Levulosuria." It has been stated that in the presence of various disorders of the liver not susceptible of diagnosis in their incipiency by other means, the detection of levulose in the urine when this substance was administered by the mouth could be considered as conclusive. It was, however, impossible to confirm the accuracy of this statement in a small range of observations, levulosuria failing to develop in cases of undoubted liver disease, though appearing in one case in which there was no affection of the liver. Dr. D. J. Milton Miller reported a case of femoral thrombosis in croupous pneumonia. The condition is relatively rare, if one may judge from the small number of cases that have been put on record, and it almost invariably develops during convalescence.

Philadelphia Pediatric Society.—At a stated meeting held March 10, Dr. D. J. Milton Miller exhibited a patient with enlarged cervical and mediastinal Glands. Several operations had been performed, but recurrence followed each. Histologic examination of removed tissue disclosed on one occasion condition of hyperplasia, with the presence of giant-cells, but tubercle bacilli could not be demonstrated. On another occasion caseation was present. Faucial and lingual tonsils also were enlarged. The temperature was not elevated, but rather subnormal, and there was no constant increase in the number of leucocytes. The exact nature of the disorder was doubtful. Dr. George W. Norris exhibited a patient with multiple ossifying periostitis. The patient was an undersized boy of thirteen, who exhibited tuberous prominences on various bones, together with distortion and shortening, which had existed practically from birth, and for which there was no adequate explanation. Dr. L. H. Bernd reported a case of pericarditis and endocarditis. Dr. W. G. B. Harland read a paper entitled "Adenoids as a Cause of Enlarged Tonsils and Other Diseases." He dwelt especially upon the morbid significance of lymphoid hyperplasia in the nasopharynx, even when not of considerable degree, and of the advantage of its removal, whenever it gives rise to symptoms, and even in the absence of noteworthy symptoms, for the purpose of averting the undesirable consequences to which it may give rise. Dr. J. C. Gittings reported a case of œdema of the glottis. The complication occurred in a child suffering from scarlet fever, with enlargement of the cervical glands. Intubation was performed and various accessory measures were employed. The outlook appearing alarming, tracheotomy was advised but declined; nevertheless, the patient eventually recovered.

Pathological Society of Philadelphia.—At a stated meeting, held March 12, Dr. Herbert Fox read a "Report of a Series of Blood Cultures." The observations were made on fourteen cases of typhoid fever, blood being obtained from a vein at the flexure of the elbow, after sterilization of the tissues, by the introduction of a needle and aspiration with a syringe. The inoculations were made on liquid agar from which Petri dishes were cast, and the evolution of the colonies was studied. In many cases the staphylococcus epidermidis albus was found, in only one the typhoid bacillus, and in but one the colon bacillus. Drs. David Riesman and Justin Schwerin reported a case of ulcerative endocarditis with cerebral infarction. The patient had presented symptoms of endocarditis for ten months and was seized with right hemiplegia with aphasia. Autopsy showed the lesions of verrucose and ulcerative endocarditis, with an aneurysmal diverticulum on the anterior mitral leaflet, an aneurysmal dilatation of the aorta, embolism of the left lenticulo-striate artery and softening in the internal capsule. An old white infarct was found also in the spleen. Dr. Aller G. Ellis exhibited a heart showing serofibrinous pericarditis. The specimen was remarkable for the uniformity with which the heart was covered by the inflammatory deposit. Dr. Ellis exhibited also a heart with chronic tuberculosis of the pericardium and involvement of the myocardium. The pericardial cavity was wholly obliterated and the agglutinated layers of pericardium were enormously thickened. Dr. W. M. Late Coplin exhibited a glass specimen box with special clamp and device for labeling. One such box contained an enlarged lymphatic gland perforating the aorta. A second glass box contained "lung showing advanced gangrene in the upper lobe, beginning gangrene in the middle lobe, atelectasis of the lower lobe and bronchitis."

American Electrotherapeutic Association.—The thirteenth annual meeting of this association will be held at Atlantic City, N. J., on September 22, 23, and 24, 1903. The president of the association is Dr. Daniel Roberts Brower of Chicago; the Secretary is Dr. Clarence Edward Skinner of New Haven, Conn.

Typhoid Fever Epidemic in Philadelphia.—For the week ended March 14, 272 cases of typhoid fever

were reported to the Philadelphia Board of Health, with 38 deaths, as against 254 cases, with 21 deaths, for the preceding week, making a total of 2,984 cases reported since January 1, with 260 deaths.

Obituary Notes.—Dr. William P. Munn, former president of the Colorado State Medical Society and also recently the head of the Board of Health of Denver, died in Denver on March 13, during an attack of hæmoptysis. Dr. Munn was a graduate in medicine of the University of Michigan in the class of 1886. Prior to going to Denver in 1890, he lived at Pittsburg, Pa. He was genitourinary surgeon to the Arapahoe County Hospital, Denver.

Dr. T. Harper Rice died at Pottstown, Pa., on March 14. He was a graduate of the medical department of the University of Pennsylvania and a licentiate of the Royal College of Physicians, London, and of the Royal College of Surgeons, Edinburgh. He served as surgeon in the Boer army during the South-African war.

Dr. Marcus K. Goldsmith died at his residence, 1047 Lexington avenue, N. Y., January 14, 1903. He graduated in medicine from the University Medical College in 1885, and was a member of the Medical Society of the County of New York, the Harlem Medical Association, and the New York County Medical Association.

Dr. Charles H. Ohr died at his home in Cumberland, Md., on March 3, at the age of ninety-two years. He was a graduate of the University of Maryland School of Medicine in the class of 1834. He stood very high in the masonic order and was reputed the oldest Past Grand Master Mason in the world.

Dr. Alexander C. Peters died at his home in Newark, N. J., on March 8, at the age of sixty-three years. He was a thirty-third degree mason.

Dr. A. W. Church died in St. Francis's Hospital, Jersey City, on March 13, after an operation for appendicitis. He was thirty-three years of age. He was graduated from the Edinburgh University, and after his return to the United States he took some special courses at the College of Physicians and Surgeons in this city. He settled in Waretown, N. J., but retired from practice about two years ago.

Dr. Albertus Lyman Vandewater died in this city on March 2. He was born January 15, 1850, in Brooklyn, and was graduated from the Bellevue Hospital Medical College in 1870. He served for three and a half years at the old Centre Street Hospital, and was largely instrumental in the organization of the present ambulance service. He then acted as physician to the Tombs Prison for two years. He practised at Bay Shore for eight years, and then became medical inspector for the Equitable Life Assurance Society, subsequently being made assistant medical director of the company. This position he resigned in 1897 to become medical director of the Provident Savings Life Assurance Society, which position he held until his death. He was a mason in high standing.

Dr. Charles Archibald McCall died in Philadelphia on March 12, in his sixty-seventh year. He was graduated from the medical department of the University of Pennsylvania in the year 1855, and prior to the breaking out of the Civil War was for several years chief resident physician in the Pennsylvania Hospital. He entered the army as assistant surgeon and was later promoted to the rank of captain, being placed in charge of the Mount Pleasant Army Corps Hospital just outside of Washington, D. C., where he remained until the end of the war, being mustered out of the service in the year 1865 with the rank of major.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

KING EDWARD'S HOSPITAL FUND—SEPTIC SORE THROAT—ANÆSTHESIA IN THROAT CASES—DORCHESTER HOSPITAL—OBITUARY NOTES.

London, February 27, 1903.

The annual meeting of King Edward's Hospital Fund was held on Tuesday, the Prince of Wales presiding. The accounts were presented by Lord Rothschild and showed that £28,729 had been received from annual subscribers and £33,000 from donations. The capital had been increased by the munificent gifts of Lord Strathcona and Lord Mount Stephen, £400,000. The coronation gift amounted to £118,663, including Mr. Speyer's £25,000.

The Prince made a genial speech thanking all who had contributed to the success of his first year's presidency, and saying he was desired by the King to say His Majesty watches the growth of the fund with as much interest as ever. The Prince announced that it was decided to extend the operations to the limits of the County Council, and observed that 23 per cent. of the patients came from the provinces. He hoped, therefore, the cities and towns which had been so liberal in the coronation year would continue to help. He looked forward to the time when not only the hospitals but convalescent homes attached to them will participate more fully in the benefits of the fund.

For several years there has been a growing opinion among laryngologists that various forms of acute inflammatory diseases of the throat are not pathologically distinct. In 1895 this view was taken in a paper before the Medico-Chirurgical Society, and this month another paper before the same society enforces the view by the description of four cases with bacteriological report. Some laryngologists and some general physicians had previously held this opinion, and looked upon simple or mild cases and severe, erysipelatous, phlegmonous, and even gangrenous cases as differing rather in degree than in essential nature. The advent of bacteriology confirmed their views, and they are, therefore, ready to join their juniors in looking on all these cases as due to streptococcic infection. Clinically, all septic cases may be regarded as identical, but pathologically this cannot be so confidently asserted, since varieties of the streptococcus may be concerned. To return to the four cases related at the society. They were described by Mr. De Santi: One was a mild case, another was gangrenous, a third had also pericarditis. In all four the streptococcus pyogenes was found, and in three, injections of antistreptococcic serum were successfully employed, the other case being lost sight of. Not only this organism, but other pyogenic cocci are credited by many with the power of producing all forms of inflammation, the variety depending on the quantity and virulence of the organism introduced into the system and on the resisting powers of the system at the time. It will be admitted that Mr. De Santi's cases support this view, although it is evident that many of the milder cases have another origin—possibly also some of the severer. Mr. De Santi seemed to recognize this, for he warned his hearers of the danger of the serum treatment unless the streptococcus were found.

Dr. De Haviland Hall considered that a variety of organisms might produce similar conditions, as shown by the late Dr. Kanthack with regard to ulcerative endocarditis. He mentioned three cases in children which appeared, clinically, to be diphtheria, but on bacteriological examination turned out to be due to staphylococci.

Sir D. Duckworth had always held that streptococcus infection could give rise to all degrees of inflammation, from the slightest to the severest, and he advocated the use of mixed sera, as it was always uncertain what variety of streptococcus was being dealt with, and he had never seen any harm from such sera.

Mr. Waggett related a case of mild sore throat without a serious symptom, which in four days developed pus in front of the sternomastoid. He evacuated the pus and recommended immediate incision in all such cases, as they probably depended on the virulence of the organism.

Dr. Dundas Grant said local symptoms might be slight with constitutional severe. The aspect and voice might suggest peritonsillar abscess when no swelling could be detected. He related such a case with rapid death from laryngeal obstruction. He thought great relief was often obtained from the use of ice.

Dr. Poynton related some interesting experiments which tended to show that the number of organisms

and the resistance of the subject did not explain the results. The virulence of the organism seemed a more plausible solution, but that factor had been in some experiments reduced to zero, and he looked to a fourth factor, viz., a tendency inherent in microbes to produce special poisons. This had to be reckoned with in all investigations on the unity of the streptococcic group.

Sir F. Semon agreed with Mr. Waggett that the disease often attacked men in good health, but some had had sugar in the urine at the time or previously. He favored serum treatment, but as the disease might be due to any of the pyogenic groups the results might differ.

In reference to the foregoing discussion, I would remark that similar cases to those described are sometimes rapidly fatal, with or without signs of laryngeal œdema, to which death is often ascribed. On the post-mortem table this condition is sometimes found, but often in only so slight a degree as to be of doubtful significance, and quite as often it is not found at all. The possibility of œdema causing death is not to be denied, but there is the probability of cardiac failure being quite as often the cause, and that, too, without any definite abnormal appearance of the heart.

A case of death following the administration of nitrous oxide was lately reported which may have been one of this kind. Dr. Maughan gave the details to the Society of Anæsthetists, and other cases were thereupon mentioned. Dr. Maughan's patient was a young woman with tonsillitis, in whom the constitutional symptoms were out of all proportion to the physical appearances. The gas was given to the stage of loss of light reflex, the face piece was removed, and at that moment breathing stopped. She was placed on the floor with forceps on tongue and artificial respiration tried for a short time. No air entered, and laryngotracheotomy was performed when a full deep inspiration was taken, and the color returned to the lips and cheeks. But the corneal and conjunctival reflexes did not return, and though the respirations continued for twenty minutes at the rate of twelve, they then became shallower and irregular and failed altogether after a further ten minutes. The heart sounds could be heard up to the last. At the post-mortem nothing was revealed beyond "extensive angina Ludovici and some œdema of the glottis."

Dr. Low related a similar case in which he was using chloroform. On the lightest possible degree of anæsthesia the patient became so bad that the chloroform was stopped. Recovery occurred sufficiently for the patient to answer questions, but death took place a few moments later. If the patient had not spoken, the death would have been attributed to chloroform.

Dr. Tyrrell suggested what seems a fair explanation—heart failure primarily due to septic infection, but hastened by the anæsthetic. There is no doubt that these septic cases do affect the heart, and sometimes to the extent of arresting it. The use of an anæsthetic might, therefore, in such a condition precipitate a fatal issue.

On Monday Sir F. Treves formally opened a new operating theater to the hospital at Dorchester, his native town. He contrasted the operative work of twenty-five years ago with that of the present time. The great increase was due to Lord Lister, who had made it safe to do what could not then be undertaken—resulting in the saving of thousands of lives annually, and the rescue of more thousands from a state of hopeless illness. The horrors of the old time had passed and the operating theater had become a chamber of sleep and hope. He presented a surgical table of the latest pattern to the theater.

Dr. Peregrine died on the 18th ult. in his ninety-third year. He was M.D. of Edinburgh, a member of both the Royal colleges, and at one time an examiner of the Apothecaries' Society, in which he became the Senior Warden.

Dr. Alexander Prior, who died in December at the age of ninety-four years, was Senior Fellow of the College of Physicians and M.D. of Oxford. He was a great traveler, a litterateur and naturalist. He published a book on the names of British plants (1871); a work, in three volumes, on ancient Danish ballads (1860), and was the author of several minor books.

Mr. W. C. J. Miller died on the 11th inst. He was for twenty years Registrar of the General Medical Council, and for twice that time on the staff of an educational paper. He was a courteous, cultured man, and something of a naturalist. He was not a medical man, and when he was appointed Registrar some irritation was expressed that a member of the profession was not chosen. But that is a way that doctors have when they have a chance. Witness the case of the coroners. The medical coroners have gained their offices by the support of the profession. Then they appoint deputies, and not one of them has appointed a brother doctor!

LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

THE CHOLERA—THE PLAGUE—MANILA'S WATER SUPPLY—PRACTICE OF PHARMACY IN THE PHILIPPINES—REDUCTION IN THE HOSPITAL CORPS.

MANILA, February 1, 1903.

THE cholera situation in the northern islands of the Philippines is steadily improving, as was to be expected with the advancement of the dry season. Northern Luzon, with the exception of a few isolated foci, is practically free from cholera. Manila, for the month of January, has had but six cases, and but three cases since the middle of the month. It is probable that the cases which have lately occurred in the city are the result of new infections imported from time to time from outside points. In this fact of the practical impossibility of quarantining Manila against infection from the land side lies the probability of another outbreak under the more favorable meteorological conditions of the rainy season. The disease is still very severe in the province of Albay, in southern Luzon, but is held in check or decreasing, as a result of the energetic efforts of the health authorities. In the Visayan group the epidemic is rapidly waning, apparently from natural causes. This tendency of the disease to sweep over a district with great violence, and then to die out, more from an apparent attenuation of virulence of the cholera bacillus than the lack of susceptible material, has been characteristic of the present epidemic. In the southern islands the disease prevails with great severity in the country districts, though rapidly decreasing in the larger towns. Among the Moros in Mindanao the disease has had a very high mortality, a fact which has no doubt materially influenced the military situation in the production of a cessation of hostilities. Several hostile chiefs have died of cholera, and their fighting men decimated and disorganized. A few cases have occurred among the troops in Mindanao, but the efforts of the army surgeons have kept it away from practically all soldiers who have obeyed the sanitary orders. As an instance of the severity of the disease among the villages of the Mohammedan Moros, the mortality of some of the small villages in Zamboanga Province, Mindanao, from the beginning to the end of the outbreak in those villages, is as follows:

NAME	POPULATION (ESTIMATED)	DEATHS REPORTED
Mariki	50	11
Balabac	150	31
Pangapuyan	50	11
Malanipa	500	120
Sininuc	25	18
Taluk Sungei	1,500	118
Booboo	30	9
Lanigan	30	10

The number of cases of cholera occurring in these towns is not known. Some of the smaller villages, where the common source of water supply seems to have become infected, have been fairly wiped out. One fact in the present epidemic is very apparent—the infection varies in virulence with the locality, and even under the worst conditions about 20 per cent. of the population seems to have a complete natural immunity to the disease.

Further south, in the Jolo and Tawi-Tawi groups of islands, the disease is very severe where it has gained a foothold, but tribal prejudices and lack of ready communication operates to restrict travel by the natives, and greatly assists in preventing the transportation of the cholera germ into new and uninfected localities. The sparse population and absence of large towns also prevents the spread of the disease. These facts are of much importance from a sanitary standpoint, for the Americans have as yet no sanitary, and scarcely any military, control over the Moros, and when the disease breaks out among them it is impossible to give them any assistance or to institute measures for its control.

The Moros are, if anything, even more dirty in their habits and customs than the northern Filipino, and when the cholera infection is brought into one of their insanitary villages, the mortality is very high. The Sultan of Jolo seems to be fully aware of the value of quarantine in keeping out the infection, and has surrounded his court with every restriction to prevent the disease from reaching his family and retainers. The military surgeon, with the troops at the town of Jolo, has been very successful in his efforts at protecting the soldiers of his command, and so far the disease has failed to gain entrance to the walled city of Jolo, though prevalent over the entire island up to the line of fortifications. This is a good example of how readily cholera could be prevented from spreading among

the natives if they could only be induced or forced to submit to the necessary restrictions.

Of course, with cholera epidemic in the American islands of Tawi-Tawi, it was to be expected that the disease would be carried over to the main island of Borneo, only about forty miles distant. This has been the case, and cholera is now raging among the Malays of British North Borneo, starting from the port of Sandakan, and is now gradually traveling southward over the islands. The British control is still loose, and there is no sanitary organization to combat the disease, which will certainly extend to Dutch South Borneo and Sumatra, it having already gained direct access to Java by another route, and is now very severe in the vicinity of Bandjermassin. The extension of cholera through the entire Malay Archipelago may be expected during the present year—it will certainly knock at the gates of Australia, and if it gains entrance, will follow the trade route to South Africa, East Africa, and Madagascar.

Efforts are at present being made by the medical authorities of the civil government and army to secure the coöperation of the Spanish and native priests in the task of controlling cholera. It is realized that but little can be done to stamp out cholera, except by the education of the natives to a proper knowledge of the nature of the disease, and the best methods for its prevention and control. The Filipinos are distrustful of all officials, and particularly American officials, and evade or ignore sanitary regulations as far as possible. They are, however, completely dominated by the priests, and if the latter can be brought to assist in a campaign of education, much good can undoubtedly be accomplished.

Another effort for the control of cholera is to be made through the teaching of elementary hygiene in the schools established and operated by the American Government. At present there is no simple textbook suited to the needs of these islands, but it is understood that one is in process of preparation under the auspices of the insular sanitary authorities. Circulars relative to the prevention of cholera, published in the several languages used in the archipelago, are also to be widely distributed in the hope of robbing the visitation of the disease, during the coming rainy season, of many of its terrors. This education of the rising generation will not have as much effect upon the present epidemic as in elevating the future sanitary standards of the natives.

Plague still continues in Manila, though the cases are few in number. One occurred recently in the Walled City, which has so far practically escaped the disease. The disease is almost invariably of the bubonic type, and practically all the cases are fatal. Although the infection seems to be largely limited to the districts largely occupied by Chinese, the latter do not seem as liable to contract the disease as the Filipinos in the same districts.

Plans are being prepared for increasing the water supply of Manila, which is insufficient for the needs of a growing population and increasing business interests. A preliminary survey is being made, and an excellent drainage basin in the vicinity of the village of Montalbon has been determined. At present the water supply is so deficient that during the day there is no flow in the pipes of the upper floors in the buildings of the Walled City, and the older portions of Manila. The present watershed of the Mariquina valley is also so thickly populated as to be a constant source of danger to the health of the city. A large part of the native population of Manila still draws its water supply from shallow wells and polluted surface waters.

The Commissioners for the Philippines have recently passed an act regulating the practice of pharmacy, under which candidates who have served as pharmacists' assistants for a period of four years, even though they are not graduates of colleges of pharmacy, are entitled to appear for examination before the board which has to do with the licensing of pharmacists to practise. Graduates of schools of pharmacy must serve as assistants for two years before taking these examinations. The action of the Commission was in opposition to the desires of the pharmacists, who urged that no one be licensed to practise pharmacy who had been graduated from a school of pharmacy.

A reduction in the number of the Army Hospital Corps men on duty in the Philippines has just been ordered, by reason of the abandonment of many stations in conformity with the present plan of concentration of troops. The hospital force is to be cut down to 5 per cent. of the total white troops, and 3 per cent. of the native scouts, thus reducing the strength from about 1,500 to 1,000 men. This reduction is to be effected by the discharge of all men not of excellent character and adapted to the service, the transfer of others to the United States, the cessation of all new enlistments, and of re-enlistments, except in the case of exceptionally desirable men.

OUR ALBANY LETTER.

(From Our Special Correspondent.)

The Senate Judiciary Committee listened for two hours one day last week to the pros and cons of the Registered Nurses Bill. All concerned in the hearing were agreed as to the following points: (1) There should be a standard established by law indicative of what constitutes a competent (registered) nurse. (2) No legislation should be enacted which would exclude from such a class, women who have up to now deservedly earned the distinction of being trained nurses—accordingly these, without prejudice, should be exempt from examination tests. (3) The law should exempt from its provisions those who, previous to its enactment shall, in good faith, have commenced the study of their calling at a registered school for nurses. (4) Every student of nursing, desirous of being licensed as a registered nurse, must have had a preliminary academic education. (5) The Regent's office should be the authoritative center for (*a*) passing on the academic and professional qualifications of all candidates for such title and for (*b*) appointing the examining board.

As stated, there was no dissension expressed on the above points, but there was a considerable difference of opinion as to what the character of the membership of the board should be. The Nurses' Association wants that all members of the board shall be nominated from and by their body and that the regents shall appoint the board from such nominees. Representatives from the State Society submitted that the board should consist of five nurses and three physicians, each of the latter, if thought desirable, to be a representative of one of the three forms of practice recognized by the State. Inasmuch as physicians are the teachers of nurses, and as the latter, in the main, are employed by and on the recommendation of physicians, and moreover, as they have the best opportunities of judging of their fitness for their work, it is but reasonable to not only concede but to urge medical representation in such a body. Women are untried and certainly unskilled in matters of this kind and will require executive assistance. Who better than the physician to aid them in such a contingency? A registered nurse's bill should certainly be passed; the Legislature should make it effective, *a priori*, in the manner suggested.

Senator Stewart's bill, amending the Public Health Law so as to give the Commissioner of Public Health added power to abate nuisances, to combat epidemics and to appoint local health officers, has had its first hearing. Opposition appeared in the person of a New York City physician, representing the anti-vaccinationists, against what he termed the "compulsury vaccination clause, only. "We are opposed to uncleanliness! We object to being infected with a disease and the concomitant dangers of the operation, in order that an exploded theory as to prevention and cure may be practised on us! When a soldier is drafted in his country's service and returns from the field, injured or damaged in health, the State pensions him. By a parity of reasoning the State should stand willing to indemnify the individual who, as an unwilling victim is made to stand as a buffer 'against alleged public calamity.'" Such was the gist of the opposition argument. The Health Commissioner in reply did not attempt to convince the Committee as to the worth of vaccination as a preventive to smallpox, excepting to state that scientists, the world over, were convinced of its efficacy, and to state that experience proved that those countries which practised vaccination most thoroughly, suffered least from death and disaster from smallpox. He contended, moreover, that the bill was not one calling for compulsory vaccination, excepting as it applied to a restricted household or locality in which smallpox appeared as a scourge. One excellent clause of the new bill provides for a four years' term for local health officers and added compensation for any extra-hazardous service they render. The bill is designed ultimately to free such appointments from political control, and is in this particular a primary step in the direction of the Medical Record's recommendation for the creation of the post-graduate degree of Doctor of Public Health.

The rally in support of educational unification under Regent's control is daily gaining strength. The part which the medical profession has, and is taking, is highly creditable. They are standing shoulder to shoulder with educators in all academic and professional branches and, unless pressure of a nature not yet in evidence is brought to bear, the Stevens Bill will become a law and education and politics in New York State will forever be divorced. When that time comes the Empire State will be the educational clearing-house of the world.

The Buffalo Health Commissioner and his deputy have consented to serve as representatives of the State depart-

ment of health during the prevalence of the typhoid fever epidemic now raging in West Seneca, Erie County. At the present time there are 170 cases of well-developed typhoid fever, largely among the foreigners employed in the local steel company, and there is danger that the Buffalo water supply may become contaminated.

There seems to be danger lurking to the citizens of New York State in the proposition, now before the New Jersey Legislature, to construct an immense trunk sewer which is to take the sewage from a large section of the State of New Jersey and discharge it into the waters of New York State. The New York State Health Commissioner urges that a consultation of the authorities of the two States be held previous to the adoption of any such proposed procedure, so that proper arrangements may be made to safeguard the citizens of Saten Island and vicinity from possible dangerous consequences.

The Ways and Means Committee of the Assembly has under consideration a bill introduced by Mr. Graeff appropriating a total of $115,000 "for the treatment of incipient pulmonary tuberculosis" at the Ray Brook, New York, State Hospital. This bill, if passed, merely provides for the construction and furnishing of the proposed buildings. A subsequent appropriation will be necessary to run the plant. It is to be hoped there will be no delay in consummating the State's previously announced policy of attacking tuberculosis at Ray Brook in the manner familiar to your readers and in keeping with the suggestions of prominent members of the profession, learned in this subject.

The McCabe pure ice bill was recently considered by the Senate Public Health Committee. It would prohibit the cutting of ice, for domestic purposes, in the Hudson River between Waterford (above Troy) and Coxsackie. It is averred that eighty sewers empty into the Hudson between these points. The ice dealers are opposed to this bill and have secured an adjournment in order that they may be heard in opposition.

The Elsberg bill for the abolition of coroners and the substitution of "medical examiners" in their place, is being steadily advanced. It is claimed that a political understanding has been arranged which may succeed in passing the bill, notwithstanding the fierce opposition which is being waged by the friends of the present law.

If Assemblyman G. H. Smith's bill becomes a law, epidemic proclamations need not be posted in second-class cities. We would suggest to the various legislative committees of medical societies that they inquire as to the whys and the wherefores of this proposed departure.

A bill has been introduced by Assemblyman Hughes providing for the acquisition of a site for a State hospital for the insane in the northeastern part of the State. If, as claimed, present accommodations for the insane are inadequate, the State should not be remiss in providing them.

Governor Odell has signed a bill, thus making it a law, which provides that not less than six nor more than eleven surgeons, actively connected with the Brooklyn Eye and Ear Hospital, shall be members of its board of directors.

The bill to provide for the licensing of barbers has been advanced in the Assembly to the order of third reading.

A bill has been introduced in the Assembly making it a misdemeanor to carelessly distribute drugs and medicines.

MEDICAL SUPERVISION OF UNIVERSITIES.

To the Editor of the Medical Record:

Sir: Much interest has been deservedly taken in the recent outbreak of typhoid fever among the students at Cornell, and this disease, arising as it does from unhygienic conditions, and the resultant deaths would seem to point to the conservation of health and the saving of human life as a very necessary adjunct to the college and university administration.

These educational centers are made up of the best blood in the land, coming in from all over the country and destined to exert a strong influence in our future history, and upon the health of the student everything touching his future success may depend. The responsibility of the college is greater even than that of the home—in that it aims to more intelligently direct the abilities of those entrusted to its care—and we cannot but feel that the health of the students should be as much a matter of deep solicitude by the college authorities as any other one thing connected with the college life. To allow a large body of students to be free from a close medical supervision is not only unwise, but it is unjust to all concerned, parents, students, and friends.

No excuse made by college authorities should be allowed to stand against the appointment of a thoroughly competent and consequently experienced medical man, to whom all cases of illness of every kind and description should be reported at once and properly cared for.

C. Spencer Kinney.

February 25, 1903.

Progress of Medical Science.

The Boston Medical and Surgical Journal, March 12, 1903.

A Case of Habitual Dislocation of the Shoulder-joint.—J. Collins Warren reports the case of a man who has dislocated his shoulder-joint about fourteen times in four years. The operation recommended by Burrell and Lovett was performed; an incision four inches long was made from the coracoid process downward and outward along the inner border of the cephalic vein. The tendon of the pectoralis major was exposed and divided on the greater portion of its extent. The head of the humerus was rotated outward, and the insertion of the subscapularis was brought into view. By dropping the head of the bone backward this muscle was relaxed and its lower edge could be differentiated from the capsule. By freeing the lower edge of this muscle the capsule was exposed, and a piece of it, an inch long by three-quarters wide, excised and the wound closed with silk sutures, putting the capsule on the stretch. The wound healed by first intention. Two years later the patient reported that he had had no further dislocation of the shoulder.

Report of a Series of Cases of Movable Kidney.—H. D. Chadwick has in the past three years had the care of twenty-eight patients suffering from symptoms referable to a movable kidney. Many of them had been going about from one physician to another, finding no relief, and being considered for the most part as hypochondriacs or neurasthenics. The proper treatment of the affection seems to the author to depend upon the severity of the symptoms rather than upon the amount of inability. When the abnormal inability becomes a menace to a person's health or limits his usefulness, fixation is the only treatment that will give relief or produce a cure. An operation was performed on fifteen of this series of cases, and the results have been satisfactory, with the exception of one case. This was one of the earlier cases, and after a few months the kidney again became movable. The author supposes that he did not split the capsule enough for adhesions to form, and when the stitches gave way the former conditions returned. Appendicitis is frequently found in persons with a misplaced kidney, due probably to the chronic congestion caused by the displaced organ.

Limitations of the Uhlenhuth Test for the Differentiation of Human Blood.—A. E. Austin has found by experimentation that this test is not as fully applicable as has been represented, and that it can be employed only under the most limited conditions; that other fluids of the human body, like effusions and exudates, are of little value, and that the fluid from placentas can be used only when it is perfectly fresh, and that much longer time and more repeated injections are necessary than he had been led to suppose from the first over-sanguine reports of the earlier investigators. From one experiment he learned that pleuritic and hydrocele fluids produce but slight, if any, specific action upon the rabbit, unless a certain amount of blood is mixed with such fluid. In another experiment, a supposedly immunized rabbit serum to human blood gave precipitates with both human and rabbit blood-stains. Moreover, the serum which contains the active principle cannot be preserved on slips of filter paper, and an active serum which has been kept for a long time in the refrigerator has also lost the greater part of its efficiency, and acts very weakly, if at all, upon human blood-stains.

New York Medical Journal, March 14, 1903.

Some of the Complications of Abdominal Surgery.—R. T. Morris mentions anæsthesia, danger of iodoform poisoning, and hemorrhage as contributing possible complications in the work of the abdominal surgeon. With chloroform we may have vasomotor paralysis; with ether, disturbances of the gastric mucosa (through which ether is rapidly eliminated during and after anæsthesia), respiratory tract, and kidneys. We may give the patient small quantities of hot water after operation, or if vomiting is severe, we may wash the stomach out. The bronchial mucosa may be irritated by the refrigerating influence of the ether and its direct irritation on inhalation or by the process of excretion. In the kidneys a preëxisting nephritis is exacerbated or primary disease may be set up by prolonged use of ether. Curiously enough, some cases of nephritis caused by excretion of toxins from an acute infective process in the abdominal cavity will cease instantly in many cases after ether anæsthesia, provided

that the focus of infection has been rendered inactive by the operation. Iodoform poisoning may be confounded with septicæmia, but in the former the wound does well but the patient does not; in the latter, both do badly. In the former, free iodine is found in the urine. In hemorrhage occurring after abdominal operations the prognosis is not so grave if the blood remains within the peritoneal cavity as it is when blood escapes externally, provided the retained blood does not become septic. The reason for this is because the blood in the peritoneal cavity is still in circulation in a way, owing to the action of the lymphatics of the peritoneum, which take up the fluid portions rapidly and return them to the blood vessels, even though after making the round they again escape into the peritoneal cavity.

The Diagnosis and Treatment of Hereditary Syphilis.—The clinical histories of eleven cases are given by E. Harrison Griffin, who believes that many cases treated as tuberculous are really syphilitics. Hutchinson's teeth are present in only 10 to 15 per cent. of hereditary syphilis. A certain number of so-called hereditary cases in children are probably only simple tertiary cases in which the primary stage has been overlooked and allowed to run its course unchecked. When syphilis is introduced in a family, all the children born will show symptoms of the disease, and the severity of the symptoms will depend upon the amount of poison that is in the blood of the parents at the time the child is procreated. This statement is true unless the parent or parents have received proper treatment, and for such a lengthened period as to combat these symptoms. In every doubtful case coming under observation the buccal cavity should be most carefully inspected. It is a cavity the inspection of which throws more light on an average diagnosis than any other cavity of the body. In regard to the removal of dead bone from the roof of the mouth, the author's experience leads him to believe that it is better to keep it in position, as it serves as a shelf on which new bone cells may form. In this way a new palate may form and perforation be avoided. The reason why these cases are so often overlooked is that this form of the disease is seldom dwelt on in college teaching. The student is taught that the syphilitic mother will miscarry and her skin will bear the copper-colored spots of her infection. Her child, if she comes to term, will inherit her disease, but here the story ceases at its most interesting point. Nothing is said as to how the child will inherit, in what shape it will be infected, or as to the nature of its inheritance. These symptoms are passed over and the student is left, like the lecture before him, to grope for the symptoms in the dark, untaught and uninformed. Thus the common practice of the past and the universal practice of to-day is, if a case is not understood, give the patient potassium iodide; it may be tertiary syphilis or possibly hereditary syphilis. This is not medicine, this is chance.

Medical News, March 14, 1903.

Surgical Treatment in Non-malignant Diseases of the Stomach; Results and Indications.—Henri Hartmann states that the mortality in the operations for non-malignant diseases of the stomach depends almost entirely upon the physician and the early diagnosis. Success, operative as well as therapeutic, will come only as some special indications are followed. Atonic dilatation is rarely an indication for surgical interference. In pyloric stenosis the operative treatment is indicated as soon as the diagnosis is made. The acute ulcer, without any complications, is cured by medical treatment, when this treatment is sufficiently severe. In chronic ulcer, surgical treatment is indicated only in the case of an ulcer with mechanical troubles, and in those of an ulcer which is situated on the pylorus and which gives the pyloric syndrome. Delay is of no avail. In cases of excessive hæmatemesis, the operative mortality is high, the cure by medical treatment frequent. But cases of small and repeated hæmatemesis require surgical treatment. Gastroenterostomy seems to be, in the non-malignant diseases of the stomach, the best operation.

The Etiology of Colds.—James J. Walsh declares that the word cold is probably the most used and the least understood in the practice of medicine. Usually the seat of the affection is the respiratory tract. Those who live in a dry, very cold climate are not so subject to colds as those who live in a moist, changeable climate. Changes of temperature are not the important etiological element. An ordinary cold represents a reaction of mucous membranes, sometimes of serous membranes, with a consequent increase of secretion. Cold is only the predisposing cause for the contraction of colds. Undoubtedly bacteria of various kinds enter largely into the problem. Sometimes the inspiration of irritating substances, vapors or fine dust, may give rise to a catarrhal condition that resembles a cold. Colds in the head are almost surely due to bacterial invasion. Not infrequently pharyngitis and tonsillitis will follow mouth-breathing of cold air. There are always in the mouth a number of more or less pathogenic bacteria, and when the resistance of the tissues is lowered, pathological effects follow. Such is especially liable to occur if the person has come out of an overheated room in which there were many people or much dust. It is in affections of the respiratory mucous membrane below the larynx that bacteria in the breathed air are most important. Usually an attack of bronchitis or pneumonia will be found to be preceded by a visit to some place in which there was a large crowd of people. Such assembly rooms should be so built as to be exposed to the action of sunlight. Delicate individuals should avoid such places, and the stronger ones in leaving such halls should delay for some time in the cooler air of the corridors. A very striking indication that a cold is due to microbic invasion is that the process is nearly always accompanied by fever, due to an absorption of toxin into the circulation which disturbs the heat-regulating mechanism. The efficient cause of a cold is commonly further off than the patient imagines.

Journal of the American Medical Association, Mar. 14, 1903.

Bacteriologic Examination of the Blood During Life in Scarlet Fever, with Special Reference to Streptococcemia.—From his observations and experiments, L. Hektoen concludes that so far as scarlatinal streptococcemia is concerned streptococci occasionally may be found in the blood of cases of scarlet fever that run a short, mild, and uncomplicated clinical course; that streptococci occur with relatively greater frequency in the more severe and protracted cases of scarlet fever in which there also may develop local complications and clinical signs of general infection, such as joint inflammations, but even in the grave cases of this kind spontaneous recovery may take place; and finally, that streptococcemia may not be demonstrable in fatal cases of scarlet fever. The theory that scarlet fever is a streptococcus disease does not seem to receive any direct support from this work. Full references are given to the literature of the subject.

Some Rare Forms of Chronic Peritonitis.—A. G. Nicholls considers this malady with special reference to its association with productive fibrosis and hyaline degeneration. He makes the following division of the cases according to the nature of the exudation. (1) Chronic exudative peritonitis, in which there is a considerable outpouring of serous, serofibrinous or fibrinopurulent fluid, with loose plastic adhesions; fibrous bands are few or absent. (2) Chronic exudative and adhesive peritonitis, presenting less exudation, but with somewhat numerous and firm adhesions, often leading to sacculation of the contents. (3) Chronic hyperplastic peritonitis, in which there is serofibrinous or fibrinopurulent exudation, but more or less generalized adhesions are the rule, together with the formation of firm nodules or continuous sheets of hyaline fibrous tissue. Illustrative clinical histories are given. The treatment of all forms is essentially surgical. Abdominal section sometimes benefits a simple hyperplastic, the same as it does a tuberculous peritonitis. Tapping is generally necessary at increasingly frequent intervals. Diuretics are of doubtful benefit. Caffeine is recommended as the best remedy.

The Philadelphia Medical Journal, March 14, 1903.

The Treatment of Tropical Dysentery with Sulphur.—T. H. Weisenburg gives some interesting notes: In the acute cases the patients were kept as quiet as possible, all medication was withdrawn, and a milk diet enforced; they drank sulphur water exclusively and were given a bath in the sulphur spring every morning. The chronic cases were allowed to take moderate exercise, were fed on milk, eggs, fish, beef and vegetables, took a bath twice daily, and drank sulphur water. The results were excellent. In a month the acute cases were cured, and the chronic cases in from three to six weeks.

Some Points on the Management of Infectious Diseases.—A. G. Young declares that pulmonary tuberculosis occupies the first rank in the list of infectious diseases which are dangerous to the public. The sanitary precautions to be observed by the patient are the disinfection of the sputum or, better, its destruction with fire. Paper spit-cups should receive the sputum and should be burned with their contents. Corrosive sublimate solution may be used as a disinfectant of infectious dust in rooms which have been occupied by consumptives. Efficient work in the control of diphtheria must go hand in hand with the work of the bacteriological laboratory. Persons infected with this disease should be isolated. Antitoxin should be used and disinfection should be thorough. The two most potent factors in the spread of scarlet fever are: mild cases which escape the attention of physicians, and the failure to maintain isolation until the very end

of desquamation, till the hands and feet are entirely smooth. The correct diagnosis of mild and atypical cases of typhoid fever is of prime importance in the prevention of the spread of this disease. The main prophylactics are cleanliness and disinfection. The possibility of the infection being carried by flies must be remembered. When called to a suspicious case of smallpox, the physician should take ample time to make a diagnosis. Until this can be done, every suspicious case should be promptly isolated. Suspects should never be put into rooms with cases of smallpox. All exposed persons should be vaccinated at once. The necessary precautionary measures in pneumonia relate to the care of the sputum, and are the same as have been given for pulmonary tuberculosis. These measures are also advisable in grippe. As to whooping-cough and measles, all infectious pupils and all persons from houses in which there are cases of whooping-cough or measles should be rigorously excluded from the schools.

American Medicine, March 14, 1903.

Artificial Respiration in Carbolic-acid Poisoning.—Walter S. Cornell reports a case in which the quantity of acid taken was between two fluid drachms and two fluid ounces. The stomach-tube was inserted and the stomach thoroughly washed out with two quarts of water, containing eight ounces of epsom salts and four ounces of sodium bicarbonate. A hypodermic of ($\frac{1}{40}$ gr.) strychnia and ($\frac{1}{80}$ gr.) atropine was given. The heart-beat was not palpable and there was no radial pulse. A running, soft carotid pulse of 110 could just be felt. There was absence of respiratory movement. Whiskey was given hypodermically and by rectum. Artificial respiration was instituted, and at the end of thirty minutes the patient made a single, weak inspiratory effort. A little later he was breathing feebly but regularly.

On Transplantation of Tumors.—Leo Loeb believes that no organism sensitive to cold can be the cause of tumor formation. He concludes that after transplantation of these tumors there does not exist any appreciable period of latency in the growth of the peripheral transplanted tumor cells. They begin to multiply almost at once. Serial sections show that apparently separate tumor nodules of sarcoma may be connected by rows of cells. Tumor nodules smaller than a pea, which never did expand actively when examined microscopically after two months, showed an active mitotic cell proliferation, which is in all probability neutralized by the corresponding destruction of cells. By cutting out a piece of such nodules an active growth may be produced. Sarcomatous cells are phagocytic and may take up extravasated red blood-corpuscles. It is not improbable that transplantation of sarcoma will be shown to be more frequently successful than that of carcinoma, although transplantations of different varieties of carcinoma have been successful. The fact that not infected, fresh pieces of sarcoma can be successfully transplanted into the majority of animals of the same species proves that a predisposition for the growth of tumor cells is not the main factor which prevents or favors the formation of metastases. Transplantation of tumor cells, through so many generations, would seem to prove that the life or ordinary tissue cells may, under conditions not realized in one organism, be able to live much longer than the individual to which they belong.

The Lancet, February 28, 1902.

The Gelatin Treatment of Hæmoptysis.—H. M. Tickell mentions the objections to the hypodermic use of this remedy—pain, necrosis of tissue, rise of temperature, and possible tetanus. In place of this method he extols rectal injections, the solution being prepared in the following manner: 50 gms. (about $1\frac{3}{4}$ oz.) of gelatin are dissolved in $1\frac{1}{4}$ liters (2 pints $3\frac{3}{4}$ oz.) of boiling water and boiled very gently for one hour when the volume is reduced by evaporation to one liter. The solution is then cooled down to the body temperature and a quarter of a liter (nearly 9 oz.) is slowly passed into the rectum from an ordinary irrigator. The injection is given three times a day until the sputum ceases to show any trace of blood. Only a few cases have been treated in this manner, but the results are promising. The simplicity of the method places it within the reach of every practitioner. It is painless, free from danger of infecting the patient, and causes no rise of temperature. It seems to have an efficacy equal to that of the hypodermatic method without any of the latter's dangers.

The Treatment of Epileptics.—F. Beach believes in the "home treatment" of epilepsy. The patient should lead a quiet life, free from excitement, and should be subjected to cold baths or cold sponging daily. Out-door exercise and a moderate degree of mental work are necessary, and care should be taken to place the patient in such circumstances as will promote his welfare and recovery. It is necessary that he should be careful, prudent, and temperate in all things. Children who are the offspring of a neurotic family require to be brought up carefully, and later should be put into some occupation in which they will be free from excitement and worry, in which the work is light and the hours of employment are not long. As to drugs, he gives the bromides in large doses, favoring the combination of ammonium, sodium, and potassium. If for any reason but one salt is used, the ammonium salt is to be preferred. It may be combined with antipyrin, and the combination seems especially useful in lessening the number of attacks when a bromide dose alone has failed to effect this result. During this time iron tonics and cod liver oil should be employed for the maintenance of nutrition, and occasionally it is well to give a high rectal saline enema. The colony system of housing epileptics is highly commended.

A New Method of Treating Fractures of the Shaft of the Femur.—J. P. Lockhart Mummery thus describes his method of treatment: An extension stirrup is applied with strapping from the ankle to the knee in the usual way and the stirrup is fixed round the footpiece of a Macintyre's splint, the thigh-piece of which should be made long enough to reach well up to the fold of the buttock. On the under side of the thigh-piece and close to its upper margin a metal hook is fixed. The best splint for the purpose is a Macintyre, made so that the length of the thigh-piece can be adjusted by means of a thumb-screw and with a flat metal hook attached to the under side. An anterior splint for the thigh is then made of Gooch's splinting, or, better, of gutta-percha, padded with a double layer of lint, and fixed to the thigh with webbings passed around the Macintyre splint. The fracture having been set, the splint is now adjusted with the knee bent nearly to a right angle, and the limb is fixed with bandages or webbings, as the case may be. A leather strap, which should be about an inch in breadth, is now passed through the lugs on the carriage of a Salter's cradle, then round the thigh-piece of the splint and caught in the hook on the under side. The buckle is then brought to one side and the strap is tightened until the buttock and the thigh on that side are lifted off the bed; when the strap is sufficiently tight it ought to be possible to pass the open hand beneath the buttock on the injured side. Another strap is then passed round the lower end of the splint and fixed to the cradle to support the leg; this strap must not be too tight or it will depress the upper end of the splint. The upper strap will need tightening from time to time to make up for stretching, etc. All that is necessary in order to examine the site of fracture is to remove the anterior thigh splint. By this method very powerful extension can be easily secured, and with very little attention will remain efficient. The weight of the thigh and buttock tending to slide off the splint draws the upper fragment away from the lower; the latter is prevented from moving by the extension strapping and stirrup round the foot-piece and by the bent position of the limb. The chief advantages of this method are: (1) The nursing is very easy, as there are no weights, etc., and the cradle is the only thing that rests on the bed. (2) There is less tendency to movement at the site of fracture than with most other methods, as if the patient moves his body or it should become necessary to move him for the purposes of nursing, the distal portion of the limb and the splint will tend to move with him rather than for the movement to take place at the site of fracture. (3) The splint is comfortable and the limb is in the natural resting position of semi-flexion. (4) The apparatus is simple and easily applied. Movement of the knee-joint can be carried out from time to time by screwing the splint straight with the key while the thigh is supported by an assistant; this can be done without undoing the splint at all.

British Medical Journal, February 28, 1903.

Recovery from Tuberculous Meningitis.—A. Humphrey Davy had under his care a child of eight years with this affection. He put her on a course of creosote-vasogen, 20 per cent., commencing with five to seven drops in milk, gradually increasing to twelve drops. After ten days' *x*-treatment the symptoms began to abate. The treatment was continued for four months. After six weeks' change of air the child returned to school and has been well ever since.

Case of Eclampsia Fatal after Delivery.—C. Nelson Thomas was called to a patient in labor. She was unconscious and had had three convulsions during the hour before. A healthy child at full term was born, and the placenta immediately expelled. The patient regained consciousness and took a dose of ergot and bromide. About eighteen hours later the convulsions returned. The pupils were minutely contracted, and would not react to

light; the breathing was stertorous, with much frothy expectoration; the pulse was 130, temperature 104° F. The bowels had been well opened and the urine was loaded with albumin. There was no apparent œdema. The writer injected ½ gr. pilocarpine hydrochlorate with ½ gr. morphine acetate. The patient was quieter and sweated profusely, but in an hour had another convulsion. Then ½ drachm of chloral hydrate, with ½ drachm of potassium bromide, was injected into the rectum. In another hour the pilocarpine and morphine injection was repeated. She grew worse, however, and died in a few hours.

Case of Dilatation of the Pylorus for Simple Stricture.—Horatio P. Symonds describes the symptoms of a man of forty years who suffered from dilatation of the stomach. His illness had extended over a period of eleven years. No abdominal tumor could be felt, but the stomach was was found, by percussion, to be very much distended. There had been no vomiting of blood. Malignant disease was excluded, and the diagnosis made of simple stricture of the pylorus. The patient was anxious for an operation, and for a week previous he was kept on a bland diet, and received 8 gr. of benzonaphthol every four hours. At operation the abdomen was opened through the rectus muscle below the xyphoid cartilage. The stomach was much distended. The pylorus was steadied with the left hand, and with the index and middle fingers of the right a part of the anterior wall of the stomach was invaginated through the pyloric orifice, and dilatation of the latter was carefully accomplished by separating the fingers. The anterior wall of the stomach was then drawn out through the abdominal wound, and a longitudinal tuck was run in it by a continuous suture of the applied peritoneal coats. This tuck included that part of the stomach which had been used in the invagination manipulation. The wound was then closed. He remained in the hospital a month on careful diet, and then went home. In five months he went to work, and has had no stomach symptoms since. He says that he feels like another man.

The Presence of Diphtheria Bacilli in Atrophic Rhinitis.—J. Odery Symes presents the results of his investigations on this subject. The type of "diphtheria-like" bacillus that he describes is peculiar to the condition—atrophic rhinitis. The constant occurrence of this bacillus is by no means conclusive evidence that it plays any part in directly exciting the disease. But it is found in atrophic rhinitis only, and in this respect is unlike the bacillus mucosus, which has been demonstrated in cases of rhinitis sicca and syphilitic disease. Reports of this bacillus state that the morphological and cultural characteristics are those of the diphtheria bacillus, and that the organisms were pathogenic to guinea-pigs, producing the same lesions as the Klebs-Loeffler bacillus. If the identity of this bacillus with the Klebs-Loeffler bacillus can be established, then atrophic rhinitis may be regarded as a chronic form of nasal diphtheria. The following facts also support this theory: (1) In diphtheria the accessory sinuses of the nose are constantly infected. Bacilli may remain in the sinuses for prolonged periods, exciting a purulent, seropurulent, or serous discharge. (2) Chronic suppuration in the accessory sinuses is, in the opinion of many eminent rhinologists, the direct exciting cause of the conditions of ozæna and atrophic rhinitis. (3) Multiple cases of atrophic rhinitis in the same household occur from time to time, as one would expect if the process were a true infection. (4) An attack of diphtheria may be the starting point of atrophic rhinitis. (5) Atrophic rhinitis, like diphtheria, attacks females more than males; it is a disease of early life, and induces a pronounced anæmia and leucocytosis. (6) Atrophic rhinitis has been successfully treated by diphtheria antitoxin. (7) In atrophic rhinitis the type of diphtheria bacillus does not alter during the progress of the case, a fact which has recently been found to hold true in acute faucial or nasal diphtheria.

Deutsche medicinische Wochenschrift, February 19, 1903.

Subconjunctival Injections.—Karl Wessely by a series of experiments upon rabbits, seeks to explain the mode of action of subconjunctival injections of solutions of sublimate and sodium chloride as such are effectively used in various diseases of the eye. Others have thought that the efficiency of the injections is to be ascribed to the local increased acceleration of the lymph currents or leucocytosis produced thereby, or in the case of bactericides, such as sublimate, to the antiseptic actions of these substances. Careful experimentation has shown that none of these factors is responsible for the action of the injections, since the presence of such processes cannot be demonstrated in the tissues of the eye following the injections. The chief change that can be demonstrated as the result of such injections relates to the composition of the aqueous humor. This becomes very much richer than normal in albuminoids. This increase in albuminoids is due to the irritating action of the injected substances upon the blood vessels, ciliary body, and its immediate neighborhood. This produces a congestion of these blood vessels, and therefore an increased transudation of albuminoid substances from them into the aqueous humor. It is well known that the protective substances of the blood are always to be found in combination with the albuminoids of the same, and it would hence be rational to assume that coincident with the increase of serum albumin in the aqueous humor, various protective substances (hæmolysins agglutinins, etc.) would appear in the same, or if previously present would be increased in amount. Experimentation shows that this is the case. If a rabbit's blood, in the usual way, is made hæmolytic against ox blood, the aqueous humor of such a rabbit possesses no hæmolytic properties. If now in addition subconjunctival injections of sublimate or sodium chloride be made into one eye, it will be found shortly thereafter that the aqueous humor of this eye is markedly hæmolytic, while that of the non-injected eye still remains without hæmolytic properties. The same principle applies to the agglutinins. No experiments have as yet been conducted with the bacteriolysins, but it is probable that the like holds true for these substances. The action of these injections is hence to be sought in their local irritating properties which favor the production of a localized immunity. They should, therefore, be especially useful in the treatment of acute inflammatory diseases of the eye.

Münchener medicinische Wochenschrift, February 24, 1903.

Hemianæsthesia Alterans.—v. Rad reports a rare case in which the regions involved were the right side of the face and the left side of the body. The patient was a male thirty-seven years of age and the symptoms developed suddenly after a night of excessive eating and drinking. At the beginning there was marked vertigo and much difficulty in walking, the patient constantly falling toward the left side. The anæsthesic symptoms lasted for about six months, when they entirely disappeared, the health of the patient being fully restored. The diagnosis of the condition was made by careful exclusion, and of its cerebral origin there can scarce be a doubt.

Tuberculosis of the Larynx and Pregnancy.—Löhnberg says that tuberculosis of the larynx is especially apt to develop in pregnant women who previous to pregnancy possessed tuberculous lesions in other locations or a susceptibility to infection with the tuberculous bacillus. Five cases are reported, in two of which the patient was not tuberculous before conception took place. All of the cases were allowed to go to term. In all, the mother died of tuberculosis within a few weeks or months after the labor. Two of the five children lived and were apparently healthy. So far as can be judged from these cases the continuancy of pregnancy in tuberculous women or those predisposed to this disease is attended with great material risk, and the only safety lies in an early evacuation of the uterus.

Prognosis of Atrophic Cirrhosis of the Liver.—H. Ehret reports a case which shows that the prognosis of this disease is not necessarily fatal, as is generally supposed. Several authors have previously reported cases of apparent cirrhosis of the liver which terminated in recovery, but in none of these cases was the chain of observations complete, so that a certain amount of doubt is to be attached to their validity. In order to demonstrate the fact that it is possible for atrophic cirrhosis of the liver to terminate in recovery, a case must be presented which shows the following consecutive facts: (1) A fully developed clinical picture of this disease. (2) A complete disappearance of all the symptoms. (3) A continued absence of such symptoms for a period of at least twenty years, and until the death of the patient from some other cause. (4) The demonstration of the presence of the lesions of atrophic cirrhosis of the liver at the autopsy. In the case here reported all of these facts can be established. It is thus absolutely demonstrated that it is possible for this disease to terminate in recovery. In order that such may be the case, it is evident that two conditions must be present: (1) A sufficient amount of liver tissue must be left intact, so that metabolic processes necessary to the life of the individual may continue in force. Experimental observations have shown that a small number of liver cells are capable of a relatively large amount of work, and that thus a small amount of sound liver tissue can effectively compensate for much liver tissue that is permanently destroyed so far as its functional activity is concerned. Furthermore, the formation of *new* liver tissue where portions of this organ have been removed, has been conclusively proven. It cannot, therefore, be denied that in cases of cirrhosis an amount of sound liver tissue necessary to the life of the individual may be indefinitely preserved. (2) The interference with the circulation of the portal system must be overcome, so that œdema and the consequent

symptoms which threaten life may permanently disappear. That this may be accomplished by anastomosis with the blood vessels of the peritoneum and mesentery has been shown by a number of experimenters and the observations of Castaigne.

Berliner klinische Wochenschrift, February 23, 1903.

Albumin Nutrition.—M. Kaufman and L. Mohr report experimental observations with respect to the final disposition of the retained nitrogen in the body under forced nutrition. Krug believes that he has shown that under these conditions it is not possible materially to increase the amount of retained nitrogen and that forced albumin nutrition in men is extremely difficult. He hence thinks that the retained nitrogen is to be found as reserve albumin in the body cells similarly as reserve glycogen is known to be present. Lüthje comes to opposite conclusions, and thinks that the retained nitrogen is present in the form of albumins as they enter into the composition of active living protoplasm. The present observations tend to confirm Lüthje's views. It was found possible to markedly increase the amount of retained nitrogen by the forced feeding of individuals who possessed no organic disease, but whose general nutrition was markedly reduced. The final disposition of this nitrogen is, however, not a matter to be easily decided. Some light may be thrown thereupon by an estimation of the amount of the retention of the various salts necessary to the formation of protoplasm. This has been borne in mind in the present studies, and it has been shown that such retention is markedly increased. The final disposition, however, of these salts is not clear, since besides forming protoplasm they also enter into the formation of bone. Further observations are in progress concerning the disposition of these salts, and it is thought that in this manner the final disposition of the retained nitrogen may be ascertained.

Importance of the Reaction after Cold Baths.—Simon Baruch emphasizes the importance of a satisfactory reaction after the employment of cold baths in both acute and chronic diseases. The shock produced by the cold water is, if of proper duration, an important if not the chief factor in the stimulation of the circulatory and nervous systems, nevertheless it is the reaction which prevents this stimulation from being overproduced and the vital functions depressed, often dangerously thereby. In the treatment of acute diseases, such as typhoid fever, by cold baths the reaction becomes of double importance, for here depression from shock is exceedingly dangerous and often fatal. Here, especially, the endeavors to produce the reaction should be instituted *during* the application of the cold water. These measures are thermic, mechanical, and chemical. During the bath the patient should be briskly rubbed, so that the circulation of the superficial capillaries is actively stimulated. In this manner the *entire* circulation is accelerated, and not only are serious consequences avoided, but the congestion of the internal organs quickly relieved. Experience has shown that the addition to the water of certain salts greatly favors the production of the reaction. Those most suitable are the Nauheimer salts in the form of Sandow's tablets. If these principles and methods are followed, the use of cold baths in typhoid fever becomes a pleasure to both the patient and the physician, and the fear of the depressing effects of shock, entertained by many, vanishes. In chronic diseases the production of the reaction should immediately follow the application of the cold water and should be most energetically carried out. In employing cold baths the temperature of the same should be carefully regulated to meet individual cases, remembering that in fever patients moderately cold water produces a much greater shock than in those who are non-febrile.

French and Italian Journals.

Aneurysm of the Aorta Opening into the Lung.—Leclerc describes a patient who suffered from a barking cough as when the bronchi are compressed, and from crises of suffocation, in one of which he died. Radiographs which were taken demonstrated the existence of an opacity independent of the heart and ascending aorta, and which was slightly pulsatile. The diagnosis was made and was verified by autopsy. Both of the sympathetics were united and compressed by the tumor.—*Lyon Médical*, February 22, 1903.

Family Hæmoglobinuria in Malaria.—M. Luzzato reports the case of a father and two daughters who all suffered from malarial hæmoglobinuria, the disease proving fatal in two of the cases. The administration of quinine did not appear to be the cause of the condition, and, indeed, in one case the repeated administration of the remedy caused a disappearence of the symptom. The author concludes that in malarial districts there is an individual, congenital and familial predisposition to hæmoglobinuria, which becomes evident either when there is an invasion of parasites or sometimes after the administration of quinine.—*La Riforma Medica*, February 11, 1903

Diffuse Hypertrophy of the Maxillæ.—Adenot has a patient with this rare deformity. The child is ten years old and recalls slightly patients with tumors of the nasal fossæ and those of the adenoid type. Three years ago this child was operated upon for adenoids, but that trouble is evidently not the cause of the enormous deformity of the superior maxilla, the bones of the nose, and the inferior maxilla. The hands and feet are normal and there is no acromegaly. The thorax is somewhat rachitic. The family history is negative. The child is very intelligent. It is simply a case of diffuse hypertrophy of the maxillæ.—*Lyon Médical*, February 8, 1903.

A Rare Form of Masked Fever.—Vincenzo Piazza Martini concludes from his observations that nephritic colic, due to malaria, or fever masked under nephritic colic, has a definite clinical form. It occurs at regular intervals, sometimes even daily, now in the right and now in the left kidney, in persons who have had malaria. The pain may be accompanied by the malarial splenic tumor, and may coincide with the emission of uric acid crystals, which is a mere coincidence. The pain differs from that of nephritic colic due to calculus in that it is not accompanied by vesical disturbances; it disappears with quinine treatment and does not recur after the prolonged administration of arsenical preparations.—*Gazzetta Siciliana di Medicina e Chirurgia*, December 1, 1903.

Dilatation of a Deep Vein of the Forearm.—Tavernier reports this case. The operation was very simple: After incision of the skin, mass of fat, and fascia, the tumor was seen, and easily dissected. The venous trunk was cut between two ligatures. A third vein, which branched from the deep surface of the tumor to penetrate into the deep tissues, was likewise tied and cut. The tumor was in close relation with a nerve filament which bifurcated at the lower part of the incision and which appeared to be a branch of the musculocutaneous. It was perhaps to the compression of this nerve that the sufferings of the patient were due. The radial artery was not uncovered. The examination of the tumor showed it to be rounded, of the size of a small nut—a veritable venous aneurysm developed from the lower surface of the vein. The layer of fat which covered the tumor satisfactorily explained the absence of the blue coloration of the skin.—*Lyon Médical*, February 15, 1903.

Surgical Treatment of Purulent Ethmoiditis.—J. Guisez declares that the treatment of purulent ethmoiditis ought to be only surgical, and like that of every purulent collection from any intraosseous abscess. To open, curette, and drain at the most sloping point are the indications to be fulfilled. The opening can be made through the nasal fossæ, or through the orbit. The ethmoid cells may be approached more or less easily after the opening of the neighboring sinuses—by the frontal or the maxillary sinus. Surgical intervention is indicated in every case of purulent ethmoiditis. It ought to have two objects in view: By a generous drainage it should avoid the phenomena of retention which are the principal factor of encephalic or orbital complications, and it ought to aim at the radical cure of the purulent ethmoiditis. The after care and following intranasal treatment are of great importance. This should be persisted in as long as there is the slightest intranasal leakage, that is, for several weeks or even months.—*La Presse Médicale*, February 14, 1903.

Sepsis of the Respiratory Apparatus in Early Childhood.—Enrico Mensi states that septic infection occurs more frequently in the child than in the adult, because phagocytosis is less active, the alkalinity of the blood less marked, cellular reactions less energetic, the cells not being completely differentiated, and the bactericidal power of the fluids being slight. The local condition favoring the entrance and development of the infective germs are the active desquamative process in skin and mucous membrane, and the incomplete development of the stratum corneum of the skin. The mucous membrane of the respiratory tract is less protected than the skin; slight physical or chemical traumatism, elimination of the products of autointoxication, simple catarrhs due to infective general diseases and local nervous disturbances, modify its vitality, its circulation and secretions, diminish the epithelial and lymphatic resistance, and the bactericidal power, so that it is unable to oppose the growth of the microorganisms causing rhinitis, stomatitis, laryngitis, bronchitis, broncho-pulmonitis, pulmonitis. Aseptic precautions at birth and hygienic measures later, including an abundance of air and sunlight, with absolute cleanliness, constitute the best prophylaxis.—*La Riforma Medica*, January 7, 1903.

Society Reports.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, Held March 11, 1903.

DR. WILLIAM HALLOCK PARK, IN THE CHAIR.

A Few Animal Parasites Sometimes Found in Man.—Dr. HARLOW BROOKS read this paper. He said that his observations had extended over a period of two years and had been entirely limited to the parasites inhabiting wild animals in captivity. He felt justified in stating that, as a rule, parasites were infrequent in wild animals in the open, but were commonly found in those in captivity, particularly when they pass through the generally filthy and certainly infected quarters of the average animal dealer. These animals frequently receive their infection from the exhibition paddocks and cages, generally because of the lack of knowledge on the part of the animal man of the importance of cleanliness and disinfection. It was a general idea among medical men that man became infected with parasitic diseases from handling these animals. He believed this was doubtless true in some cases, but he was convinced that it was not so common as popularly believed, for a large number of parasites found in the lower animals, although they belong to the same class as those found in man, were quite incapable of infecting man, the genus found in man differing in small but very important ways. This point was best illustrated in the *hook-worms*, many species of which have been described; the textbooks lead us to infer that the disease may be transmitted from one animal to another or to man. As a matter of fact this animal differs in nearly every variety of animal which it inhabits and for the greater part the worms infecting one family are quite unable to live in other animals and sometimes in different members of the same family. One variety of the ankylostoma duodenale was found infecting the intestine of dogs and a quite distinct species were found among foxes. One variety was found among sheep, another among cattle, and another had been found infecting and causing the death of a great number of the Alaskan seal pups. It had been shown that a variety of the uncinaria infecting men could not infect the dog family and the converse was probably true. The exact zoological status of the hook-worm was still in question and was further complicated by the fact, as stated by Stiles, that the disease as found in man was known by some fourteen different names, among the most common of which were ankylostomiasis, Egyptian chlorosis, tunnel-worker's disease and perhaps most correctly uncinariasis.

The Lesions.—The lesions produced by all species of hook-worm he said were practically the same in all animals and consisted briefly in the lodgment of the parasites in the duodenum, where they attack the mucous membrane (the worm being a blood-sucker); as the result of the lesions of the mucosa and as a result of the blood actually abstracted, serious and often fatal anæmia resulted. Stiles stated that this was further accentuated by a limitation of the absorbtive and digestive power of the gut because of the lesions of its mucosa. Some authors have claimed furthermore that a poison was formed which increased blood destruction.

Its Distribution.—The disease had long been recognized in Europe and the tropical countries, but had seldom been reported in America. As shown by Stiles, the disease had been endemic in the States bordering on the gulf of Mexico and certain of the Southern States. Capps of Chicago, in the *Journal of the American Medical Association*, collected fifty-one cases reported in American literature, two being from New York State. In nearly all instances they had been imported from the tropics, from Europe, or from the Southern States. Soldiers and civilians returning from Porto Rico, Cuba, and the Philippines are bringing the infection home with them. The disease was generally spread among earth-workers. Therefore, he believed that we would find the disease quite common in New York within a few years, because of the extensive tunnelling now going on and soon to be commenced by the Pennsylvania railway system. The gravity of the condition required a wide dissemination of the knowledge of the dangers necessary.

Varieties Found in Man.—He said there were two varieties found in man. One was known as the Old World hook-worm, found especially in the warmer parts of Europe, and the other was known as the New World species, first described by Stiles, and called the uncinaria Americana; this was found in Porto Rico, in the Southern States, and in the West Indies. In Cuba both species were to be found. Panama was infected by the Old World species. Therefore, both species were a menace to New York. The two varieties differed in the arrangement of their buccal spines, in the situation of the vagina in the female, and in the arrangement of the bursa copulatrix of the male.

Balantidium Coli.—Another parasite found in both man and animals was the balantidium coli. During the past year he found this to be the cause of a fatal form of ulcerative dysentery which carried off the entire orang family at the New York Zoological Park. The lesions were limited to the colon and consisted in the formation of ulcers similar in their microscopical appearances to those of amœbic colitis. The character of the lesions and the course of the disease as observed in apes corresponded very closely to that described by Malmsden as occurring in his original cases in man. In his cases he said there was no possibility of doubt but that they were the cause of the dysentery and that they produced the lesions found. There had been considerable doubt expressed on this subject in regard to the infection in the human. These doubtful statements were generally expressed in textbooks which had taken their conclusions from the statements of Malmsden in his original article. He believed that he had shown these conclusions to be erroneous, and he was pleased to find that the more recent writers were of a like mind. Strong who observed cases of tropical dysentery in the Philippines came to the same conclusion. The parasite found by him in cases of tropical dysentery was identical with that found in his cases. He had discovered it in the fæces of the Giant turtles from the Galapagos Islands, and it was from these that the orangs received their infection. Leukar found it in the pig in Germany, and Stiles found it in the American hog. Russell found the balantidium coli as well as the balantidium minutum in the fæces of dysentery among the soldiers in Porto Rico, but he was not able to satisfy himself as to its pathogenicity. The infection was most frequent in man in Scandinavia, where it is communicated to man by the pig, and most of the literature from there show that the writers are unanimous in pronouncing the infusorium a distinctly pathological agent. He said that nearly all the more recent observations of actual cases of infection tended to corroborate his conclusions. The importance of this parasite lay in the fact that it is being introduced into this country by soldiers returning from foreign service and suffering from tropical types of dysentery. So far as present observations went, this parasite was apparently transmitted from the lower animals to man, in whom it was probably more pathogenic than in any of the lower animals, excepting the higher members of the primates.

Misserchen Schleuche. This was commonly called "Rainey's corpuscle." At one of the meetings last year Dr. Brooks and Dr. Miller had reported the case of an elk which had died from the result of the presence of the Misserchen schleuche in the heart muscle. It was then stated that the parasite was rarely found in the human, although it was common in certain of the domestic animals used for food, particularly in sheep. The most prominent authority on meat inspection, Ostertag of Vienna, recommended that flesh containing this parasite

be not excluded from use as human food, presumably basing his conclusions on the rarity of the disease in man and on the fact that Pfeiffer and others had been unable to infect animals experimentally by feeding them with infected flesh. He said that these experiments had now been overthrown by those of Theobald Smith of Boston, who had been able to infect mice by feeding them the muscle in which the parasite was found.

He said that very little was known regarding the life history of this sarcosporidion. There could be no doubt that it was transmitted from animal to animal, probably through intestinal infection. The elk herd at the Zoological Park recently had become infected with the parasite; eventually it will cause the death of these animals for the reason that, following the observations made by Darwin, diseases of an infectious nature were particularly apt to be virulent in species unaccustomed to, but susceptible to, the new infection. In the elk, caribou, and native deer the infection invaded the heart muscle in most cases, rarely setting up a true myocarditis but a parenchymatous degeneration of the heart muscle, which was sometimes accompanied by fatty degeneration and infiltration. He felt convinced from the character of the disease, as seen at the Park, that it was transmitted from animal to animal, probably from infected soil on which the grass they ate grew or through the water which was supplied them. He said he wished to again state his thorough conviction that, although the parasite was rare in the human, still he believed that it could be transmitted through the ingestion of infected meat, and he thought that such infected meat should be thoroughly cooked when used for food. Cases had been reported by Kartulis, Barbaran and St. Remey, Rosenberg and Lindermann, while Leukar, on the other hand, stated that it had never been found in the human. The parasite belonged to a very large class, and since its life history was unknown, he thought we should accept somewhat carefully the statements that the forms found so rarely in the human are certainly those found frequently in the lower animals.

Dr. J. C. Roper referred to two cases of ankylostoma. Both patients entered the hospital for the relief of a marked anæmia. In neither case was there any diarrhœa. Blood examination showed from 25 to 30 per cent. eosinophilia.

Dr. L. B. Goldhorn said that the fæces should be set aside for several days and the ova would undergo segmentation. It was not easy to recognize the parasite itself, but the ova were quite characteristic and easy of recognition.

Dr. Harlow Brooks said that the ova sometimes became highly developed in the oviduct of the female before their discharge. Segmentation was rather common in the oviduct.

A Case of Filaria Bancrofti.—Dr. F. Tilden Brown presented some photographs which were taken by Dr. Sondern showing the filaria on the slides. The patient had been to Porto Rico for two years and entered Bellevue Hospital for the relief of pain in his left testis. He was a German, thirty-four years old. Examination showed the left side of the scrotum larger than the right; the testis was somewhat enlarged, but it was a question whether the enlargement was in the body or in the epididymis. About the center of the body and epididymis there was a hard and tender nodule. There was some fluid in the tunica vaginalis. A diagnosis of tuberculous epididymitis was made and operation advised and consented to. He enucleated the testicle, removed the epididymis and lower portion of the cord and a considerable amount of the vas. The nodule was found to correspond to the mediastinum. Cutting into this nodule revealed a cheesy-looking mass in the center. A smear was made with the expectation of finding tubercle bacilli, but, instead, unusual forms were discovered. These were in clusters and seemed to be the embryos of the filaria Bancrofti. The slides showed embryos in different stages of development. The eggs were of different sizes. An examination of the patient's blood at various times, during both day and night, did not reveal further embryos.

A Modification of the Chromatin Stain for Malaria.—Dr. F. C. Wood demonstrated a modification of the Romanowsky stain for malaria parasites. The specimen was hardened in alcohol. Then stained for ten seconds in a ten-per-cent. aqueous-solution of eosin. Then it was washed in water and a few drops of methylene azure applied. He had excellent and quick results from this method. An advantage of this method was that slides that are very old can be stained as readily as fresh ones. If there should be an excess of the stain it can be washed out with alcohol.

Demonstration of Blood Smears in a Case of Pseudo-Leukæmia Infantum.—Dr. L. B. Goldhorn said that he was asked to examine the blood of a child with an enlarged spleen, and the smears showed it to be a case of pseudoleukæmia infantum. The slides were well worth looking at. They showed very interesting changes in the red blood-corpuscles, as well as a peculiar condition of the leucocytes. Anæmia of a high grade was present. The red cell count was 1,800,000 to the centimeter. The red cells looked like normoblasts minus the nucleus and degenerated. Mytosis was present. Eosinoplilia was present. Myelocytes were also present but scanty. Mononuclear leucocytes were noted. The anæmia resembled the pernicious form very closely and also the pseudoleukæmia.

Dr. Eben Foskett said that the case had been under the care of Dr. Joseph Messenger for several months receiving tonic treatment and intestinal antiseptics. Dr. Messenger being ill, he saw the case for him two weeks ago when the child was suffering from an acute bronchitis. The abdomen was markedly distended and the liver enlarged. The spleen extended to within one inch of the umbilicus and as low as the iliac crest and was rather peculiar in having a sharp border. The child was twenty-eight months old. The anæmia still persisted, but not so much as three months ago. The mother had had eight or nine children and two died with symptoms very similar to those presented by this patient.

The Period of Development, the Time of Greatest Accumulation and the Persistence of Diphtheria Antitoxin in the Blood of a Series of 100 Horses.—Dr. James P. Atkinson, Assistant Chemist from the Research Laboratory of the Department of Health of the City of New York, read this paper. He said that the maximal capacity of horses to develop antitoxin varied greatly and depended to a certain extent upon the amount of toxin injected and the frequency of the injections. There seemed to be a maximal antitoxin limit for each horse beyond which it cannot be pushed. After reaching this limit, which was attained on an average four months after the toxin injections began, the blood serum might continue for a while, if the injections were continued, to contain antitoxin of the maximum amount, but sooner or later the quantity of antitoxin surely would diminish. The Health Department of the City of New York had from March, 1897, until May, 1902, made use of 100 horses for the production of antitoxin serum. In the majority of these horses the toxic effects of the first three or four toxin doses injected were more than neutralized with diphtheria antitoxin. The size of the first injections varied considerably. The earlier horse received 300 to 1,500 guinea-pig fatal doses of toxin with but little antitoxin, the later horse received 5,000 to 40,000 guinea-pig fatal doses of toxin fully neutralized. With each succeeding injection the antitoxin amount was gradually diminished. The toxin injections were increased each time by as much as was considered safe and repeated as soon as the temperature fell to normal, about every five or seven days. The doctor presented a table showing the relation of the series of toxin injections to the maximal antitoxin strength of the sera developed by the

horses. From the data that he gave from carefully selected horses of median grade he concluded as follows: (1) That about one-half will develop sera of 300 units strength per c.c. or greater, and that about one-fourth will develop sera of 500 units strength per c.c. or greater. (2) That the average development of maximum strength may be expected three to five months after the first toxin injections, according to the rapidity with which the toxin is pushed. (3) That horses capable of producing a high-grade antitoxin serve a longer period of usefulness than horses capable of producing medium-grade antitoxin.

Dr. William H. Park said that Ehrlich's idea regarding the development of the antitoxin was that the cells became accustomed to the overproduction and so reproduced One can readily obtain in from three days to three weeks an enormous accumulation of antitoxin. If these cells are pushed further they cease to produce as much antitoxin, for the cells have become overworked and cannot keep up the work. According to Ehrlich and other observers, after the injections are stopped the cells go on producing; but, according to his results, after seven or eight days there has always been a drop. This was against the opinion of Ehrlich and others and had nothing to do with the theory of production.

Notes on Systemic Staphylococcus Infection.—Dr. Emanuel Libman read this paper on staphylococcus aureus infection. He wished to prove that the staphylococcus aureus could be cultivated from the blood during life, and that the work could be done in such a manner that the question of the organism found being a contamination from the skin could be excluded.

The staphylococcus albus he believed did not occur in blood except as an ante-mortum invader. He was inclined to disregard the staphylococcus albus findings until he found a case in which such a finding was corroborated by the occurrence of the same organism in a metastatic focus. It was necessary to take special precautions in identifying a staphylococcus as being of the albus or aureus variety.

After a short description of the technique, Dr. Libman gave a brief report of twenty-three cases in which he had found the staphylococcus aureus in the blood. In every case the same organism had been isolated from the primary focus, if one was found, or if cultures had been made. The same organism had always been found in the metastatic foci, and often in the urine, and in the organs of the cases coming to autopsy. In 325 of the cases he had never obtained a colony of the staphylococcus aureus. So that when he did find this organism in the blood he was forced to believe from his experience that he could safely report the case as one of staphylococcus systemic infection to the clinician or surgeon. He drew attention to metastatic skin abscesses occurring in osteomyelitis. They occurred particularly in the scalp, but could be found all over the body. They were small and seemed to have their origin in the sweat glands. They always showed the staphylococcus aureus pure. He believed they represented lesions due to an attempt at excretion of the cocci by the skin. He did not believe this lesion had been described. At least it seemed not to be generally known.

The reports on the blood cultures had usually been made within twenty-four hours. In a very few cases, three or four days elapsed before a definite diagnosis was established. Of the twenty-three cases described five had recovered. The number of cocci found in the blood was not necessarily of diagnostic import. The amounts of blood used varied from one to fifteen cubic centimeters. In some cases several cultures had been made. He said that a detailed account of the cases would appear in the Transactions of the New York Pathological Society, March, 1903.

EASTERN MEDICAL SOCIETY.

Stated Meeting, Held March 13, 1903.

Louis J. Ladinski, M.D., President.

Typhoid Fever.—The special order for the evening was a symposium on typhoid fever.

Etiology and Prophylaxis.—Dr. Herman Schwarz read this paper. He said that up to the beginning of the nineteenth century typhoid fever was confused with typhus fever. In 1880 the bacillus of typhoid fever was discovered by Eberth. Modern bacteriology had shown that many of the organisms declared formerly to be typhoid germs were really not so, and hence had arisen the term para-typhoid. The germs of typhoid were found principally in the fæces, but in quite a large proportion of cases they were not isolated from the urine. In rare instances, when the lungs were involved, the bacilli were present in the sputa. The dead body seemed to inhibit the growth of the organism, but Petri and others had succeeded in obtaining the live bacilli as long as three months after the death of the person, a fact of much importance in connection with prophylaxis. Kitasato and others had shown that the strength of hydrochloric acid present in the stomach exercised but slight inhibitory influence on the typhoid bacillus. Water and milk were the common media through which the bacilli gained entrance to the human body. The vitality of the typhoid bacillus would be destroyed by whiskey in five minutes, and in half an hour by a mixture of equal parts of whiskey and water. Typhoid fever was most common between the ages of fifteen and thirty years. Chronic disease of the stomach, especially dilatation, predisposed to infection. Congenital immunity was probably more rare in this than in any other disease.

With regard to prophylaxis, there could be no question about one's ability to control the disease in cities by proper attention to the purity of the water supply. For the disinfection of typhoid stools freshly prepared milk of lime was useful; it should be sprayed on the bottom of the bed-pan. According to some authorities, the best disinfectant was a 1-to-1,000 solution of bichloride of mercury, used in the proportion of one-fifth of the bulk of the fæces. With regard to the inoculation treatment, statistics were quoted showing that of 244 persons so treated the mortality was 11 per cent., and of 157 not inoculated, the mortality was 16 per cent., a difference so slight that it did not admit of any deductions.

Symptomatology.—Dr. D. Robinsohn discussed this subject. He said that he had recently observed forty-nine cases of typhoid fever in hospital, and twelve in private practice. The temperature range was so very important in this disease that it deserved the closest attention. In bad cases the rise of temperature was abrupt, instead of gradual. In mild cases there was often only a gradual rise, followed immediately by a slow decline. In a few cases the temperature assumed the character of an intermittent fever. The course of the temperature might be influenced by many occurrences. When there was a profuse intestinal hemorrhage the temperature frequently fell several degrees. In a pregnant woman suffering from typhoid fever, the occurrence of abortion or of premature labor also gave rise to a very marked fall in the temperature. The appearance of complications, such as pneumonia and peritonitis, was usually associated with a marked rise of temperature, and later the temperature was apt to become very irregular. In bad cases it was possible for the typhoid fever to run its entire course without any elevation of temperature. The facial aspect was worthy of attention. In the initial stage the cheeks were flushed and the eyes bright; later on the patient had a dull and heavy look, and never presented that striking pallor so frequently observed in malaria. Sometimes the typhoid eruption was so profuse as to cover not only the body, but the extremities. The rash was present in forty-six of his cases. In the first week there might be little or no

change in the blood, but later on the quantity of hæmoglobin was greatly reduced. The number of colorless corpuscles was subnormal. The absence of leucocytosis was very important, and might be of diagnostic value in distinguishing typhoid fever from certain acute inflammatory conditions. The large mononuclear and transitional forms were increased, and the polynuclear cells were diminished. In threatening perforation of the intestine the leucocytosis was often very marked. The pulse was increased in rapidity, but not always in proportion to the elevation of temperature, becoming rapid and small with the exhaustion of the later stages. During convalescence the pulse gradually returned to the normal, and sometimes became abnormally slow. The spleen was enlarged and soft, thus distinguishing it from the hard spleen of malaria. The initial headache was of diagnostic significance. It was usually superseded in the second week by a dull pain in the head, and in the third week this was apt to give place to a low, muttering delirium. Early in the disease the tongue was moist and furred. In the severe cases the tongue became very dry, partly because such patients breathed with the mouth open. Intestinal hemorrhage occurred in about 3 per cent. With its occurrence there was evidence of sudden exhaustion or even of collapse. The most important symptom of perforation was sudden and severe pain, for the most part in the hypogastric region to the right of the median line. As a rule, there was muscular rigidity in this region which interfered seriously with palpation. Leucocytosis was very often present. If peritonitis supervened there were increased pallor and perspiration, a rise of temperature and an increase in the pulse, the latter becoming thready. Peritonitis might be present without perforation of the bowel, due to an extension from a typhoid ulcer. Cholelithiasis was very common after typhoid fever.

Diagnosis.—Dr. Louis Hauswirth presented this paper. He said that the type of the disease varied considerably in different localities, and age had such an influence that formerly it was considered that very young and very old persons were exempt from typhoid fever. The affections due to paratyphoid or paracolon organisms were chiefly of academic interest. In children the disease was mild and usually of short duration. The stools were frequently not characteristic, and the spots were apt to be few. Any continuous feverish condition in a child, especially occurring during the typhoid season, should lead one to think of typhoid. Bronchitis was apt to be an annoying feature. Typhoid affecting the kidneys occurred occasionally. In pneumo-typhoid fever it was occasionally of service to examine for the typhoid bacillus. In the ambulatory type of typhoid, symptoms simulating appendicitis, perforation or hemorrhage of the bowel might be the first warning of sufficient importance to cause the patient to seek medical advice. It was evident, therefore, that in order to make the diagnosis it was absolutely necessary to have a complete history of the illness. A preceding typhoid fever was generally, though not always, sufficient ground for the exclusion of typhoid fever. In doubtful cases no part of the body should be overlooked in the physical examination. The position in bed, the color of the eyes and the expression of the countenance were likely to give important information. The occurrence of a diffuse bronchitis in a person acutely ill was a sign of some serious acute disease, most commonly typhoid fever. Abdominal percussion was not so serviceable as palpation in typhoid fever. The spleen should be examined with the patient lying on the right side. The skin of the entire body should be closely examined for an eruption. The occasional occurrence of the Widal reaction in the blood of jaundiced persons should be remembered. The dilution employed for this test should be at least one in twenty, there should be an unquestionable cessation of movement and an agglutination of the bacilli. In doubtful cases the value of this test was inestimable, although in many of the frank cases of this disease the ordinary clinical phenomena were usually sufficient for the diagnosis. It most important to make frequent examination of the blood for the Widal reaction. The typhoid bacilli were often not found in the fæces before the end of the second week. A diminution of the white blood count was strong corroborative evidence of typhoid fever. The complications might give rise to a hyperleucocytosis. Cultures taken from the large veins often showed the presence of the typhoid bacillus quite early in the disease. Puncture of the spleen was a dangerous procedure that could not be recommended. The only eruption closely simulating the typhoid eruption was that appearing in persons perspiring freely, or who were enveloped in in wet packs, but in the latter the lesions were more of a bluish color. Mixed infections, as of typhoid and malaria, altered the "step-ladder" type of the fever. Fever cases accompanied at the height of the fever by profuse sweating were usually not enteric fever. The spleen was almost invariably enlarged and very early, and this enlargement lasted up to the time of convalescence. Relapses were almost always accompanied by a second enlargement of this organ. The pulse of adult typhoid patients was soft, irregular, and often dicrotic. The stools were usually of the pea-soup variety, but constipation was not infrequently present. Tympanites was so frequently present that like gurgling in the right iliac fossa it was only of corroborative diagnostic value. Pain and tenderness in the right iliac region were of importance in differentiating typhoid from appendicitis. Headache as a most significant symptom in the early stage. The diazo-reaction was of little value because it occurred so frequently in the diseases most apt to be mistaken for typhoid. The occurrence of herpes fairly early in the disease was fairly strong presumptive evidence against the diagnosis of typhoid. In "walking typhoids" complications were often the first symptoms pointing to the true nature of the disease. From typhus fever the diagnosis was especially difficult. The former usually began with a chill and high fever, and the cerebral symptoms usually developed rapidly. The temperature remained high, and was often associated with chills, while the rash was indefinite and involved the extremities as well as the trunk. The spleen was apt not to be appreciably enlarged. There were apt to be dyspnœa and cyanosis entirely out of proportion to the physical signs in the lungs. When a typhoid patient developed chills and a cardiac murmur, the diagnosis was often exceedingly difficult. Here blood counts and a search for the primary focus was all important. In meningitis the rigidity of the neck or back, the retracted abdomen, the cerebral vomiting, the slow pulse and irregular breathing pointed quite clearly to the diagnosis which might be confirmed by the results of lumbar puncture. Malaria required a blood examination, and sometimes the therapeutic test, in order to make the differential diagnosis.

Treatment.—Dr. Julius Halpern presented a paper on this subject. He said that during the last few decades the treatment of typhoid fever had been undergoing great changes. It was now a matter of ancient medical history that the mortality was reduced by Brand and his followers to 3.9 per cent. in a series of over five thousand cases. The present cold-water treatment was popular with the profession, not because of its control of one symptom, but because it was based on an effort to stimulate and support the nervous system and secure the elimination of the toxins. The baths not only reduced the temperature, but acted upon the nervous system in such a manner as to enable it to withstand the toxic influence of the infecting principle and the products of its evolution. This general reinforcement of the vital functions was shown by the increased tone of the heart's action and the improvement in the appetite and digestion, by the slowing of the respirations and by an inhibition of the nervous phenomena. The treatment was one which was directed against the disease in its entirety. In applying it, it was

very important to individualize it. In his opinion, the frequency, temperature, and duration of the baths should be determined by the degree of the toxæmia. The testimony here and abroad with regard to the efficacy of cold bathing in typhoid was conclusive, and showed that the the mortality varied from 3 to 7 per cent. No complications, except hemorrhage and peritonitis and excessive exhaustion, should be considered as contraindications to its use. The cold pack was not so generally useful in typhoid fever. Cold sponging, being one of the easiest methods in private practice, was often employed, and was quite efficient if properly carried out. A useful innovation was what was known as the cold siphon. A siphon bottle containing carbonated water was gradually discharged over the body, particularly over the thoracic region. It produced a feeling of exhilaration similar to that experienced after a cold bath. One could not yet speak with certainty concerning the value of the serum treatment of typhoid, but recently 356 persons had been so treated in Paris with a mortality of 3.7 per cent., which was a very favorable showing when one recalled that the usual mortality in that city was 19.3 per cent. The whole series of coal-tar antipyretics were not only useless but decidedly dangerous in typhoid fever. They were pure antipyretics, very fugitive in their action; in addition, they were cardiac depressors and blood disintegrators, although occasionally small doses of phenacetin as a sedative were permissible. The different intestinal antiseptics were harmless, but were not indicated, because it was manifestly impossible for them to exert their action in the glands and in many other parts of the body. A few doses of calomel at the outset of the disease would be found very useful, but this drug should not be used after the second week. The typhoid patient should be given water freely, not less than eighty ounces in the twenty-four hours. Perhaps the most important element in the treatment was the proper regulation of the diet. Milk, plain or in the fermented form, was the standard food. The great tendency at the present time was to overfeed the patient. The stools should be inspected, and if undigested casein were found in them it was evidence that the patient was receiving too much milk or that the milk was too strong. Under such conditions it was desirable to temporarily substitute expressed beef juice or eggs. It was well to withhold solid animal food for seven days after the fall of the temperature to the normal. When the pulse became dicrotic and there was an absence of the first sound of the the heart, alcoholic stimulants were indicated, and should be given freely. In conditions of marked exhaustion it might be necessary to resort to the hypodermic use of camphorated oil.

Complications and Sequelæ.—Dr. Morris Manges took up this part of the subject, referring to some of the more interesting ones that he had personally encountered.

Grip.—Mention was first made of the relation of grip to typhoid fever. His attention had been first called to this six years ago in connection with an ordinary mild type of catarrhal influenza. The patient recovered from this, and after an interval of ten days a typical typhoid fever developed very abruptly. About three years later Potain declared that he had not infrequently noted the close relation of the two conditions, and that the abrupt onset of typhoid fever was favored by the antecedent attack of the grip. This contention was sustained by a number of medical authorities. There were at present in the Mount Sinai Hospital three cases exemplifying this relationship.

Paratyphoid.—At the same hospital there had recently been a series of cases giving the usual phenomena of typhoid fever, and only distinguished therefrom by the shorter course, the absence of the roseola, and the negative Widal reaction.

Diphtheria.—The throat should be examined as a routine measure in typhoid fever, for he had already reported six cases in which pharyngeal diphtheria complicated this disease.

Pneumonia.—Pneumonia had complicated typhoid fever much more frequently in recent years than formerly. The sputum in these cases was usually scanty, and the patients were too apathetic to cough. The sputum rarely presented the ordinary characters of pneumonic sputum, and personally he had never been able to cultivate the typhoid bacillus therefrom. Pneumonia was often overlooked in typhoid fever. It should be remembered that in the aged typhoid fever might easily present the usual clinical picture of pneumonia.

Impaction of Fæces.—Impaction of fæces caused trouble more frequently than was generally supposed. The free use of milk, the apathetic condition of the patient and the long course of the disease all favored impaction of fæces, and tended to accentuate the constipation which was so common in typhoid fever. His attention had first been directed to this by a persistence of the fever without any obvious cause in a patient who was having daily stools. Finally, a high-oil enema was given and retained for several hours, with the result that there was a stool of enormous size, and the temperature promptly and permanently fell.

Starvation.—Mention was made of a case in which starvation had given rise to mental symptoms, including wild delirium.

Tetany.—He had seen but one case of this exceedingly rare complication, which he attributed to the exceedingly severe grade of toxæmia. The case terminated fatally.

Mastitis.—He had seen mastitis as a complication in two cases, both of which recovered. The mastitis did not present any special features; suppuration did not occur, and attempts to cultivate the typhoid bacillus were unsuccessful.

Purpura.—Purpure had been met with in one very severe case which had been neglected before admission to the hospital. When first seen the patient was thoroughly septic, and he died in two or three days. This complication was of very grave prognostic significance.

Periostitis.—He had observed periostitis of the ribs in three cases associated with abscess. In all of the cases the abscess developed from the costal cartilage rather than from the rib itself.

Pyelitis; Cholelithiasis.—Pyelitis had been observed in three cases, and in quite a number cholelithiasis had complicated the typhoid fever. In the last four cases of cholelithiasis recovery took place.

Intestinal Perforation.—During the last year in the Mount Sinai Hospital there had been no less than eight cases of intestinal perforation, the largest single group of cases of this kind that he had met with in this hospital. The diagnosis had been correctly made in each of these cases. A chill occurred at the onset in five of the eight cases; abdominal pain was present in all; abdominal distention was present in only five. Dulness in the flanks was noted in only one case. The temperature yielded no reliable information. The leucocyte count was increased considerably in five cases, and very slightly increased in one, while there was no change at all in two cases. Seven of the cases were operated upon and all but one recovered; the one patient who was not operated upon, a boy of twelve years, also recovered. At times perforation of the bowel was exceedingly easy to diagnosticate, but in many other instances, especially those seen in private practice, it was almost impossible to make the correct diagnosis.

Manifestations in Children.—Dr. Henry Koplik presented this paper. It was now generally acknowledged, he said, that infection of typhoid fever could be conveyed from the mother to the fœtus, usually through the placenta. The child, if alive when born, usually died soon afterward with symptoms resembling those of sepsis of the newborn. The disease in the newly born ran an atypical course, the affection partaking of the nature of a hæmatogenous disease. The mortality was very high. Typhoid fever occurred up to the age of two years beyond any question. Some of the older reported cases, however,

could not be accepted because serum diagnosis was not then in vogue. Typhoid certainly did occur in children below the age of two years, though not so frequently as in later childhood. During the first year and most of the second year the infant was fed on food which had been subjected to more or less heat. Ambulatory and apparently mild cases of typhoid would infect others; hence it was easy for the younger children of a family to become infected; indeed, he had noted a remarkable susceptibility to infection among such young children. The mortality in those under two years of age could not be stated with accuracy, but it was probably larger than was generally appreciated. Griffith had collected a number of cases under the age of one year with a mortality of 50 per cent. In the second year of life the mortality was less. One could not speak understandingly of the mortality in adults without taking into account the occasional occurrence of a very severe type of the disease. The older the patient the greater the mortality. In the Mount Sinai Hospital from 1898 to 1901 the mortality from typhoid fever in adults was 9.2 per cent., and in children, 6.6 per cent. Holt had collected 2,600 cases in children under the care of twelve observers, and found the mortality to be 5.4 per cent., but a series of this kind, which ignored the ages of the patients, did not give a correct impression. In children under ten years of age the mortality varied between 6.6 and 10 per cent. In children, even a severe toxæmia did not prevent the case from running, to all outward appearances, a mild course. On the other hand, in the mild cases the severest complications might ensue. Intestinal perforation was not uncommon in children, and occurred for the most part at the beginning of the third week. In most instances it was preceded by hemorrhages. In his own experience there had been two cases of undoubted perforation in a series of about 100 typhoids, showing that the percentage exhibiting this complication depended upon the severity of the particular epidemic.

Treatment of Some Surgical Complications.—Dr. John F. Erdmann discussed this subject.

Abscess of the Liver.—Dr. Erdmann said that, according to Osler, solitary abscess of the liver was very rare. For subphrenic abscess the method of approach was by ordinary laparotomy, and if the patient were greatly exhausted the operation should be done under local anæsthesia. When the abscess was situated behind the ribs a subpleural and trans-pleural diaphragmatic operation was required. After exsection of some of the ribs and the dissection away of the pleura, puncture was made through the diaphragm. The general peritoneal cavity was excluded by gauze packing. This method was only useful in those cases in which the abscess occurred low in the costal region. In seven years at the Gouveneur Hospital there had been but one abscess of the liver complicating typhoid fever, and that one occurred in the fourth week of the disease. A second abscess was discovered later, and at the post-mortem examination multiple abscesses of the liver were found.

Perforation of the Gall-bladder.—The literature showed that there had been five complete operative cases of this kind with one death, and that of 27 cases not operated upon, all died. Personally, he preferred to make the incision through the rectus muscle. Suture of the perforation was not to be considered, if only because of the friable nature of the tissues. The operation to be employed should be complete removal of the gall-bladder, although in special cases the welfare of the patient might be best subserved by doing cholecystotomy.

Cholecystitis.—Cholecystitis was a common complication, and should be treated by cholecystotomy if the patient's condition were bad; in other cases, cholecystectomy was the operation of choice. If the latter operation were done no drainage would be required.

Intestinal Perforation.—According to the statistics given by Osler in 1901, perforation of the intestine occurred in 2.7 per cent. of the cases, and was most common between the third and fourth weeks. He thought the general mortality was between 25 and 32 per cent. The majority of the cases were operated upon under eight hours after perforation was suspected. Of those terminating fatally the average time was ten hours. He was inclined to believe that not more than three or four hours should be allowed to elapse for the subsidence of shock.

Dr. William H. Thomson opened the discussion with some observations drawn from his own experience, and bearing more especially upon the treatment of typhoid fever. He premised his remarks by saying that any deductions regarding the treatment of such a disease as typhoid fever should be based upon not only an extensive, but a prolonged experience with the disease.

His Own Statistics.—In 1869 he had published a paper, giving his experience with typhoid fever for ten years in the Roosevelt Hospital. At that time the mortality there, in his service, was found to be 3.5 per cent., and this mortality had been kept up since that time. In the last 112 consecutive cases under treatment, and occurring since last September, there were four deaths, or 3 per cent. It was not fair to judge of hospital mortality from mere figures, because so many cases were almost moribund at the time of admission. He had excluded all cases dying within four days after admission, in order to make his mortality of 3.5 per cent. If these were included, the mortality would rise to 6 per cent. Of ninety-three women in the first series there were six deaths, but all occurred within five days of admission. The first of the four fatal cases in the last series died on the day of admission. The second of these patients went through to the middle of the third week very well, and then developed certain abdominal symptoms, with which was associated a rise of the leucocyte count to 17,000. His surgical colleague was very sure that intestinal perforation had occurred, and insisted upon operating. This was done, but no perforation was found, and no peritonitis or cholecystitis. The patient rapidly improved for a few days, and then died suddenly from some unknown cause, as no autopsy was permitted. The third fatal case was that of a man who had gone through the typhoid fever up to the end of the fourth week very comfortably and without complications. Hemorrhage then occurred from the mouth, after that from the bowel, and from the kidneys and finally from various other parts of the body. The post-mortem examination showed hemorrhages throughout the intestinal tract and also of the genitourinary tract. This was not at all like the purpura of typhoid fever. The fourth fatal case was a clear example of death from typhoid fever. The patient was in the private division of the hospital, and had a severe type of the disease. Dr. Thomson said that in his service tympanites was very uncommon, yet this woman had a severe and persistent tympanites, and, moreover, from the beginning of the disease there was a tremor of the tongue. He disliked this last symptom, as it indicated to him very extensive intestinal ulceration. The patient died from perforation on the thirty-sixth day of her illness. Attention was called to the fact that in his wards he no longer saw the classical picture of typhoid fever as depicted by the older writers. This was unquestionably because of the different treatment employed. Out of 725 cases diarrhœa occurred after the first week in the hospital in only 8.7 per cent., and this he attributed very largely to the abandonment of the old beef-tea treatment. After the first week in hospital tympanites had occurred in only 11 per cent.; hemorrhage in 7.3 per cent., and in no case was the direct cause of death. In 87.5 per cent. of the cases there was no delirium at any time; in the remainder there was some delirium, but usually not severe. Pneumonia was present in 2.7 per cent. Bronchitis occurred as an initial symptom in 40 per cent. Peripheral neuritis was present in 7 per cent. Relapses were noted in 15 per cent. In cases left to nature, diarrhœa occurred in about 60 per cent. of the cases and tympanites in about 80 per cent.; hence the dimin-

ished percentages must be due to the treatment employed. Formerly delirium was thought to be a constant feature, yet in his cases it had occurred in only 12 per cent.

Treatment.—The diarrhœa he believed to be due to the inability of the stomach to digest. There was no other disease which reduced the pepsin and the peptic power of the stomach to the same extent as did typhoid fever, not even cancer of the stomach. He, therefore, gave ten grains of saccharated pepsin and twenty grains of the subcarbonate of bismuth every three hours, night and day, and occasionally also gave hydrochloric acid. This, apparently, accounted for the relative absence of tympanites. He regarded tympanites as a very serious complication, and its persistence as indicative of serious intestinal ulceration. For diet he used exclusively equal parts of milk and lime water from the beginning to the end of the disease. In the first week it was possible by proper management to greatly reduce the danger of subsequent toxæmia. At this time there was marked diminution in the excretion of urine, due to a condition of infection of the blood, which, if allowed to persist, would favor the rapid multiplication of the typhoid bacilli. To encourage renal secretion he gave five grains of calomel and thirty grains of the compound jalap powder every other night, and morning and evening a rectal irrigation of two or three gallons of normal saline solution at a temperature of 112° or 115° F., using for the purpose Kemp's irrigating tube. This treatment was kept up until the sixteenth or seventeenth day of the disease. Baths were given whenever the temperature passed 102.5° or 103° F. When it was found that the reaction from the cold bath was not favorable, he recommended the use of the warm bath. It would be found that frequently the warm bath gave better results, but one could not determine in advance which treatment would prove the more effective. He did not believe the warm bath produced its favorable effect by its influence on the temperature, but by its action in increasing the elimination of the toxins by the kidneys. For failure of the heart he used strychnine, but relied most upon camphor. He believed that nearly all of the cases giving a severe toxæmia were examples of mixed infection, most commonly an infection with the colon bacillus.

Typhoid Rare in Young Infants.—Dr. William P. Northrup said he was convinced of the relative insusceptibility of infants under two years to typhoid infection. He had seen only six children under that age in whom typhoid had occurred, and each case occurred in connection with an epidemic and after repeated exposure to severe infection. As a rule, the onset was insidious, and was associated with diarrhœa and continued fever, but without much prostration. The fever was mild and of a remittent type and short duration. His argument was, that when little children had typhoid fever they had it like adults, and when they did not have true typhoid fever, they had something else which resembled that disease and was often confounded with it. In all six of these cases of undoubted typhoid fever the diagnosis was easily made on the usual clinical symptoms and signs. He was skeptical regarding all cases of alleged typhoid fever in infants under two years of age not intimately associated with other cases. In adults typhoid fever was usually called something else; in children something else was usually called typhoid. Sporadic influenza could certainly simulate typhoid fever so closely that it was next to impossible to differentiate it from that disease except by the presence of certain positive signs and symptoms. Central pneumonia was sometimes confounded with typhoid fever, but this should not occur if one recalled what he liked to call "the O'Dwyer Rule," viz.: "When the respiration-pulse ratio departed from the normal ratio of one to four and approximate one to three, look out for trouble in the chest." Malaria could be excluded by the use of quinine and enterocolitis by treatment.

Dr. Willy Meyer said that it should be remembered that the typhoid bacillus belonged to the class of pus-forming bacilli. It had been observed that after repeated hypodermic injection of a typhoid patient in one part a subcutaneous abscess might develop, whereas other patients receiving these injections with the same fluid and in the same region of the body would not develop abscess. Bacteriological examination of the abscess in the typhoid patient would reveal the presence of the typhoid bacillus. Closed cavities, such as the pleura, were sometimes affected, giving rise, for instance, to empyema. If on aspiration and bacteriological examination only the typhoid bacillus were found, operation could be deferred because such effusions were likely to be absorbed without further trouble. The gall-bladder was comparatively frequently the seat of a typhoid abscess. Sometimes the typhoid bacilli retained their vitality for a long time. A case was on record in which the bacilli retained their vitality in the gall-bladder for seventeen years. The principal surgical complication of typhoid was intestinal perforation, and the large ones called for prompt operation. The important symptoms of this formidable complication were spasm of the rectus muscle, the sudden onset of pain and tenderness and the coincident change from abdominal to thoracic respiration.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending March 14, 1903:

	Cases.	Deaths
Measles	290	13
Diphtheria and croup	376	39
Scarlet fever	319	17[1]
Smallpox	2	..
Varicella	120	..
Tuberculosis	279	152
Typhoid fever	63	8
Cerebrospinal meningitis	..	..

The Pill and the Bill.—

An angel's face the Doctor wears
When first his aid is sought;
A God-like countenance he bears
Soon as the cure is wrought

But when his little bill he makes
And seeks his humble fee,
A form most terrible he takes,
A horrid Devil he.

—Prof. J. Stuart Nairne, Glasgow, Scotland.

Do Nasal Diseases in Any Way Predispose to or Cause Pulmonary Disease?—E. L. Shurly does not believe that nasal diseases are constitutional in the sense that most systemic diseases are because they are not accompanied with the hemic or lymphatic disorders on the one hand, nor with the pyretic and other frank disturbances of the system on the other, which characterize either the slowly developing, or more acute so-called infectious diseases: in short, there are no constitutional disturbances not traceable to the sensory nervous system which can be laid to the ordinary group of chronic nasal disease—rhinitis, ozæna, or kindred morbid states—excepting, of course, the suppurative diseases of the accessory cavities. Moreover, very many nasal diseases depend wholly on local conditions, such as spurs, old fractures, adenoids, neglected states of the ethmoid regions, etc. Hence it does not seem feasible to regard chronic nasal or nasopharyngeal disease as at all particularly concerned in the development of chronic pulmonary disease. Concerning the acute pulmonary disease, however, this strict conclusion would seem to require modification, because intranasal deformities, chronic and atrophic rhinitis, enlargement of adenoid

tissue at the vault of the pharynx, etc., certainly are conditions, which invite attacks of influenza and tonsillitis—so-called "colds," which, in turn, do frequently descend (so to speak) by continuity to the lower respiratory tract, thus producing bronchitis or the pneumonias, besides rendering the subject possessing them more liable to diphtheria and measles.—*International Medical Magazine.*

Oxygen and Muscle Metabolism.—(1) The progressive loss of irritability in a surviving muscle is markedly delayed by an abundant supply of oxygen. (2) The advent of natural rigor mortis is delayed, apparently indefinitely, by the same influence, even when special means are taken to hasten it. (3) These preservative actions of oxygen appear to be independent of the shape of the muscle and its surface relations, and no confirmation has been found for the view of Hermann that the action of oxygen on muscle-substance is two-fold, one effective at the surface, the other, opposite in character, effective below the surface. (4) The phenomena of fatigue resulting from active contractions in an excised muscle are, irrespective of its shape, diminished in intensity and in rapidity of onset, by an adequate contemporary supply of oxygen, and marked recovery from the effects of fatiguing contraction may be seen in a muscle deprived of nutriment but exposed freely to oxygen. (5) The survival discharge of CO_2 from an excised muscle is increased during periods of contraction in the presence of abundant oxygen, the increase being proportionate, or roughly so, to the number and degree of the contractions. In agreement with observations already published, this additional yield of CO_2 accompanying contraction is absent or incomplete in the case of a muscle made to contract in air or nitrogen.—W. M. Fletcher, *in Journal of Physiology.*

An Early Case of Intussusception—Reduction by Water Pressure.—A. Jeffreys Wood reports the case of a little girl of sixteen months who was taken with sudden abdominal pain followed by shock. A diagnosis of intussusception was made, and it was decided that owing to the recent nature of the case, and the typical position of the trouble in the region of the ileocæcal valve, an attempt to reduce the bowel with water pressure was justifiable. The child was anæsthetized and water was run into the bowel by means of a No. 12 Nélaton rubber catheter, attached to a douche can raised three feet above the buttocks; the bowel filled rapidly, and blood and mucus appeared with the water, when it was expelled. The procedure was repeated and the tumor could then no longer be felt. The colon was then irrigated with a catheter attached by a rubber tube to a glass funnel. The color of the face improved immediately after the second flushing, and the rate of the pulse fell to below 100, and its volume improved very markedly. A sound sleep of two and a half hours followed the reduction. On waking, the child was very bright and played with her picture book. A week later there were no signs of recurrence.—*Intercolonial Medical Journal of Australasia.*

Note on the Treatment of the Chancre.—I. Dyer says that ordinarily cleanliness and some mild astringent application, as black wash or yellow wash, or dusting powders with antiseptic qualities are sufficient to protect the ulcer until it heals of its own accord. Powders of service here are nosophen, compound stearate of zinc, bismuth with perhaps 1 per cent. of salicylic acid added, etc., as indicated. The only indication for internal treatment is with such agents as will help to establish the resistance of the individual until such time as he is ready to accept the diagnosis of syphilis, because proven, when he can take proper medicine for the disease. To anticipate the diagnosis, to do anything which will preclude it, as does the early administration of either mercury or iodide, is wrong, illogical, and unjustified. The very eruption of macular syphilis, which is usually the first of the skin evidences, is the attempt of Nature to eliminate the poison; then is the time to help Nature and the patient with internal treatment which has the chief quality of eliminative process.—*New Orleans Medical and Surgical Journal.*

Cutaneous Affections in Relation to Life-insurance Examinations.—Joseph Zeisler says that the salient point must always be the determination whether a skin disorder is merely a local affair, or dependent upon some constitutional disturbance of more or less import. Diabetes may cause general or localized pruritus, furunculosis, gangrene, and a rather rare dermatosis known as dermatitis diabetica. Whenever psoriasis occupies a very large area, or has become generalized, it should form a sufficient ground for rejection. In fact, any dermatosis which covers practically the whole surface should be regarded with suspicion as to its influence upon longevity. This applies particularly to eczema, lichen ruber, pityriasis ruber, and pemphigus. In case of the last-named disease, even in its initial stage, when there may be found an occasional bulla only—on the chest, for instance—the gravest apprehension is justified. Lupus is fortunately rare in this country, and frequently remains localized when it does occur. A consideration of syphilis in its relation to life insurance would deserve a special chapter; the examiner should be capable of making a diagnosis without the aid of the patient. Many constitutional disturbances may be discovered by examining the tongue and the nails. The author holds that a thorough inspection of the whole integument should be a part of every examination, and will often reveal important stigmata.—*The Medical Examiner and Practitioner.*

Notes on a Case of Neuropathic Arthropathy.—A. E. Garrow reports the case of a woman who for several years had suffered from pain in the back, girdle sensations, twitchings in the limbs, dragging of the feet in walking, attacks of involuntary contractions of the legs, chiefly in adduction, tingling in feet and toes, and incontinence of urine and fæces. When admitted to the hospital she was unable to walk, and could assume a sitting posture in bed with great difficulty, owing to spasm of the lower limbs on attempting to move. The case was diagnosed as one of transverse myelitis. A few days after admission she complained of a heaviness in the left shoulder; the shoulder and arm were found to be much swollen and distinctly hotter than the forearm. The swelling of the shoulder was spherical and tense, the bulging being especially marked beneath the outer extremity of the pectoralis major, but less marked behind. There was no pain on active or passive motion. The restricted movement was evidently due to the tension of the joint and the infiltrated tissues. There was no evidence of muscular spasm. Treatment consisted in applying hot fomentations of lead and opium, and fixing the joint by means of an internal lateral splint. The tension is rapidly becoming less, and the infiltration is being absorbed.—*The Montreal Medical Journal.*

The Galvano-cautery in Hypertrophic Rhinitis.—J. E. Schadle says that the shape of the distal end of the galvano-cautery knife is of the greatest importance in the operation. If the platinum loop is not evenly hammered, and it usually is not, as obtained from the instrument-maker, being too thin at or near the point and too thick near its insertion into the copper conductors, it cannot be heated evenly to the necessary temperature of a bright cherry red. Thus hemorrhage will result from the too hot point and from sticking to the too cold head. This defect is due to the fact that the thinner end of the knife offers more resistance to the current than the lower, thicker portion, and it therefore follows that the loop should be shaped rather by filing than by hammering. The different shapes of knives to be used are largely due to the fancy of individual operators and instrument-makers, and should not be considered, because any well-constructed platinum loop can be bent into any shape to suit a particular case. The only point upon which he would lay stress in advising as to the purchase of a

galvano-cautery instrument is to see that the handle and the conductors carrying the platinum loop should be sufficiently large and capable of carrying the required current long enough without becoming even warm.—*International Medical Magazine.*

The Salicylates in Acute Rheumatism.—H. W. Syers says that his experience of salicylates in the treatment of rheumatic fever has been that the benefit is definitely confined to the relief of pain, and, to a certain extent, to the reduction of temperature. That the course of the disease is in any way abbreviated, or that the tendency to peri- and endocarditis is at all lessened his experience has been very far from substantiating. He is disposed to think that the liability to heart involvement is rather increased than diminished by the employment of this remedy. The pain-alleviating power of the drug is, however, so great and so rapid that it is impossible to decry its efficiency. This is a different matter from regarding the treatment as a specific in acute rheumatism. The duration of the malady is not lessened, the liability to heart complications is not diminished, and, most assuredly, the chance of relapse is just as great, if not greater, than when the affection is treated otherwise than by the administration of salicylates. According to recent researches by A. Menzer, who is a strong supporter of the bacterial origin of acute rheumatism, salicylic acid is neither a direct bactericide, nor does it possess the power of increasing the bactericidal action of the blood.—*Treatment.*

Does Early Treatment of Acute Inflammation of the Middle Ear Prevent the More Serious Complications?—E. L. Meierhof reports four cases in which the symptoms for a long time did not point to involvement of the mastoid, but as no improvement followed the treatment applied, the mastoid was opened and found to be filled with pus. He concludes that the indications for operation will be found in a much larger number of cases than previously, until it will even be done for profuse suppuration of the middle ear of a few weeks' duration, even though there is no pain, and thus do away with the more chronic processes and the need of radical operations. His experience, however, has been that for the prevention of chronic suppuration without mastoid symptoms, the minor treatment, with few exceptions, has yielded all that could be desired, and that a very few have required the major operation when the cases have had the benefit of early expert treatment.—*Archives of Otology.*

Appendicular Dyspepsia.—James B. Eagleson has come to the following conclusion: There is a form of dyspepsia of appendicular origin. In one class of cases it is largely reflex, depending upon the presence of a fecal concretion within the organ, or a slight ulceration or catarrhal condition of its mucosa. In another class of cases it is mechanical, caused by an obstruction or irritation resulting from adhesions following a more or less acute attack of inflammation at some previous time. These cases are cured by surgical interference. In all cases of chronic dyspepsia the condition of the appendix should be carefully investigated. When a chronic dyspepsia has resisted all medicinal treatment and its origin has been diagnosed as appendicular, an operation should be advised. —*Northwest Medicine.*

Hysteria Simulating General Paralysis.—F. J. Collet and Jean Lepine report the case of a man of thirty-four years who, after a severe mental suffering, was affected by temporary loss of consciousness, extreme anarthria, without mutism, aphasia, nor agraphia; awkwardness in the use of the right hand, with preservation of muscular force and left glossolabial hemispasm. There was persistence of slight anarthria after disappearance of the other symptoms. Several relapses occurred without loss of consciousness. There were transitory signs of general paralysis, loss of memory, trembling of the tongue, etc. Rest in bed, mental relaxation, abstinence from alcohol, and hydrotherapy brought about a complete cure of what the author considers was rightly diagnosed as hysteria.—*Revue de Médecine.*

Medical Senators in France.—At the recent election for the French Senate, eighteen members of the medical profession were successful. Among these are M. Combes, the Premier, who was returned by two departments; Dr. Peyrot, surgeon to the Lariboisière Hospital, and a member of the Académie de Médecine, and Dr. Jean Bayol, formerly a medical officer of the French navy, Lieutenant-Governor of Senegal, and Governor of French Guinea. Among the unsuccessful condidates were Professors Carnil and Pozzi. —*British Medical Journal.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending March 14, 1903:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS
Alabama, Mobile	Feb 28–Mar. 7		11	.
California, Fresno	Feb. 1–28		23	
Los Angeles	Feb. 22–28		4	
Sacramento	Feb. 22–28		3	.
San Francisco	Feb. 22–Mar. 1		8	
Colorado, Denver	Feb. 22–28		10	.
Florida, Jacksonville	Feb. 28–Mar. 7		3	.
Illinois, Alton	Feb. 28–Mar. 7		1	.
Chicago	Feb. 28–Mar. 7		12	4
Indiana, Elwood	Mar. 1–8		6	
Evansville	Feb. 28–Mar. 7		5	
Indianapolis	Feb. 28–Mar. 7		19	8
Iowa, Davenport	Feb. 28–Mar. 7		1	
Kansas, Wichita	Feb. 28–Mar. 7		2	
Kentucky, Lexington	Feb. 28–Mar. 7		1	
Newport	Mar. 1–8		1	
Louisiana, New Orleans	Feb. 28–Mar. 7		3	
Massachusetts, Fall River	Feb. 28–Mar. 7		2	
New Bedford	Feb. 28–Mar. 7		1	
Michigan, Ann Arbor	Feb. 28–Mar. 7		1	
Marquette	Feb. 28–Mar. 7		1	
Port Huron	Feb. 28–Mar. 7		5	
Missouri, St. Louis	Mar. 1–8		5	
Nebraska, Omaha	Feb. 28–Mar. 7		2	
New Jersey Jersey City	Mar. 1–8		1	
Newark	Feb. 28–Mar. 7		5	
New York, Buffalo	Feb. 28–Mar. 7		1	1
Ohio, Cincinnati	Feb. 27–Mar. 6		6	1
Cleveland	Feb. 28–Mar. 7		..	2
Dayton	Feb. 28–Mar. 7		5	
East Liverpool	Feb. 1–28		2	
Pennsylvania, Erie	Feb. 28–Mar. 7		3	
Johnstown	Feb. 28–Mar. 7		1	1
McKeesport	Feb. 28–Mar. 7		1	
Philadelphia	Feb. 28–Mar. 7		17	4
Pittsburg	Feb. 28–Mar. 7		27	1
South Carolina, Charleston	Feb. 28–Mar. 7		2	1
Tennessee, Memphis	Feb 28–Mar. 7		3	..
Utah, Salt Lake City	Feb. 23–Mar. 7		20	
Wisconsin, Green Bay	Mar. 1–8		1	.
Milwaukee	Feb. 28–Mar. 7		6	.

SMALLPOX—FOREIGN.

Austria, Prague	Feb. 7–14		6	..
Belgium Antwerp	Feb. 7–14		1	.
Liege	Jan. 31–Feb. 7		1	1
Brazil, Rio de Janeiro	Jan. 17–Feb. 6		..	14
Canada, Hamilton	Feb. 28–Mar. 7		1	..
Winnipeg	Feb 1–28		2	.
Canary Islands, Las Palmas	Feb. 7–14		32	
Germany, Hamburg	Feb. 14–21		1	
Great Britain, Birmingham	Feb. 14–21		8	1
Dublin	Feb. 14–21		2	.
Leeds	Feb 14–21		9	2
Liverpool	To Feb. 21		105	5
London	Feb. 14–21		7	..
Manchester	Feb. 7–21		52	3
Sheffield	Feb 7–21		4	..
India, Bombay	Feb. 3–10		..	53
Mexico, City of Mexico	Feb. 15–22		2	1
Russia, Odessa	Feb. 7–11		3	1
St. Petersburg	Feb 7–14		75	14
Warsaw	Feb. 19–26		..	2
Spain, Barcelona	Feb. 1–15		.	4
Malaga	Jan. 1–31		.	3
Valencia	Feb. 1–15		.	3
Straits Settlements, Singapore	Jan. 10–17			4
Switzerland, Zurich	Feb. 7–14		1	..

YELLOW FEVER.

Brazil, Rio de Janeiro	Jan. 16–Feb. 6			75
Mexico, Vera Cruz	Feb. 21–28		3	3

CHOLERA—FOREIGN.

India, Bombay	Feb. 3–10		..	1
Calcutta	Jan. 31–Feb 11		..	33

PLAGUE—FOREIGN.

Brazil, Rio de Janeiro	Jan. 16–Feb. 6			4
India, Bombay	Feb. 3–10			649
Calcutta	Jan. 31–Feb. 7		.	142
Karachi	Feb. 1–8		38	39
Mexico, Mazatlan	Feb. 7–14		41	20
Mazatlan	To March 6		302	250

PLAGUE—INSULAR.

Hawaii, Hilo	Mar. 9		..	1

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Original Articles.

RENAL DECAPSULATION FOR CHRONIC BRIGHT'S DISEASE.*

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The first operation ever undertaken upon the kidneys with the deliberate purpose of bringing about a cure of chronic Bright's disease was performed by the writer on January 10, 1898. This operation consisted in extensive decapsulation, followed by fixation, of both kidneys. The patient, a girl of twenty at the time of operation, has since married, is now five months pregnant, and remains permanently cured of her former chronic Bright's disease, very frequent examinations of the urine made during the past five years invariably showing normal conditions, and her general health since operation being excellent. This operation, together with a report of five preceding operations which gradually led up to it, was published in the *Medical News*, April 22, 1899. In all of these cases the kidneys were movable as well as affected with chronic Bright's disease, and the operation, as already stated, consisted in extensive decapsulation, followed by fixation of the kidney. At the time, the idea that the cure of chronic Bright's disease in these cases was mainly, if not altogether, due to correction of the position of the kidney by fixation, dominated my mind. Further experience, however, and observations made upon the occasion of second operations upon kidneys previously anchored at periods more or less remote from the first operation, gradually evolved the conviction that the decapsulation was mainly responsible for the good results obtained, and that renal decapsulation acted by removing a barrier in the shape of the capsule proper to the creation of a new and increased and more active blood supply to the diseased kidney. The removal of this barrier by renal decapsulation is followed by the formation, on the most extensive scale possible, of new vascular connections between the kidney and its fatty capsule. The removal of inflammatory products by absorption, and the new formation of epithelium capable of carrying on the functions of secretion—in other words, improvement and restoration of the health of the kidney—are the direct results of this increased blood supply and improved circulation of the kidney.

These views were announced in a second publication in the Medical Record, May 4, 1901, and, based upon them, I advanced the proposition to treat chronic Bright's disease, *as such*, by renal decapsulation, whether the affected kidney be found normally situated or displaced.

The proposition as well as the performance of renal decapsulation for the cure of chronic Bright's disease constitute entirely new departures in medicine, original with the writer. The subject was further elaborated, and all the writer's operations upon kidneys affected with chronic Bright's disease were reported in detail in the Medical Record, December 21, 1901. The operations numbered nineteen, and included eight cases in which a cure of chronic Bright's disease lasting at the time of report from one to over eight years after operation was obtained. To these publications, and to a résumé prepared by the writer and published in the Medical Record, April 26, 1902, the reader who may be interested is referred for fuller details regarding the developmental stage of the surgical treatment of chronic Bright's disease. In this publication, also, the literature of the subject was fully cited and discussed. Included in a continuation of the literature appended to the present paper will be found references to one or two publications more or less pertinent which escaped my attention in the preparation of my last article, and which are here listed for the sake of greater completeness.

During the year 1902 there appeared in various medical journals accounts of isolated cases in which my operation of renal decapsulation for chronic Bright's disease was performed by various surgeons. These cases will be noticed again further on. There also appeared during the same year several communications of a practical character by Israel, Pousson, Lennander, Rovsing, and Edebohls, on topics more or less related or germane to the subject of the surgical treatment of chronic Bright's disease, although not concerning themselves directly with the surgical treatment of chronic Bright's disease *as such*. Israel indeed, as I have already pointed out in a previous publication[7], emphatically disclaims any intention or desire on his part to bring about an era of the surgical treatment of chronic Bright's disease, and Pousson,[17] after repeating his previous experiences, already repeatedly detailed at great length in numerous prior publications, adds one or two new cases of surgical interference on various special indications, and avers that he has never operated for the cure of chronic Bright's disease as such. It may be added, however, that Pousson has recently become a convert to renal decapsulation, although he appears not as yet to have performed the operation. Lennander[14] reports three cases, additional to five previously reported by him, of suppurative pyelonephritis treated surgically by resection of the kidney and drainage. Rovsing[19] fully details seventeen cases in which surgical intervention upon the kidneys was undertaken to meet a variety of indications, and Edebohls[8] reports upon renal decapsulation as performed by him upon six patients for conditions other than chronic Bright's disease. In all of the cases reported by the writers mentioned operation upon the kidney was undertaken primarily for the relief of grave accidental complications of acute or chronic nephritis, or for renal conditions admittedly requiring surgical interference, and complicated by nephritis, such as purulent infection of the

*Read before the Medical Association of the Greater City of New York, February 9, 1903.

kidneys, renal hæmaturia, renal pain, and suppression of urine.

The publications already commented upon deal with the subject of chronic nephritis upon the basis of practical operative experience. In addition there have appeared during the year 1902 a number of purely theoretical papers, several of them of pretentious character, touching more or less upon the same subject. As these theoretical papers add little or nothing of material value to either our knowledge or experience I have omitted citing a reference to them.

Since the announcement of my proposition to treat chronic Bright's disease by decapsulation of the kidneys, reports of nine cases operated upon after my method by seven different American surgeons have found their way into the medical press. Cabot[1] and Elliott[9] each report two cases; Primrose,[18] Lyman,[15] Guitéras,[11] and Hanchett,[12] one case each. Guitéras reports, in addition, a unilateral nephropexy with extensive denudation performed upon a kidney the seat of chronic nephritis. Gradle[10] reports a case operated upon by Ries, and Caillé[2] details the history of one of his cases operated upon by the writer, and included in my summary to follow. Primrose performed decapsulation upon one kidney only, having at a previous date performed nephrotomy upon the opposite side. Lyman, Cabot, Guitéras and Elliott decapsulated both kidneys at one sitting, while Hanchett and Ries operated upon one kidney at a time. The period of observation intervening between operation and report in those who survived the operation is, however, too short to permit of any deductions of great practical value. In addition to the above published cases the writer has knowledge of quite a number of unreported cases of renal decapsulation for chronic Bright's disease performed during the past year by a number of surgeons other than those named.

My personal experience with operations upon kidneys the seat of chronic Bright's disease, from the date of my first operation of this character in 1892 up to and including the year 1901, was reported in detail and tabulated in my paper in the MEDICAL RECORD of December 21, 1901. The list embraces nineteen cases. During the year 1902 I have operated upon thirty-two additional cases of chronic Bright's disease, in each of which I performed decapsulation of both kidneys at one and the same sitting. My total experience, therefore, up to the end of the year 1902, embraces fifty-one cases.

Of the fifty-one patients, twenty-nine were females and twenty-two were males. With the exception of a girl of four and a half years, all the patients were adults. The other extreme of age was represented by a man of sixty-seven, and the average age of the fifty-one patients was thirty-four years. Twenty-four of the patients were operated upon at the Post-Graduate Hospital, thirteen at St. Francis Hospital, ten at their homes, and four in a private sanatorium.

The basis for the diagnosis of chronic Bright's disease in the nineteen cases already reported was detailed in my previous paper.[5] The thirty-two cases operated upon during 1902 were all cases of far advanced chronic Bright's disease. In all of them the clinical history, the physical examination of the patient, and the chemical and microscopical examination of the urine left no room for doubt as to the diagnosis. All of the patients knew that they were the victims of chronic Bright's disease prior to consulting me with a view to operation. While with the great majority of the patients, gradual loss of strength, increasing pallor, uræmic headaches, vascular and digestive disturbances, dropsy and other manifestations of chronic Bright's disease led to medical consultation and the discovery of the kidney affection, quite a number first learned upon application for life insurance that they were the victims of the disease. Others again, more or less suddenly and more or less completely, lost their eyesight, and derived their first information of the diseased condition of their kidneys from ophthalmoscopic examination, which disclosed the characteristic lesions of the retina due to chronic nephritis. A few obtained their first knowledge of the existence of chronic Bright's disease in their persons as a result of a sudden attack of paralysis. The length of time intervening between the first recognition of chronic Bright's disease and the date of operation, is noted in the clinical histories of forty-one of my fifty-one patients. In the remaining ten the existence of the kidney affection was either noted but a short time before operation, or no exact data bearing upon the point in question could be obtained. In these forty-one patients Bright's disease was known to be present before operation for periods varying between one month and nineteen years, the average duration for the forty-one being three years and four months, while for the thirty-two cases operated upon in 1902 it was fully four years. It is quite safe to say, however, that in each case the disease existed for a longer or shorter period of time prior to its first recognition, and that renal decapsulation was performed in each case at a considerably more advanced period of the disease than that indicated by the above figures.

Of the thirty-two cases of advanced chronic nephritis operated upon during 1902, very few, indeed, were uncomplicated or but slightly complicated cases of chronic Bright's disease. Nearly all presented minor, greater, or extreme cardiac and vascular degenerations: arteriosclerosis, hypertrophies of all degrees up to the point of non-compensation and beginning predominant dilatation, pericarditis and endocarditis. Pleuritis and hydrothorax as complications were by no means rare, while one patient had cavities in both lungs, and two patients suffered from cirrhosis of the liver in addition to chronic Bright's disease. The cerebral and ocular complications were represented by hemiplegias due to changes in the cerebral vessels, to embolism, thrombosis, etc., and by the characteristic retinal lesions.

The clinical diagnosis in each case was borne out by the conditions presented by the kidneys at operation, the characteristic pathological changes due to the presence of chronic Bright's disease being readily and unmistakably appreciable by sight and touch. Occasionally the diagnosis received a rather superfluous corroboration from the microscopical examination of a minute piece of kidney tissue found adherent to the removed capsule proper. As to the propriety and justifiability of deliberately removing a piece of tissue from a kidney, the seat of evident chronic Bright's disease, merely for the purpose of microscopical examination, I have already elsewhere expressed myself negatively.

The division or classification of cases of chronic Bright's disease, according to the pathological changes found in the kidneys at operation, into parenchymatous, interstitial and diffuse chronic nephritis, a classification advanced in a former paper[5] as the most practical for our purposes in the present state of our knowledge of the subject, has been maintained and applied to the cases operated upon in 1902. The reasons and basis for the above classification were also sufficiently set forth in the paper mentioned, and need not be here repeated.

Of the entire number of fifty-one patients with chronic Bright's disease operated upon, twenty-nine had chronic interstitial nephritis, fourteen had chronic diffuse nephritis, and eight had chronic parenchymatous nephritis. In all the cases of chronic diffuse and of chronic parenchymatous nephritis both kidneys were affected, though not always in equal degree on both sides. In the twenty-nine cases of chronic interstitial nephritis the disease was limited to one kidney in no less than nine instances, affecting both kidneys of twenty patients only.

These nine cases of unilateral chronic nephritis were detailed in my paper of a year ago, and excited a good deal of surprised comment and even of incredulity and denial. While surgeons of greater experience in renal surgery were, as a rule, ready to accept my findings as correct, in view of operative experiences of their own pointing in the same direction, the contention was made by some clinicians of the highest rank that chronic Bright's disease is always bilateral. It appears to the writer that these two different positions and views are not so difficult of reconciliation as may appear on the surface. Chronic Bright's disease, *as such and in itself*, rarely or never causes death when limited to one kidney; in fact its unilateral existence, save in very exceptional instances, goes practically undetected during life unless accidentally revealed either by urinary examination or by the knife of the surgeon. As long as one kidney is healthy, and performs its functions, the general health need not suffer to an extent sufficient to induce consultation with a physician, even though the second kidney be seriously diseased. It has been abundantly proven that one-third of the total kidney substance possessed by man is sufficient to sustain life. That the disease in its further development becomes invariably bilateral is probably the truth. Surgeons, in their operative work, have now and then met the disease in its earlier stages unilaterally; physicians derive their convictions from the fact that the patient comes under their professional care in the later stages, when the disease has become bilateral, and from the observation that the disease, as found in the dead-house, is practically always bilateral. Bright's disease, like everything else, must have a beginning; that it may make decided progress in one kidney before attacking the other, I, in common with other surgeons, consider proven. I have not met with any cases of unilateral chronic nephritis in my surgical work of 1902 simply because all of the cases operated upon during that year were cases of *very* far-advanced chronic Bright's disease.

A rest in bed of a few days to a week, according to the special indications in each case, is advisable by way of preparation for every patient about to undergo the operation of renal decapsulation for chronic Bright's disease. In all cases of advanced chronic nephritis, almost without exception, the heart is more or less involved, and favoring the organ for a few days prior to the ordeal betters its chances of standing the strain to which the operation necessarily puts it. The rest in bed also minimizes the eliminative work to be performed by the kidneys, resting those organs, and is further utilized for measurement of the daily amount of urine, for chemical and microscopical examination of that secretion, for regulation of the food and drink ingested, for the administration of urotropin, if called for by the presence of pus and bacteria in the urine, for the exhibition of cardiac and vascular regulators like strychnine, digitalis, glonoin, etc., according to the indications in each particular case. With proper preliminary preparation of the patient, the probabilities of a successful issue of the operation are materially increased.

The writer's operation of renal decapsulation for chronic Bright's disease has already been described at sufficient length in previous publications,[4] [5], [8]. It only remains to call attention to one or two matters of practical experience which larger opportunities have developed.

Presuming always a reasonable familiarity and experience with renal surgery in general on the part of the operator, there are three conditions, the presence or absence of which makes renal decapsulation a more or less difficult or a comparatively easy operative procedure. The first of these conditions, great length and obliquity of the twelfth rib, with narrowness of the space between last rib and ilium, can be materially overcome by proper posturing of the patient, as on the author's kidney air-cushion, for instance, and by a slight modification of the obliquity of the incision. The second factor upon which the ease or difficulty of the operation depends is mobility of the kidney to be operated upon, or its firm attachment in its normal site well up beneath the ribs. In the latter event only a small surface of the lower pole of the kidney can be exposed, and even this meagre approach to the kidney is sometimes accomplished only under the greatest difficulties. The procedure under these circumstances is to incise the capsule proper at any portion of the surface of the kidney that can be reached, to seize the edges of the capsule wound with forceps, and to complete the separation of the capsule proper from the kidney, in the depths of the wound. For detaching the capsule proper from the kidney, especially if the separation must be done in the depths of the wound beyond aid from the sense of sight, I have found the smooth index finger of the rubber-gloved hand the *very* best instrument. The third condition influencing the facility of renal decapsulation is connected with the more or less firm attachment of the capsule proper to the kidney. In the parenchymatous and diffuse forms of chronic nephritis the capsule will generally be found easily separable from the kidney, while in cases of chronic interstitial nephritis the connections between capsule proper and kidney are frequently of a firm, densely fibrous character. As the kidney tissue is generally very brittle and friable as the result of long-standing inflammation, great caution and gentleness are necessary to avoid the danger of tearing away pieces of the kidney or of fracturing the organ during attempts at decapsulation. The views upon renal tension as an element in chronic Bright's disease which I expressed in a previous publication[6], have but received confirmation as the result of increased experience and observation.

The difficulties of renal decapsulation arising from one or both of the conditions last named receive illustration from two experiences of other operators which have casually come to my knowledge. A colleague who witnessed a renal decapsulation, or rather an attempt at renal decapsulation for chronic Bright's disease, by a surgeon of his acquaintance, informed me that the surgeon, after cutting down on both sides, was unable to find, let alone explore or decapsulate, either kidney, the organs being probably greatly diminished in size as a result of the chronic interstitial nephritis diagnosticated before operation. The wounds were closed, and the patient and his friends were left under the impression that decapsulation had been performed. I have in my possession a letter from a professor of surgery in one of our Western medical colleges detailing his first attempt at renal decapsulation. Unable to bring the kidney into view, he introduced a sharp

curette into the depths of the wound and, at long range and beyond sight, scraped the capsule proper from the kidney all around at haphazard and as best he could. It is sickening to contemplate the laceration and destruction of kidney substance which must have accompanied this procedure performed upon a patient who, on account of the presence of chronic Bright's disease, could ill afford to spare any portion of his renal tissue.

Renal decapsulation for chronic Bright's disease should for the present, therefore, be undertaken only by surgeons more or less familiar by practical experience with renal surgery in general. Any other course must tend to bring upon the operation unjust and undeserved disrepute. One surgeon informed me that he had performed four renal decapsulations upon four victims of chronic Bright's disease, each of the four dying promptly after operation. He added that these four operations represented exactly the half of his total experience in renal surgery.

The danger in operations of every kind, renal operations included, upon patients suffering from chronic Bright's disease is, broadly speaking, greater from the anæsthetic than from the operation itself. In renal decapsulation, fortunately, the moderate abstraction of blood directly from the kidneys accompanying and forming a necessary part of the operation, counteracts to a great extent the congestive effects of the anæsthetic upon the kidneys. Nevertheless, it is *very* important that the operation should never be too prolonged, and I should say that one hour should be regarded as the limit of time to be allowed for decapsulation of both kidneys for chronic Bright's disease. In more than one-half of my operations I have required no longer than half an hour, counting from the first incision to complete closure of both wounds ready for the application of dressings. It is a realization of the necessity of curtailing the duration of the anæsthesia that has prompted the expedient of a team operation, two surgeons operating at the same time, one on either kidney. Personally I feel that, operating singly, I can decapsulate both kidneys in the same space of time that I would require for one kidney if handicapped by the presence of a second surgeon and his assistant working simultaneously upon the fellow organ. Each surgeon and his assistant must necessarily be more or less in the other's way. Another expedient that has been adopted for the purpose of lessening the length of anæsthesia is to operate upon one kidney at a time. Such a course, however, can only be condoned in a surgeon who is not sufficiently practised in renal surgery to decapsulate both kidneys within the hour, since it is evident that on account of the time required for inducing full anæsthesia before each operation, the total duration of anæsthesia for two operations will be greater than that required for decapsulation of both kidneys performed at the same time.

Ether has continued to be a satisfactory anæsthetic and, preceded by nitrous oxide, was administered to all but three of the thirty-two patients operated upon in 1902; these three patients were anæsthetized by Dr. Thomas L. Bennett with nitrous oxide and oxygen.

As I have already stated, in all my renal decapsulations of 1902 both kidneys were invariably operated upon at the same sitting. All the wounds were completely closed throughout and drainage was entirely dispensed with, except in one case in which a few strands of silkworm gut were left in the wound for a few days to drain off the enormous quantities of serum found at operation in all the tissues of the back as well as in the perirenal fat. Perfect primary union throughout was obtained in all but one of the sixty-four wounds made. In the one exception in which bilateral nephropexy, as well as appendicectomy for chronic appendicitis through the right lumbar wound, were performed in addition to renal decapsulation, a temporary leakage of urine occurred from the surface of the right kidney. The cases of chronic nephritis with infection did just as well in the way of perfect healing of the wounds as the cases of chronic nephritis without infection.

In twenty-seven of the thirty-two patients operated upon in 1902, bilateral renal decapsulation was the sole operation performed. In two patients fixation of both kidneys and removal of the appendix through the right lumbar wound for chronic appendicitis were practised at the same sitting with bilateral renal decapsulation. A third patient had fixation of both kidneys, and a fourth had fixation of the right kidney added to bilateral decapsulation. Upon a fifth patient, finally, whose left kidney was found converted into one huge cyst, left nephrectomy and decapsulation of the right kidney were performed at the same sitting. Nephropexy was added to renal decapsulation in those patients who had both chronic Bright's disease and movable kidney or kidneys, only when the symptoms due to mobility of the kidney or kidneys were so decided as to call urgently for relief. When the looseness of the kidneys produced no symptoms the mobility was disregarded, and the operation was shaped entirely with the view to improvement or cure of the chronic Bright's disease.

Of the fifty-one patients suffering from chronic Bright's disease, upon whose kidneys I have operated during the past ten years, from 1892 to the end of 1902, I have lost all traces of only three. All the rest, forty-eight in number, I have managed to keep in touch with up to death or the present writing. This rare achievement, for as such it will be appreciated by all physicians who have tried to follow their cases through the years, is all the more remarkable in view of the fact that the patients are scattered far and wide, less than one-half of the entire number living in New York.

Of the fifty-one patients fourteen died at periods of time after operation varying between twelve hours and eight years. The following is a brief synopsis or record of the deaths:

Case 3.—Mrs. M. M., aged twenty-eight years, a patient of Dr. R. G. Wiener, was known to have chronic Bright's disease for several years before operation. Operation on the right kidney, May 11, 1893, showed right chronic diffuse nephritis, with formation of a large cyst. Incision of kidney; evacuation of contents of cyst; suture of kidney wound; extensive decapsulation, followed by fixation of kidney. Three years later another surgeon removed the left kidney. For five years more the patient lived with only one kidney, the one originally operated upon by me. At the end of that time a third surgeon performed an abdominal hysterectomy, as a result of which she died, in May, 1901, eight years after my operation upon her right kidney. According to her physician, the nephritis still persisted at her death.

Case 11.—Mrs. S. G., aged twenty-eight years. Operation, extensive decapsulation of both kidneys, followed by fixation, was performed on November 4, 1899, and showed right chronic interstitial nephritis, the left kidney being healthy. The patient died after an operation for ruptured tubal pregnancy exactly one year after my operation. Drs. S. J. Meltzer and J. J. Brettauer, who attended her in her last illness, inform me that there was then no chronic Bright's disease, the urine being perfectly normal.

Case 17.—Mrs. M. S., aged thirty-three years, patient of Dr. T. W. Vardon, Galt, Ontario, Canada. The history of this case was detailed at length in a former paper.[5] Bilateral renal decapsulation was performed upon the practically moribund patient, October 17, 1901, and showed right and left chronic parenchymatous nephritis with infection, pus being abundant in the urine. Both wounds healed by primary union throughout, and the patient improved marvellously and steadily after the operation until December 5, when a severe attack of acute suppurative pyelonephritis supervened, which terminated her life on December 15, 1901, two months after operation.

Case 19.—Miss A. B., aged forty-three years, patient of Dr. F. Schwyzer, suffered from chronic Bright's disease, with cardiac complications, for two years. At the time of operation there existed extreme hypertrophy of the heart, with a double mitral murmur. Bilateral renal decapsulation on December 3, 1901, disclosed far advanced bilateral chronic interstitial nephritis, the kidneys being shrunken to less than half their normal size. Patient left hospital a month after operation, resumed her former dissolute habits, was picked up drunk on the streets a number of times, and finally landed in the Almshouse Hospital, where she died, December 9, 1902, one year after operation. The death certificate gives chronic interstitial nephritis and endocarditis as the causes of death.

Case 24.—A. W. B., male, aged twenty-three years, a patient of Dr. L. B. McBrayer, Asheville, N. C., while in apparent health was stricken suddenly with almost complete blindness on December 21, 1901, when examination of the eyes and urine revealed chronic Bright's disease as the cause. From that date until operation the patient was so blind that he could not find his way about alone in broad daylight. At operation, April 11, 1902, almost total blindness, profound uræmia, enormous hypertrophy with tumultuous action of the heart, and mitral regurgitation. Operation disclosed far advanced chronic interstitial nephritis, the kidneys being contracted to half their normal size. Uræmia gradually deepened after operation, and severe epistaxis, requiring repeated plugging of the nares, supervened on April 18. Patient died on April 19, eight days after operation, of exhaustion and uræmic coma.

Case 27.—V. M., male, aged twenty-one years, patient of Dr. A. P. Dodge, Oneida, N. Y. Albuminuria and general dropsy since December, 1900; retinitis albuminurica, with V=1/200 in either eye, since December, 1901; heart greatly hypertrophied; stenosis of aortic orifice. Operation, on April 16, 1902, showed advanced chronic diffuse nephritis with beginning contraction of the kidneys. For some months after operation the patient did well, gaining markedly in strength, and recovering his eyesight to a very great degree. On November 25, 1902, he had an attack of acute pleuritis, from which he recovered. On December 25, 1902, uræmic symptoms developed. Uræmic coma and epistaxis closed the scene on January 18, 1903, nine months after operation.

Case 29.—A. J., male, aged thirty-four years, a patient of Dr. B. R. Morrow, had chronic Bright's disease for five years before coming under observation. General œdema, bronchorrhœa, bronchial hemorrhages, intense dyspnœa, and uræmic headaches were the main symptoms. At the time of operation enormous hypertrophy of the heart, with beginning dilatation, uræmia, and the hemorrhagic diathesis were the ominous manifestations. Operation not advised, but undertaken at patient's earnest pleading on April 21, 1902. Both kidneys were found shrunken to less than half their normal size as a result of chronic interstitial nephritis. Patient died of uræmia on April 24, 1902, three days after operation.

Case 32.—E. W., male, thirty-two years of age, suffered from chronic parenchymatous nephritis ever since an attack of scarlet fever five years ago. Immense general anasarca and ascites existed, and to relieve the latter the abdomen was tapped five times during the four weeks preceding operation. Renal decapsulation was advised by the surgeons of a hospital of this city of which the patient was an inmate. The surgeons, however, declined to operate themselves, and referred the patient to me. On May 1, 1902, he was transferred in an ambulance from the hospital where he was staying to St. Francis Hospital, where I operated upon him on the following day, May 2, 1902, his desperate condition brooking no delay. The abdomen was relieved of fluid by tapping on the morning of the day of operation. Extreme general anasarca, double hydrothorax, and a feeble heart were present at the time of operation, which showed typical parenchymatous nephritis, the large, white kidney, on both sides. On the fourth day after operation acute fibrinous lobar pneumonia developed in the upper half of the left lung, and the patient succumbed to pulmonary œdema on May 8, 1902, six days after operation.

Case 34.—D. L. D., male, sixty-two years of age, patient of Dr. F. M. Woodard, Springfield, Tenn. Chronic Bright's disease was first recognized on failure of sight in January, 1902, when examination of the eyes disclosed the characteristic retinal changes due to the disease. Moderate cardiac hypertrophy, with an aortic obstructive murmur, were present at operation, which took place on May 26, 1902. Sudden death from acute dilatation of the heart occurred twelve hours after operation.

Case 35.—R. N. H., male, aged fifty-six years. The patient, a physician, first discovered chronic Bright's disease in his person by urinalysis in May, 1901. Œdema of the face and hands, progressive weakness, rapid aging, uræmic manifestations, tumultuous action of the heart, and great dyspnœa on exertion were the main symptoms. Effusion into both retinæ occurred in February, 1902. At the time of operation the heart was markedly hypertrophied, with a systolic bruit over apex, base and aorta, and dicrotism of the pulse, and there existed general arteriosclerosis and extensive neuroretinitis albuminurica. Operation, May 26, 1902, disclosed right and left chronic interstitial nephritis. Improvement followed operation, and was maintained until August, 1902, when he gradually grew worse, intense dyspnœa and inability of the stomach to retain food being the most distressing features until his death, which occurred on November 6, 1902, five months and eleven days after operation.

Case 36.—E. T. W., male, fifty years of age. The patient, a physician, awoke one morning in April, 1901, with partial paralysis of the right half of the body, examined his urine, and found he had chronic Bright's disease. In February, 1902, hemorrhage into the left optic nerve was followed by transient total blindness. Slight œdema and stomach disturbance, progressive loss of strength, urgent dyspnœa, and tumultuous heart action were the chief other symptoms. When he reached my office with his brother, also a physician, he was scarcely able to breathe, even in the upright posture. The lungs were emphysematous, the heart was hypertrophied to the verge of dilatation, with an occasional aortic regurgitant murmur, and the pulse

was dicrotic. He came to me for operation from a great distance, fully aware of his extreme condition and desperate chances. He requested his brother's and my own frank opinions as to how long he was likely to live without operation, and as to his chances of surviving operation, and when we declared two weeks as the probable extreme limit of life without operation, and that death would probably result from operation, he reflected for a moment and then said: "Very well. I am ready and willing to pit two weeks of the life I am leading against even a very small chance of improvement by operation. I wish you to decapsulate my kidneys." The operation was performed on May 26, 1902. Dr. Thomas L. Bennett began the anæsthesia with nitrous oxide gas and oxygen, but was soon compelled to change to ether, and subsequently to chloroform to avoid death on the table. The operation disclosed chronic interstitial inflammation of both kidneys, and was completed in thirty-three minutes. The patient, however, survived but twelve hours, death occurring suddenly from acute dilatation of the heart during an effort at vomiting.

Case 39.—G. F. C., male, sixty-seven years of age. The patient, a physician, had nephrolithiasis and acute nephritis thirty years ago. In 1895 he had a sudden attack of hemiplegia due to cerebral embolism, the result of a cardiac lesion, and was paralyzed on one side of the body for nearly a year. Retinitis albuminurica and chronic Bright's disease were discovered in June, 1901. Hypertrophy of the heart, with beginning dilatation, mitral regurgitation, and general arteriosclerosis were the unpromising features of the case. In spite of the unfavorable outlook, the patient, a life-long personal and professional friend, insisted that he was entitled to the chance afforded by operation, and demanded that I perform it. Operation on June 14, 1902, showed bilateral chronic diffuse nephritis. Gas and ether were administered by Dr. Bennett. Left hemiplegia of cerebral origin developed on the day following operation; heart failure threatened from the very beginning, and the kidneys did not act satisfactorily, only 640 c.c. of urine being passed during the fifty-six hours the patient lived after operation. In spite of all our efforts the patient died of uræmia and heart failure on June 16, 1902.

Case 40.—C. C., male, twenty-nine years of age, first consulted me on March 7, 1902. Chronic Bright's disease was discovered six months previously; shortness of breath and growing weakness were the chief symptoms. Patient has just passed through a mild attack of typhoid fever, which began nearly two months ago. There was immense hypertrophy of the heart, with violent and irregular thumping (galloping heart), and extreme displacement of the apex beat to the left. The patient postponed operation, and in April, 1902, had a severe attack of diphtheria. Following this, great œdema of the feet and abdominal dropsy developed. The patient returned to my office three and a half months after his first visit, and requested that operation be performed before I sailed for Europe on my vacation. Decapsulation of both kidneys was performed on June 26, 1902, after consultation with Prof. A. Caillé, who considered that the heart was concentrically hypertrophied and would stand a narcosis. Chronic interstitial nephritis was found on both sides, the right kidney being contracted to one-half and the left to one-third the normal size. This patient never did well after operation, and died of dilatation of the heart on November 1, 1902, a little over four months after operation.

Case 47.—F. G. C., male, twenty-three years of age, a patient of Dr. Russell G. Floyd, Eureka Springs, Ark., had typhoid fever in 1893, and has never been strong since. For the past two years loss of strength, some œdema of face, digestive disturbances and uræmic manifestations were his chief symptoms. Urinalysis in December, 1901, revealed the existence of chronic Bright's disease. There was general arteriosclerosis; the heart was greatly hypertrophied, and a harsh systolic bruit was present over the aortic orifice. Operation November 26, 1902. The right kidney was first cut down upon, and found contracted to less than half the normal size by chronic interstitial nephritis. The left kidney was next exposed, and found converted into a huge cyst, with no remnants of normal kidney structure. The renal cyst was enucleated and removed entire. The uræmia present at the time of operation gradually deepened, although a fair quantity of urine was passed daily, and the patient died in uræmic coma on December 11, 1902, fifteen days after operation.

Two patients, therefore, died an accidental death, one patient died of acute suppurative pyelonephritis, one of endocarditis, five of uræmia, one of pneumonia, three of acute dilatation of the heart, while in one case death was due to a combination of uræmia and cerebral hemiplegia.

Of the fourteen deaths seven occurred at periods remote from operation varying between two months and eight years, the average duration of life after operation in the seven cases being one year and eight months.

The remaining seven deaths followed operation at periods varying from twelve hours to fifteen days, and represent the operative mortality in my fifty-one cases, which may therefore be stated as $13\frac{2}{3}$ per cent. Three of the seven deaths representing the operative mortality were due to uræmia, two to acute dilatation of the heart, while one was caused by pneumonia, and one by combined uræmia and cerebral hemiplegia.

In judging my mortality, the fact must be taken into consideration that, for one reason or another, I was compelled to accept cases for operation in which the fatal outcome was an almost foregone conclusion. Patients, as well as their physicians, both sometimes represented in one person, insisted that inasmuch as the precise limit beyond which operation could no longer avail to improve the condition of their kidneys was as yet unknown, they were entitled to the benefit of the doubt, and requested, or even demanded, operation. On the grounds of ordinary humanity the request could scarcely be denied, the more so as a number of my patients in whom the chances before operation seemed equally desperate with those of some of the patients who died, had made unexpected and surprisingly good recoveries. Thus it has happened that I have, either willingly or unwillingly, operated upon every patient who came to me for operation except in two instances. In one of them the day was set for operation; the patient's heart acted so poorly, however, that death on the table seemed inevitable. To the patient's keen disappointment the operation was declared off. That very night, seven hours after the date set for the operation that was to have been, the patient died suddenly of acute dilatation of the heart. A second patient who desired operation, but whom I advised not to undergo it, and who accepted my advice, died two weeks after I first saw him.

As already stated, the precise limits beyond which renal decapsulation can no longer avail to save the patient's life cannot as yet be positively stated. The complications of chronic Bright's disease are so numerous, and manifest themselves in such vary

ing combination and severity in different patients, that for the present each case must be judged upon its merits. In advising for or against operation in any given case much will depend upon a careful consideration of the general condition of the patient, as ascertained by a searching physical examination, as well as upon a critical chemical and microscopical examination of the urine.

Derangements of the heart and of the vascular system most frequently present problems the solution of which will influence our advice for or against operation. A certain degree of cardiac hypertrophy and degeneration goes with every case of chronic Bright's disease, and if uncomplicated, or not too greatly complicated, by other changes in the heart and vascular system, does not contraindicate operation. Indeed, renal decapsulation has proven a boon to several patients not alone in improving the work of their kidneys, but also in secondarily diminishing the cardiac hypertrophy dependent upon chronic Bright's disease. When, however, the cardiac and vascular changes have advanced too far and become too widespread ever to be made good, or even improved, the dangers of the operation itself are so vastly increased that it is not worth the patient's while to take the risk. For what will it avail the patient if the work of his kidneys is more or less improved, if, after all, in the natural course of events, he must soon die of incurable disease of the heart and blood vessels? A patient with chronic Bright's disease who has passed the age of sixty should always be carefully investigated before an operation is decided upon. The changes produced in the blood vessels by advancing years, added to those the result of chronic Bright's disease, constitute a serious handicap for the patient. Age, however, is a relative matter, and a man of seventy may have a younger heart and younger blood vessels, in fact may *be* younger, than another of fifty or, for that matter, of forty years. A more extended experience with renal decapsulation, however, is necessary before we can decide positively, in any and every given case of chronic Bright's disease, whether the patient may still hope for cure or improvement from operation, or whether he must be abandoned to his fate.

Bilateral renal decapsulation could be performed by an expert in renal surgery upon one hundred perfectly healthy human beings without the necessity of losing a single life. This is proven by comparison with the statistics of bilateral nephropexy, a more trying surgical procedure, often performed on patients very much run down and sometimes, in addition, upon kidneys not entirely healthy. Of seventy-three patients in whom I anchored both kidneys at one sitting, *i. e.* performed extensive renal decapsulation *and* fixation, only one died as the result of operation. The mortality attending renal decapsulation for chronic Bright's disease will, therefore, prove to be the mortality of the disease itself, and of its attendant complications, rather than that of the operative procedure undertaken for its relief.

The writer has been rarely and extremely fortunate in being able to follow up all but three of the fifty-one patients with chronic Bright's disease upon whose kidneys he has operated. The entire fifty-one cases may, for purposes of studying the final results, be divided into two categories; those cases operated upon prior to July 1, 1902, forty in number, and those cases operated upon during the past seven months, numbering eleven.

The forty cases in each of which more than seven months have elapsed since operation are the only ones that may be considered available for estimating the final results. Of these forty patients thirteen have died since operation and three have been lost sight of, leaving twenty-four patients available for a study of the therapeutic results of renal decapsulation for chronic Bright's disease.

Before proceeding to an analysis of the therapeutic results obtained in these twenty-four cases, some general considerations bearing upon the question of what constitutes cure and improvement in chronic Bright's disease are in order. It will, likewise, be necessary to define the standards by which cure or improvement is to be judged.

In the first place, the natural history and course of chronic Bright's disease, either untreated or treated by methods other than operative, must be taken into account. It is a well-established fact that patients suffering from chronic Bright's disease often experience temporary improvement, both as regards their general health and the condition of their urine, either without treatment of any kind or in connection with treatment of one kind and another. Such improvement is not infrequently maintained for months at a time, in spite of the universally conceded fact that the tendency of chronic Bright's disease, whether its course be more or less protracted, is inevitably to a fatal issue. To prove that cure or improvement after renal decapsulation is due to the operation, it must be shown: First, that cure or improvement follows operation with practical uniformity; second, that a cure, once obtained, is, as a rule, lasting; third, that improvement attained by operation is steadily progressive in character in the great majority of cases. These conditions, as I hope to show, have been fulfilled in my cases as far as their limited number and the necessarily brief lapse of time since operation in most of them will permit of tenable deductions and conclusions.

The therapeutic results of renal decapsulation for chronic Bright's disease have turned out more or less unsatisfactory in only two of the twenty-four patients. The first of these cases really constitutes a relapse after cure. It is Case No. 5 of my original report of December 21, 1901. The patient, a married woman of forty-two, first learned that she had chronic Bright's disease in 1891, and for six years thereafter was under constant medical treatment for the affection. On April 1, 1897, I operated upon her right kidney, which was found to be the seat of chronic interstitial nephritis. During the year following operation steady improvement of the general health kept pace with the gradual disappearance of albumin and casts from the urine. A year after operation the urine finally became free from albumin and casts, and so remained, as evidenced by frequently repeated examinations, for nearly four years, during which she considered herself perfectly well. In February, 1902, four years and ten months after operation, albumin and casts reappeared in the urine, and have been found on every urinalysis made during the past year. She again has chronic nephritis, though she does not as yet feel ill enough to take the necessary steps to ascertain whether both kidneys are affected, or, if one only, whether the right kidney originally operated upon, or its fellow, be diseased. Catheterization of both ureters and examination of the separate urines of each kidney would, of course, determine that exceedingly interesting point, so pregnant with practical significance, which I still hope some day to settle.

The second patient in whom the results of decapsulation are not all that could be desired is a married woman of twenty-three, Case No. 14 of my previous report, with a very bad family history as regards chronic Bright's disease, of which her mother died at forty, and her only sister at twenty-seven. Her

father, still living, is also a sufferer from the affection. The patient was under constant treatment for chronic Bright's disease by her physician, Dr. Henry Ruhl, for more than a year prior to operation, which was performed on April 8, 1901. Both kidneys were found to be affected with chronic diffuse nephritis, and were decapsulated and anchored. For eight months after operation there was steady and satisfactory improvement, both as regards the general health and the findings on urinalysis. During the year past, however, she has suffered from an attack of diphtheria, two or three severe attacks of grippe, and an almost uninterrupted succession of colds. Exacerbations of her chronic nephritis were invariable accompaniments of all these infections, and she has made no gain, as far as the urinalysis findings go, over her condition of a year ago.

Of the remaining twenty-two patients ten were radically cured of their former chronic Bright's disease, and twelve were greatly improved. A number of the twelve, in addition, appear to be on the high road to a complete and perfect cure. One of the cured cases has already been reported among the deaths, the patient dying after an operation for ruptured tubal pregnancy, one year after my operation on her kidneys. Nine patients remain cured and in the enjoyment of perfect health, with urine free from albumin and casts, at periods varying from one year and nine months to ten years after operation. From the nine cured patients, as well as from ten of those improved, I have received reports, either written or personally presented, together with a specimen of urine for examination, during the month of January, 1903. Of the remaining two, one, a physician, informed me in November, 1902, that his urine was steadily improving, and writes me in January, 1903, that he continues doing well. The other patient, I am informed, is doing well, but I cannot locate him, as he is at present girdling the globe as a traveller.

A study of the phenomena accompanying and demonstrating the progress through improvement to cure after decapsulation of the kidneys for chronic Bright's disease, is exceedingly interesting. The first effect of the operation upon the urine is shown in an increased daily output of urea. I have known a daily excretion of six grams or less of urea, prior to operation, to be increased to a steady daily output of thirty to thirty-five grams within a month after operation. While the greatest relative gain in the urea output is generally manifested during the first two or three months after operation, the tendency later, although slower in progress and with transient disturbances, is steadily in the direction of a normal daily amount. Of the casts present before operation, those varieties like the waxy, fatty, epithelial, and pus casts, which denote advanced destruction of the secreting structure of the kidney, disappear first from the urine, such disappearance usually requiring from a month to over a year. The next step in the progress toward health is denoted by finding in the urine only granular and hyaline casts and albumin. The granular and hyaline casts gradually become fewer and fewer, and finally disappear entirely. The albumin, in gradually diminishing amounts, usually persists in the urine for a greater or less time after the permanent disappearance of all casts. Occasionally the patient passes through a brief period of typical cyclic albuminuria before the health of the kidneys is finally re-established.

Coincident and progressively with this improvement in the condition of the urine, the patient's general health improves in other respects. Strength returns to the muscles, and color to the face. The backaches, headaches, and digestive disturbances grow less and less and finally disappear. Unless the cardiac and vascular degenerations have progressed beyond a stage at which a restoration to health or comparative health is still possible, the dyspnœa and circulatory disorders accompanying chronic Bright's disease also improve in varying degree.

Such is a general outline of the progress of patients after operation in the favorable cases. Among my patients were eight physicians, upon each of whom I performed bilateral renal decapsulation for chronic Bright's disease. Three of them (Cases Nos. 35, 36, 39) are dead, while two others have only recently been operated upon. The remaining three have favored me with letters regarding their condition since operation, and have kindly given me permission to publish them. None of the three has as yet recovered health; they are merely booked as improved. Their experience, however, so well illustrates the progress of the other patients who are still improving after operation, without having as yet attained a cure, that I cannot refrain from citing them.

Case 20.—Male, physician, twenty-six years of age. Family history as regards liability to kidney affections very bad, five members of his immediate family having died of renal hemorrhage. Five attacks of grippe between 1896 and 1900. Severe hæmaturia for three days during last attack and some blood in the urine ever since. Chronic Bright's disease was first recognized in July, 1900. Decapsulation of both kidneys for bilateral chronic parenchymatous nephritis was performed on January 27, 1902. The last time I saw the patient was in November, 1902, when he was suffering from a severe cold accompanied by hæmaturia and an exacerbation of his chronic nephritis. Under date of January 24, 1903, the doctor writes: "Comparing my condition of health during the twelve months prior to my operation in January, 1902, with that of the twelve months succeeding, I feel greatly encouraged, and am confident that whereas there was a progressive though gradual decline in health before operation, there has been even a more marked, yet also a very gradual, improvement since. At times the course of improvement has been interrupted by acute outbreaks, which in every case were the result of colds; but the general tendency toward what has seemed complete recovery has not been altered. At the present writing I consider myself far from well, yet I must admit that to all appearances I am a stronger, healthier man than when I first discovered the existence of my nephritis two and a half years ago."

Case 22.—Male, physician, aged thirty-six years. Father died of chronic Bright's disease. Patient has had chronic Bright's disease for three years past. On March 26, 1902, I performed bilateral renal decapsulation for right and left chronic diffuse nephritis. Under date of January 19, 1903, the doctor writes: "Since my operation I have taken no drugs of any kind, have not restricted my diet in any way, and have attended to a general practice without missing a day. This is the first winter in three years that I have not suffered from cold hands and feet. In 1901 and 1902 my hands were so cold that my patients would complain of them when I found it necessary to make an examination of any kind. I am now entirely free from all head symptoms, whereas formerly I suffered intensely from headaches. The pain in the back peculiar to those suffering from Bright's disease has ceased entirely. Formerly I suffered with pain in the calves of the legs, but never feel it now. In 1901 and 1902 I suffered from palpitation of the heart which would

wake me at night; never have it now. My pulse formerly full and bounding, is now much improved. I have lost that feeling of lassitude and weakness, and can now work all day, where formerly I would get tired in a few hours. That peculiar powdery condition of the skin of the hands has almost entirely gone. I receive constant unsolicited evidence of my improved health from the remarks of my patients commenting on my improved appearance now as compared with formerly."

Case 37.—Male, physician, fifty-one years of age. An attack of diphtheria in 1876 was followed by general paralysis lasting five months. After that his health was never good. In 1885 his eyesight failed, and retinitis albuminurica and chronic Bright's disease were diagnosticated. A varying amount of œdema, uræmic headaches, backaches, and attacks of gout have been the symptoms for seventeen years past. In 1886 the doctor retired from professional work and sought recuperation for three and a half years in a mild climate in the middle West. Finding that the climate did him more good than anything else, the doctor resolved to spend his life in that locality, and established a sanitarium chiefly for the reception and treatment of cases of chronic Bright's disease. There he remained for twelve years, taking care of himself and his patients, until he heard of renal decapsulation for chronic Bright's disease, when he hastened to New York and asked me to operate upon his kidneys. The operation was performed on June 2, 1902, and disclosed bilateral chronic diffuse nephritis. Under date of January 19, 1903, the doctor writes: "I can only state that the operation did me a whole lot of good. I was operated upon June 2, 1902, and on July 12 I went to work again. I gradually gained strength and flesh, my color improved, and the uræmic headaches disappeared. By September the general dropsy had entirely disappeared; but for the past two months there has been some reaccumulation of fluid in the abdomen, and I am suffering from digestive disturbances. I sometimes fear that I have some liver complication. I am at work, however, and feel better than I have at any time for the past five years."

I may add that the urine of each of the three medical patients quoted has shown a steady tendency, in spite of occasional setbacks and interruptions, to return to a normal standard.

Of about the same tenor as the above are the reports from the other patients who are registered as improving. Of the twelve patients thus classed the urine of one is at present free from albumin and casts, one has reached the stage of cyclic albuminuria without casts, two have a trace of albumin without casts, while in eight, favorable changes in the condition of the urine exist, but are less marked. All the patients but one report improved general health as going with the improvement in the renal secretion. The one exceptional patient suffers much from headache and digestive disturbances, although the condition of the urine is steadily improving.

We come finally to the cures of chronic Bright's disease after renal decapsulation, which number nine survivors and one patient, Case No. 11, who died an accidental death after being cured of her former kidney affection. To be classed as a cure the following conditions must be fulfilled in a given case: The urine must remain free from albumin and casts, and the daily urea output be normal, or approximately so, for a period of at least six months following the verification of the disappearance of albumin and casts, and the patient must be free from the symptoms of chronic Bright's disease from which he or she formerly suffered. All of the nine cases listed in the table have fully met the above requirements. The patient who died an accidental death after being cured of chronic Bright's disease, and the patient who was cured of chronic Bright's disease, remained cured for four years, and is at present suffering from a relapse, are not included in the list.

Nine patients, therefore, remain cured at periods of time varying from one year and nine months to over ten years after operation, the duration of cure for the nine cases averaging a little over four and one-third years. Eight of the cured patients had chronic interstitial nephritis; one had chronic diffuse nephritis. It is true that these earlier cases, as a rule, represented milder types of chronic Bright's

TABLE OF AUTHOR'S CASES OF CHRONIC BRIGHT'S DISEASE CURED BY OPERATION.

Case No.	Known Existence of Chronic Bright's Disease Prior to Operation.	Date of Operation.	Variety of Chronic Bright's Disease	Time from Operation to final and permanent disappearance of albumin and casts from urine.	Date of Last examination of urine	Period of Observation from operation to last examination of urine.	Duration of Cure
1	1 year	20—XI–1892 Right kidney.	Chronic interstitial nephritis.	2 months.	4–II–1903	10 years and 2 months.	10 years.
4	?	11–I–1896 Both kidneys.	Chronic interstitial nephritis.	4 months.	18–I–1903	7 years.	6 years and 8 months.
6	?	10–I–1898 Both kidneys.	Chronic interstitial nephritis.	1 month.	21–I–1903	5 years.	4 years and 11 months.
7	2 months	14–I–1899 Both kidneys	Chronic interstitial nephritis.	5 months.	22–I–1903	4 years.	3 years and 7 months.
8	?	6–III–1899 Both kidneys.	Chronic interstitial nephritis.	4 months.	20–I–1903	3 years and 10 months.	3 years and 6 months.
12	?	5–XI–1899 Both kidneys.	Chronic interstitial nephritis	2 months.	4–II–1903	3 years and 3 months.	3 years and 1 month.
13	?	30–XI–1900 Right kidney. 19–IV–1901 Left kidney.	Chronic interstitial nephritis.	5 months.	23–I–1903	1 year and 9 months.	1 year and 4 months.
15	1 year and 6 months.	15–IV–1901 Both kidneys.	Chronic interstitial nephritis.	7 months.	4–II–1903	1 year and 9 months.	1 year and 2 months.
16	1 month.	6–V–1901 Both kidneys.	Chronic diffuse nephritis.	7 months.	20–I–1903	1 year and 9 months.	1 year and 2 months.

disease than those operated upon in 1902. Yet the progress being made by the latter toward health is essentially the same in character and kind, although corresponding to the longer period of existence of the disease, slower than that of the earlier cases. It must be recalled that the 1902 series were all inveterate cases of severe, complicated and far advanced chronic Bright's disease, a series the equal of which in total average severity may not, perhaps, be encountered in any year to come. Taking this fact into account, the showing made in the sum total of improvement presented by the surviving patients of 1902 must be considered as remarkably gratifying and encouraging. It gives rise to the hope that a number of them may figure in the list of cures of my next report.

There remain for brief mention eleven patients operated upon during the latter half of 1902. The death of one of these, Case No. 47, has already been detailed. Of the remaining ten all but one are, at the present writing, progressing satisfactorily. The time elapsed since operation is, however, too short to speak of final results.

The great majority of my patients returned to their usual vocations within two months after operation. Among those who thus resumed their places in life were quite a number who had either been bedridden or invalided to the extent of being disabled for work for months, and, in a few instances, for years prior to operation. As a rule the ordinary restrictions of diet usually imposed upon sufferers from chronic Bright's disease were cast off by my patients after operation, and but a minority of them received any further medical treatment. I have always, however, urged upon them the desirability of placing themselves under the constant professional care and supervision of their family physician, whose coöperation with the surgeon I am convinced is necessary to secure the best results.

The general practitioner, on the other hand, in the present state of our knowledge, owes it to himself and to his patient to accord practical recognition to two important facts. The first of these facts is that chronic Bright's disease, at least in its earlier stages, before irreparable and fatal damage has been inflicted upon the kidneys, the heart, the blood vessels and the nervous system, is curable or susceptible of amelioration by renal decapsulation. The second fact is that renal decapsulation in the *early* stages of chronic Bright's disease is, in competent hands, attended with little or no risk to life. The practical application of these facts is self-evident.

This paper is presented as a report of progress, and, taken in conjunction with the writer's previous publications on the same subject, is believed to fairly reflect the actual present status of our knowledge of the treatment of chronic Bright's disease by renal decapsulation. It was my original purpose to present in tabular form full details of each of the fifty-one cases in which I have operated upon kidneys the seat of chronic Bright's disease. Such a course, however, would have unduly lengthened a communication already too long, and would, in addition, have served no useful purpose, inasmuch as all deductions of practical value which can be legitimately drawn at the present time have been sufficiently set forth in the text. Possibly such a detailed tabulation may, for one reason or another, prove desirable in a future report dealing with a larger number of cases and longer periods of observation.

In conclusion permit me to present the following:

Summary of results of renal decapsulation for chronic Bright's disease in author's fifty-one cases, embracing forty-seven operations upon both kidneys and four operations on one kidney only:

Seven patients died within seventeen days after operation.

Seven patients died at periods after operation varying between two months and eight years, the average period of life after operation being one year and eight months.

Two patients do not show improvement satisfactory in every respect.

Twenty-two patients are in various stages of satisfactory improvement and progress toward health at periods varying between two months and fifteen months after operation. The urine of several of these is at present free from albumin and casts. They have not, however, passed the probationary period of six months of normal urine, before the expiration of which no patient is entitled to a place on the list of cures.

One patient, after a cure extending over a period of four years, again has chronic Bright's disease. One of her kidneys only was operated upon.

Nine patients were cured of chronic Bright's disease and remain cured at periods after operation varying from one year and nine months to ten years, the average duration of cure being over four years. For details see table.

Three patients disappeared from observation after leaving hospital, and no trace of them can be found.

LITERATURE.

The appended literature includes such articles on the subject of the surgical treatment of nephritis, both acute and chronic, as have come to my knowledge, and which have not already been cited in the literature references accompanying my previous publications. A number of contributions dealing merely with theoretical considerations, and of little or no practical aid in the solution of the problem of the surgical treatment of chronic Bright's disease, have been omitted from the list.

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SPECIFIC TREATMENT OF DIPHTHERIA.*

By GEORGE B. PHILHOWER, M.D.,
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That great Norwegian, Alfred Bernhard Nobel, the discoverer of dynamite, feeling that he had incurred a great debt to society by introducing a chemical that would prove to become dangerous and destructive to man, willed that the income from his estate should go as prizes to those "Who shall have contributed most to benefit mankind during the year immediately preceding. One portion or share to chemistry, one to physics, one to medicine, one to literature, and one to the person having done most to increase the fraternity of nations." Thus did this renowned scientist hope, in a degree, to offset his obligations to mankind by encouraging original research and investigation along lines that would produce something to add to the comfort and length of human life.

The committee having charge of the awarding of the Nobel prizes decreed on the tenth day of December, 1901, at the Caroline Medical Institute, in Stockholm, that to Professor Behring should go the signal honor of having won the prize in medicine, and also some forty-one thousand six hundred dollars in money, as a reward for his discovery of antidiphtheritic serum. While those of us who have employed this life-saving serum to some extent are gratified that upon Behring was conferred the enviable distinction of receiving one of the Nobel prizes, we also conclude from our results obtained by the use of his remedy that Nobel's debt to society would have been cancelled in full had his entire fortune gone to Behring.

Nothing in our therapeutics equals it as a curative agent against this once dread disease, diphtheria. One of the leading surgeons of your city, in a conversation with me a few weeks ago, said: "No operation in surgery compares with it in saving life or in alleviating suffering." It would seem to admit of no further argument that it easily ranks as the second greatest life-saving remedy of the nineteenth century.

To come before your Society, in the face of almost universally favorable reports in the treatment of diphtheria by the use of antitoxin, with a paper upon this subject is like "adding perfume to the violet," or "painting the lily," and should demand some excuse, therefore, from the writer.

In a neighboring town, the president of the health board, a physician, does not advocate the use of antitoxin in diphtheria, stating as his reason for this advanced opinion, that: "The high temperature should not be controlled, as it burns up the bacilli, and is of much help to the patient on his road to recovery. Another physician of my acquaintance sat beside his little son for three weeks, and constantly removed bits of membrane from his boy's throat that he might give to the little sufferer some relief to his obstructed breathing. When asked if he employed antitoxin replied: "I did not think antitoxin was indicated in my boy's case."

There come to my office, at frequent intervals, sample copies of a medical journal which has printed across the title-page in large letters this interesting announcement: "The largest circulation of any medical journal in the world." Judging from the reasonable cost with which it comes to the reader, from the large number of contributors, who write from every State in the country, and from the fact that the editor signs his name A.M., M.D., the conspicuous statement must be correct. A few months ago the editor of this very largely circulated journal wrote above his own signature: "That whatever of curative value antitoxin possessed was not due to the serum of an immunized horse, but to the antiseptic in which the serum is preserved." He closes his absurd article by stating that: "A solution of carbolic acid of the same strength would do just as well." On page 1322, September, 1902, of this same journal, I read these astonishing words: "Give it that dose of antitoxin you have in your chest, which is not less than six months old, and calmly sit down and wait for the deadly disease to get in its work. Remember that you are miles away from any place where fresh antitoxin can be secured, and there is no chance whatever of getting it. There is but one alternative. If you have pinned your whole faith to antitoxin, then you have nothing to do but give it and watch the little fellow die."

Bovaird and Northrup, in Sajou's *Annual*, say it can be kept one year in a fresh condition. The writer has found it pure and sweet after a period of eight months, and has then used the trial vial with excellent results. It is appalling to think of the immense amount of harm such writing in these far-reaching periodicals can do to the very men who, miles and miles away in the country, have in antitoxin a certain and specific weapon against that awful scourge diphtheria. The country physician who employs antitoxin skilfully and courageously in diphtheria will have a lower death-rate than can be obtained in the city, as the better sanitary conditions will help him very materially. Just as sure as yellow journalism in secular affairs gives rise to discontentment among a certain class of society, and excites it to riot and disorder, just so sure does cheap journalism in medicine keep some men from seeing the truth, and stands in the way of progress along scientific lines.

The writer feels it incumbent upon him to ask your Society to bear him out in pronouncing most emphatically against such frightfully misleading statements as come to us through these cheap medical journals. Have we a true specific in antitoxin, as we now employ it in diphtheria? Quain defines a specific as: "A substance having a specific and definite effect in the cure of disease, such as mercury in syphilis, or quinine in malaria." Drs. Bovaird and Northrup state that in only three years it had won for itself the right to be regarded as a specific. The present evidence is overwhelmingly in favor of its being a true specific in diphtheria, and it has now stood a most rigid test for eight years in both hospital and private practice.

It is not expedient that your patience should be taxed with many quotations to prove the foregoing statement, suffice it for me to refer you to an

*A paper read before the Practitioners' Club of the City of Newark, N. J.

exhaustive article in *Pediatrics*, July, 1902, by Adolph O. Pfingst, M.D., of Louisville, Ky., and from which I have culled the following interesting and instructive facts: Twelve of the largest cities in the world show an average mortality of 12.5 per cent. for a period of five years after the use of antitoxin, in six of these twelve cities a mortality of 33.48 per cent. obtained for five years previous to the introduction of Behring's serum; which means that more than twenty lives in every hundred were saved. J. C. Cook of Chicago reports one hundred cases with but one death. Many other private records show a death rate of only from 1 to 5 per cent.

From March, 1886, to November, 1895, a period of nearly ten years, eighty-six cases of diphtheria in my practice, treated with the most approved methods in vogue during those years, such as bichloride of mercury, tincture of the chloride of iron (recommended by Jacobi), sulphur, hydrogen-dioxide, calomel sublimations, etc., gave me the alarming number of twenty-seven dead children, a per cent. of 31. plus; in other words, every third child died. My results during those ten years were no worse than my neighboring physicians obtained; many of whom, in consultation with me, saw my patients and endorsed my care and treatment of them, but none could render any aid or assistance that would save more than two out of three of my patients. During the year 1888 some fifty cases were treated in our community with a mortality of 40 per cent.; thus I felt that my failures were not due to my early years and immature judgment alone, but that diphtheria was either the worst disease physicians were called upon to treat, or else they did not know how to treat it.

In taking a review of my cases before the introduction of antitoxin, and during the seven years since, it seems to me that, aside from whiskey and strychnine, as heart stimulants, iron for anæmia, and some relief in laryngeal cases from the burning of large powders of calomel on a stove-lid, nothing that I did appeared in any way to modify or control the ravages of the disease. In one family alone I spent an entire week, day and night, to be rewarded by having my three little patients die one after the other.

How eagerly, then, did I watch the results of those thoughtful, courageous men, who began to use antitoxin during its early history, and when it received the endorsement of a few men, whose opinions were greatly respected, I resolved to try it in my next case.

On November 17, 1895, I was called to visit Rudolph D., aged four years, who had been sick twenty-four hours with a high fever, sore throat, and persistent vomiting. His throat was filled with false membrane, which covered his tonsils and uvula, obstructed his breathing to such a marked degree that his efforts to fill his lungs could be heard from below stairs, his temperature was 103° F., pulse 120 per minute, and respiration 40 per minute, and distinctly croupy. This particular group of symptoms led to the diagnosis of tonsillar diphtheria, with probably some involvement of the larynx, or, at least, with a tendency to extend downward into the larynx, thus making the prognosis grave.

Obtaining the consent of his parents, 1,000 units of antitoxin (a dose which we now know was entirely too small) was injected into his thigh. The child being no better, but rather worse, in twelve hours, the same amount of serum was repeated, and no other treatment of a specific nature given. Whiskey and strychnine being the only other therapeutics employed, and those only on general principles. The second injection arrested the growth of the membrane inside of twelve hours. In twenty-four hours the edges loosened and began to curl up. In twenty-four hours more his throat was free from membrane, and he was declared to be clinically well, so far as danger of choking was concerned, although he was kept in bed for two weeks.

This lengthy detailed description of my first case is given because it was symbolic of my treatment, as based upon the course of clinical evidence, in all of my other cases, and shows characteristically what antitoxin will do in these desperate cases.

Just one week later, November 25, 1895, my second patient, Mrs. G., a delicate young woman, who had been sick two days with what appeared to be a mild attack of diphtheria, was injected with 1,000 units. Forty-eight hours after receiving the antitoxin, her throat was quite free from membrane, but she turned blue at her lips and finger-tips, and, in spite of large doses of whiskey and strychnine, she died on the fourth day of her disease. This sad result was disappointing to me, but not discouraging, as I could not reason that the antitoxin was in any way responsible for her cardiac paralysis.

There were no more deaths until my twenty-sixth case was reached: a little girl two years old, sick with diphtheria four days, and in coma when I first saw her. Six thousand units in all, given in 1,000 unit doses, every twelve hours, brought her back to consciousness, lowered her temperature to normal, when she took food with avidity, and spent her days playing with her toys. This baby died, however, twelve days after her first injection, and after having had a normal temperature for four days, with some chest trouble, which was diagnosed bronchopneumonia.

My third and last case in my series of one hundred was number eighty-six, and as far as possible to determine, antitoxin failed absolutely to control, or check in any way, the fatal course of her disease. Our patient was a well-developed and well-nourished little girl, aged eight years, whom I visited a few hours after she took to her bed with headache, fever, vomiting, and marked swelling of the glands at the angle of her jaw; she did not complain of sore throat, nor did her throat upon inspection show anything more than enlarged tonsils, which were somewhat reddened and covered with a great deal of stringy, ropy, offensive mucus; her breath was intensely offensive, somehow reminding me of diphtheria.

This peculiarly offensive breath is of marked diagnostic value, and antitoxin is frequently given in my practice because of this symptom alone, and when there is no visible membrane. Inasmuch as it seemed so likely to be diphtheria, my second visit was made six hours later, when a suspicious patch, as large as a ten-cent-piece, upon her right tonsil led me to give her 2,000 units of antitoxin. The patch grew, and another appeared upon her left tonsil, when 2,000 units more were given with no apparent benefit, for soon after croupy symptoms came on, when 2,000 units more were given, and Dr. Corwin of your city was requested to intubate her. With no very alarming laryngeal symptoms, the tube was skilfully inserted on the second afternoon of her illness, and we decided to give her 2,000 units more, making 8,000 units in all, after which there were no further untoward symptoms for twelve hours, when she became cyanotic, and breathed with great difficulty. Dr. Corwin hurried to us and removed the tube, hoping that a bit of membrane might be occluding it. That not proving to be the cause of her distressed breathing, she ceased to breathe a few hours after its reinsertion.

This patient was one of a group of ten, and the

type of disease that afflicted them was very severe, necessitating larger doses of antitoxin than I had ever used, before the disease was checked. To four of the children were given 8,000 units, in two doses of 4,000 units each, and then the membrane ceased to grow.

Dr. Taylor of Asbury Park treated two children of this same group, and found it necessary to give larger doses than usual. Loomis in his day taught that all epidemic diseases varied greatly in regard to their virulence. Sydenham, who had an extensive practice among children, went twenty-seven years without seeing a single death from scarlet fever, and then brought himself within the range of criticism by stating that physicians did not know how to treat scarlet fever. The twenty-eighth year nearly all of his scarlet-fever patients died. It behooves us, therefore, to be ever on the look-out for these severe epidemics of diphtheria, and control the disease with extremely large doses of antitoxin; for severe cases are just as surely controllable with large doses as are mild cases with small doses, if given early in the disease.

The best writers on the treatment of diphtheria by the use of antitoxin plead for much larger doses than we have been in the habit of giving. J. H. McCollom (*Providence Medical Journal*, July, 1902) says: "Since larger doses of antitoxin have been given, the death rate has been materially reduced, this reduction having occurred in the apparently moribund cases;" he further states: "No injurious effect has followed the use of the serum." Dr. McCollom's statements are based upon results obtained in the Boston City Hospital.

One writer from Boston advises as much as 30,000 to 40,000 units in bad cases, claiming that not a few children are saved by these colossal doses, who would die if less heroic measures were employed. In my one apparently uncontrollable case, I believe an initial dose of 4,000 or 6,000 units would have undoubtedly arrested the disease, but I had no clinical evidence of its being anything more than an ordinary case of diphtheritic poisoning.

If it were possible to estimate the amount of diphtheritic poison at work in every case by the clinical evidence, our mortality would be nil, as an equivalent dose of serum in the early stages would neutralize the infection. Let me illustrate the above statement: One grain of morphine gives rise to the same physical symptoms as two grains would cause, and to give only one grain of permanganate of potash would probably not save the patient if he had taken two grains of morphine, whereas if he had taken but one grain of morphine and two grains of permanganate were given, it would be substituting one poison for another. This statement will probably bring a nest of hornets about my head, as so many investigators claim that antitoxin is not a neutralizer of the toxins of diphtheria, but merely increase the resisting powers of the body against any further invasion of the toxins of the disease.

It is not meet and proper to inflict you at this time with the various theories as to the action of antitoxin upon the human system, but permit me to state, that for all practical purposes, it is much safer to employ and deal with antitoxin only in the nature of an antidotal chemical poison. The very name given to it by its discoverer means opposed to the toxins of diphtheria, hence if there be a large amount of diphtheritic toxæmia at work it will require correspondingly large doses of serum to neutralize it.

The action of antitoxin upon diphtheritic membrane, being specific and definite, we must obtain definite and specific results. The growth of the membrane must be arrested in the first twenty-four hours, its edges should be caused to loosen and turn up during the second twenty-four, and it must be caused to crumble and come away in the third twenty-four, else our dose is not large enough or strong enough.

The earlier it is given in all cases the better the results, but never refuse to give it in any case however late. The most marked effect that I witnessed was on the comatose child, which was injected on the fourth day of the disease and lived twelve days thereafter.

As to the method of giving: Tonsillar cases do well invariably with 2,000 units, 10 c.c. in quantity. Nasal cases require from 4,000 to 6,000 units, laryngeal cases should receive from 6,000 to 10,000 units. Diphtheria characterized by a great amount of glandular swelling should be given very large doses, from 4,000 to 6,000 units, for the swelling indicates an extensive poisoning. Pfingst speaks in the highest terms of large doses of antitoxin in laryngeal involvement. Dr. Samuel G. Dabney of Louisville, Ky., reports a case of a child in extremis cured by intubation, strychnine, and antitoxin.

It was both unique and interesting that my one hundredth case was a desperate laryngeal one of three days' run. The child was croupy, voiceless, wet, and blue when Dr. Corwin intubated him, and he was given 8,000 units of serum, 2,000 units every twelve hours, until he recovered; of course in his case strychnine supplemented the serum. We can but conclude from these moribund laryngeal cases, that recover since the use of antitoxin, that we have in it a true specific of the most marked value, for they did not get well under any other treatment.

It has been claimed by the skeptics that we have been having a mild type of diphtheria during these seven years, and the death rate would have been low under any form of treatment. My reply to that assertion is that for a period of ten years a mortality of 31 per cent. obtained without antitoxin, and during a run of seven years only 3 per cent. of my patients died under the antitoxin treatment. Can we by any possible process reason that the difference in the type of the disease during all of these years has made this marked reduction in mortality? In the year 1898 four cases treated in my town without antitoxin gave two deaths, thus going straight back to the old high mortality of 50 per cent.

Eighteen cases treated at the same time, two of which were in families in which the deaths occurred, all recovered under the use of antitoxin. These eighteen cases were treated by four different physicians.

Again we are met with the astonishing argument that we are not dealing with true diphtheria. What then is this disease whose grouped symptoms we usually pronounce diphtheria, which for ten years killed every third child in my practice, which kept me with my patients constantly until they either recovered or died? Cultures taken from about 80 per cent. of these one hundred cases showed the presence of the Klebs-Loefler bacilli. The results of the cultures (many of them) are on record at our State Laboratory at Princeton.

In conclusion let me state that since 1895 antitoxin has saved twenty-eight children for me, has given to me just about one year's more sleep than I could have enjoyed without its use; an item of no small moment to a fatigued physician. It has saved hundreds of dollars to my patients, my visits averaging six per patient, whereas before it required

an average of fourteen per patient. Many of our patients being poor, we should employ such means as will cure them quickly.

I feel so seriously about the non-employment of antitoxin in diphtheria, that, if possible, I should have laws passed making its use obligatory to every person treating diphtheria, and would prosecute every physician for malpractice who treats a fatal case without its use. I hold that any man who is so bigoted as not to employ faithfully and skilfully any remedy that saves from twenty to thirty patients per hundred, and which is absolutely free from any deleterious effect upon the human system, which has stood the most rigid trial for eight years, and which receives the endorsement of the most careful, competent men, is not treating his cases with ordinary skill, as is required by the laws of our State.

As to the kinds of serum to employ, my experience would lead me to recommend a 2,000 unit strength, to the 10 c.c. in quantity. It is best to accustom ourselves to one reliable manufacture and stick to it, as we will administer it more heroically and confidently.

THE PSYCHICAL ELEMENT IN HAY-FEVER.

By RAYMOND WALLACE, M.S., M.D.,
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Much has been written during the past few years upon the subject of hay-fever, and although very little new as to etiology has developed, the number of articles may be justified as a sincere attempt to fathom the etiology and to discover more specific methods of treatment. The present brief article, with its somewhat detailed observation of four cases from the standpoint of the psychical factor, may, perhaps, be pardoned on the same grounds.

It is now quite generally agreed that the etiology of this disease may be broadly summarized under three heads—a more or less disordered nervous system, an irritable nasal mucosa, and a stimulus. It is undoubtedly true that persons, naturally high-strung, excitable, irritable, neurasthenic, having nerves which are literally on the surface, are more liable to this affection than are the more phlegmatic types. Yet the second factor may be so prominent in this latter type that it, of itself, may give rise to paroxysms. The second and third factors have been so often discussed that they need not concern us here—except the inter-relationship of the three, acting as causative factors.

The element of periodicity in attacks first emphasized to me the presence of a potent psychical element in certain cases, which is a considerable factor in the precipitation of attacks. Periodicity cannot always be explained on physical grounds. For instance, it is a recognized fact that while a victim of hay-fever may live perfectly immune up to a certain date—with scarcely a premonitory symptom, and then, knowing from past experience that at just noon of the 15th of August the last year's attack began, within an hour's time the vasomotor paralysis may begin, and in less than three hours a first-class attack be thoroughly initiated.

Then again, a patient, a neurotic young woman, age twenty-five, seldom has more than three attacks a day, and during the interval she is comparatively free from distressing symptoms. Upon arising from bed in the morning she always anticipates, from past experience, an attack, and it always comes, unless, occasionally, by pressing the nostrils together forcibly, or by making firm pressure upon the upper lip, she may abort it. Again, at the lunch hour, an attack is always expected, and the expectation is generally fulfilled. Lastly, she may be almost entirely without symptoms, and, upon entering her room for the night, sneezing would begin, and the usual last periodic attack of the day would be in full force.

Again, a young man, age thirty, has had hay-fever for four years. He is predisposed by a neurotic constitution, a hypertrophic rhinitis, a granular conjunctivitis, and some bronchial irritation. Yet the element of periodicity is here very strong. With medication, he controls the attacks, so that he has only four or five during the day. But should he be in conversation with a person, upon whom, for instance, he desired to make a favorable impression—the thought of his hay-fever would initiate irritation, and an attack would be almost immediately precipitated. Again, if he be in society—his mind dwelling upon the possibility of an attack and its embarrassment—he will frequently have two or three during an evening and be compelled to leave the room. While on the other hand, if this same man work at his desk in the office for an entire evening—with his mind upon other things—he seldom is troubled by a single attack.

In another case, a woman, aged sixty-one, of very neurotic temperament, has had hay-fever for eleven years—and for several weeks preceding the month of August—her whole system seems to be struggling with the disease. She has attacks of morning nausea and vomiting, anorexia, a feeling of considerable prostration, a fulness in the head, and at times a dull headache. Her bowels become irregular—the nasal mucous membrane becomes gradually engorged—the eyes suffused—a sense of oppression is felt in the chest, and more or less dyspnœa follows. All these symptoms become more pronounced until the well-defined disease with continually repeated attacks is upon her.

This case is mentioned as an illustration of an almost complete absence of the psychical element. It is evident, then, that this factor does not possess the same relative importance in every case—but in certain cases I believe it to be an important, well-defined, and independent factor.

The question of priority in such cases may be argued,—whether the thought action comes first and is followed by the reflex vasomotor spasm, or whether the external stimulus acts, and instantaneously the sensation is conveyed to the psychical areas and the resulting impression is that the attack is of psychical origin. There is reason in this—but from the pathology of the disease—which is a disturbed equilibrium of the entire nervous mechanism,—a vasomotor neurosis, it is reasonable to suppose that the irritation, which may be either direct or reflex—may be a psychical irritation, coming to these areas through the various sensory channels—as well as mechanical irritation by dust, pollen, odors, etc. We know that direct sunlight entering the eyes often precipitates an attack. Here the reflex is through the optic tract. Why, then, may not impulses or irritations originating in the psychical areas reflexly excite the vasomotor spasm or paresis, and thus precipitate an attack.

The psychical element is a factor of growing importance in many disease processes, but seldom does it, as an excitant of reflex disturbances, play such a well-defined and recognizable part as in this particular malady. Further observations and experiments along this line will surely yield some most interesting and valuable results.

ON THE BIOLOGICAL RELATIONSHIP OF PROTEIDS AND ON PROTEID ASSIMILATION.

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The works of Tschistowich, Bordet, Uhlenhuth, Wassersman, and especially the work of Myers, establish that when a proteid of foreign origin is injected into an animal, it acts in a way like a toxic substance. Thus, if a rabbit receives subcutaneously, intravenously, or intraperitoneally, injections of the proteids of the egg of fowl, it develops protective substances against them. The protective substance is called precipitin. The presence of the latter is demonstrated by the power of the blood serum of the treated animal to form precipitins, if allowed to remain in contact with a solution of the proteid used for the injections. Thus, the serum of a rabbit injected with casein is capable of forming precipitins with a solution of casein.

The first observers of this phenomenon considered the precipitins as having very specific properties, and a serum capable of precipitating a casein, as having no power to form precipitins with a solution of any other proteid. However, my own investigation into this subject lead me to the belief that the specificity of the precipitins is not so absolute. A short communication on this subject appeared last year in the *Medical News*, and the full work is to appear in the *Journal of Experimental Medicine*.

My observation was, that if the serum of an animal acquired the power to form precipitins with one proteid of an animal of a different species, it had the power to form precipitins also with other proteids of the same animal or of animals closely related to it.

Later Levoisser, Lemoine, and Camus came to the same view on the specificity of precipitins. The conclusion to be drawn from this observation is the following: Proteids have not only a chemical individuality, but also a biological one. Thus, chemically, all serum albumins are identical, biologically they are different. From the latter standpoint they may be regarded as isomers. Chemically different albumin, globulin, casein, etc., derived from the same animal may be regarded as having at least one part common to all of them, or, perhaps, may be regarded as derivatives of one substance, which is the nucleus of all the proteid-material of that animal.

Another observation I have made, and which corroborates the latter hypothesis, is that a precipitin active for a given proteid is capable of forming precipitins with the primary digestive products of the latter and *vice versa*.

This property of an organism to form precipitins against proteids that reach in one way or another its general circulation could be applied, it seemed to me, to the study of one of the most obscure problems of animal physiology, namely, to the question of proteid assimilation.

Where are the foreign proteids that are introduced into the digestive tract assimilated into the body proteids? Is this done within the digestive organs (liver included) or in other organs? Why should the proteids of the food be digested at all, and not simply absorbed, and thus utilized by the organism: or, in other words, why should they be decomposed before they are assimilated?

The biological distinction of proteids of different origin easily answers the latter question. The molecules of the foreign proteids have to be reconstructed. The question of the place of this reconstruction could be solved only experimentally. Several years ago I thought of solving the problem by feeding animals on iodoproteid, and then of searching for it in the organs. The work, however, was interrupted. Lately, in the laboratory of Prof. Kossel, Szumowski approached the problem in a similar manner; he fed animals on a vegetable proteid, zein, and then endeavored to find the substance in the organs. This, however, is a very rough method of investigation, and it seemed to me that the problem could be solved in the following manner: If foreign proteids introduced into the digestive tract enter the general circulation as such then the blood serum of an animal should form a precipitin against the foreign proteids which are used as food by the animal. If they enter the circulation even as primary digestive products of the proteids, as proteoses or peptons, even then a precipitin against those proteids should be formed. Some observations in that direction were made by Uhlenhuth and Hamburger. A thorough investigation into this subject was undertaken some time ago by Dr. L. B. Stookey and myself. Our work is not yet completed, and will be published in full later. We feel, however, already justified in the conclusion that the foreign proteids do not enter as such the general circulation. It is not improbable, however, that in pathological conditions they pass the digestive organs unchanged.

This may happen in conditions like total atrophy of the glandular tissue of the gastrointestinal wall, or in grave disorders in the function of the liver. Observations in this direction are wanting.

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The Loss of Mental Vision.—A. Giannelli and G. Toscani by this term mean the power to form images in the mind of persons and objects previously seen, but for the moment absent. They report four cases in illustration. The first a woman of forty-one years, of neurotic heredity, and subject to epilepsy, when in the hospital was unable to recall her husband's appearance; this troubled her greatly. She was able to recognize his picture, but, when it was taken away, she could not recall even such a detail as whether or not he had a beard. Her case went on to mania. The second case was a man of great cultivation, who, after business troubles, suddenly found that everything about him seemed new and strange. Nothing was familiar, and, in addition, he was totally unable to recall the appearance of his wife and children. He spoke French correctly, but was no longer able to think in that language, and found the French words only by translating from the German or the Spanish, which were the languages of his childhood. He complained that he had lost all his enthusiasm, and that his character was becoming cold and indifferent. The third case was a man of sixty-eight, a diabetic, who was in a condition of melancholia, and who completely lost the power of reproducing in his mind the appearance of the objects most familiar to him. The fourth case was a man of forty, affected in the same way. He had suffered from overwork.—*Il Policlinico*, February, 1903.

Diagnosis and Treatment of Gallstones.—W. E. B. Davis says that the experience of the Drs. Mayo of Rochester, Minn., who have operated on a large number of cases with obscure symptoms referred to the stomach, in which stones were found in the gall-bladder or a cholecystitis was present, would indicate that a very much larger percentage than is usually supposed gives rise to symptoms, yet they are not those heretofore attributed to gallstone disease. Hence more frequent operations for vague symptoms referred to the stomach should characterize the practice of surgeons in the future. The author gives the differential diagnosis of gallstones from a number of other diseases. In cases in which the gall-bladder is very much contracted and cannot be found, and the liver so enlarged and adhesions so extensive with cholemia, that it is not advisable to search for the gall-bladder and ducts, hepatotomy should be done for the relief of this condition. The author has devised a method of doing a bloodless hepatotomy by means of lead bars which prevent the ligatures from cutting the liver tissue. This does away with all bleeding during the operation, and should it become necessary to leave the bars on, they may be removed in from forty-eight to seventy-two hours, by drawing on them with silk ligatures, the small catgut having previously been absorbed. This method is applicable in controlling bleeding in all the solid viscera as well as the lungs.—*The Mobile Medical and Surgical Journal.*

Thermotaxis of the White Blood-corpuscles.—M. A. Mendelson concludes: (1) The white blood-corpuscles possess a thermotactic power, in consequence of which they strive, within certain limits, to approach the regions of higher temperature, *i.e.* they are positively thermotactic. (2) The positive thermotaxic appears in the white blood-corpuscles, though in a very feeble degree, already at a temperature of 20°–25° C.; it becomes stronger at 25°–35° and reaches its highest point between 36°–39°; the thermotactic optimum of the white blood-corpuscles is between 39° and 39.5° C. (3) At a temperature above 40° C. no thermotactic movements could be discovered in the white blood-corpuscles; occasionally only some feeble movements in the direction of the lower temperatures were observable, but these movements were so feeble and occurred within such insignificant oscillations of temperature that it would hardly be safe to conclude from these single facts as to the existence of a negative thermotactic power in the white blood-corpuscles. At any rate, the existence alone of the positive thermotaxis in the white blood-corpuscles shows the great importance of this property of the white blood-corpuscles in divers pathological processes where the most prominent feature is the local rise of temperature. It is very probable that the white blood-corpuscles rush to the seat of inflammation for their phagocytic purposes as a consequence of both the chemotactic and thermotactic reaction.—*Russkii Vrotch.*

A Case of Tumor of the Pituitary Body.—Thomas Philip Cowen reports the case of a man of twenty-eight years who had suffered much from hemicrania affecting the right side of the head particularly. In 1895 he presented no signs of bodily ill health, and his viscera were apparently normal. His vision was good. Early in the following year he began to complain of failing vision, and it was found that he had slight bi-temporal hemianopia. In 1898 he became very melancholy because of failing vision. He had at this time a slight but persistent headache, which at times became very severe, situated always in the forehead. In 1899 he was quite blind. The pupils were wide and inactive to all stimuli. There was slight but well-marked atrophy of both optic disks. In November, 1901, he began to get dull and stuporous, and suffered from severe vomiting; gradually sank into coma and died two days later. At the autopsy a large tumor of the pituitary body was found. It was the size of a hen's egg, had not invaded the surrounding structures, but had exercised considerable pressure both on the adjacent brain and nerves, and had practically incorporated in its capsule the surrounding nerves. The optic chiasma and tracts were much flattened, the optic nerves being much flattened and softened. The third and fourth nerves were softened and flattened, and could be traced over the tumor only with difficulty on account of their adhesion to its capsule. The tumor was a fibrosarcoma.—*The Medical Chronicle.*

The Treatment of Spina Bifida.—William V. Laws says that he has had no good results from the injection treatment of this affection, and considers the open operation the best form of treatment, and the most in accordance with the progress that has been made in the treatment of other herniæ. He adopts the technique first described by Nicholl of Glasgow, which he gives in detail. Two cases are reported. In one the operation did not avert a fatal result, but in the second, a child seven months old, the results were in every way satisfactory. The tumor was the size of the child's head, and the sac had become so attenuated that it looked as if it might rupture at any moment. An elliptical incision was made around the base of the tumor, and after dissecting up the integument a small trocar was introduced and the fluid slowly withdrawn. On opening the sac one nerve was found to be closely adherent to its posterior surface, which was carefully dissected off and placed over the opening in the spinal canal, it not being possible to replace it in the spinal canal entirely. The sac was transfixed and ligated low down with chromicized catgut and then covered in with fascia, muscle, and skin flaps, three rows of catgut sutures being used. Collodium dressing was applied, and the operative field was walled off from the anal region by attaching a piece of rubber dam with adhesive plaster just below the lower end of the wound.—*The Pennsylvania Medical Journal.*

Ring Bodies in Anæmic Blood.—Richard C. Cabot calls attention to certain bodies found in anæmic blood, consisting of a set of granulations arranged distinctly in a circle, with no others inside or outside the circle. With Wright's modification of Leishmann's stain this ring is stained not blue, but red. At one point in the ring is often seen a large dot reminding us a little of the nucleus of a malarial parasite. There are several groups and kinds of rings. The rings are not parasites of any kind; their occurrence in disease as diverse as lead poisoning, pernicious anæmia and leukæmia would seem to settle that point. That they have some connection with anæmia is equally clear, since in every case in which they have been found a marked anæmia has been present. That they do not represent merely accidental configurations of the ordinary granular strippling is shown by the fact that they are sometimes continuous and not resolvable into discrete granules, and because they sometimes occur in cells quite free from strippling. The author thinks that they may represent nuclear remains; that is, portions of the nucleus especially resistant to the action of whatever forces it is that destroy the nucleus and ultimately the cell itself. He does not know whether they have any practical significance, but describes them because it seems the safest rule in scientific work to describe everything new that we come across, whether we see any significance in it or not.—*The Journal of Medical Research.*

The Heart and Life Insurance.—J. C. Sullivan concludes that we may class as good risks all those whose pulse is regular and not above 84. One whose pulse is regular and not below 60. One with valvular defects with compensating hypertrophy. All those with valvular defects which have existed two years, when the lungs and liver are healthy and the applicant is not addicted to the tobacco habit, and avoids alcohol in any form.—*The Illinois Medical Journal.*

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KOCH ON TYPHOID FEVER.

PROFESSOR KOCH, on November 28, 1902, delivered an address on typhoid fever, at the Kaiser Wilhelm's Academy, a summary of which was given in the British *Medical Journal*, February 28.

The belief has long been held that the typhoid bacillus retains its vitality for a considerable period outside the human host. Recently, however, some investigators have stated that such is not the case, and that it is only under exceptional cirumstances the germ of typhoid lives separate from the body of man. Dr. Sidney Martin, F.R.S., summarizes the results of his investigations with regard to soil and typhoid fever as follows: (1) In certain virgin soils the typhoid bacillus neither grows nor lives; (2) after cultivation these soils become capable, "when sterilized," of maintaining the typhoid bacillus for a limited time; (3) cultivated soils—that is to say, soils containing organic matter—"when sterilized," support the bacillus for a long period and the bacilli spread through the soil; (4) "unsterilized" cultivated soil—or, in plain language, ordinary garden soil—is inimical to the bacilli; the microorganism cannot be obtained from such soil after twelve days or so.

Koch admits that he once thought that the typhoid bacillus was capable of a saprophytic life, retaining its vitality for a long time in water, and when it reaches the soil, lodging and multiplying there for years, while keeping the power, if disturbed, of starting afresh a parasitic career in human hosts. The German scientist now says that he has been compelled to abandon these views, and is of the opinion that the period of vitality of the organisms is very limited in water. As to their duration of life in the soil, he thinks that, under the favoring conditions of a moist soil and a free admixture of excremented matter, typhoid bacilli may retain their vitality for a week or two, a month, or even a whole winter, but not for much longer periods. Professor Koch concludes that the typhoid bacillus, like the cholera vibrio, in the soil, must be regarded as an obligatory parasite and dealt with accordingly.

With regard to the diagnosis of typhoid fever, Professor Koch holds the Widal reaction to be an inadequate test. He does not favor the plan of bacteriological culture, following the principle of using a medium which delays the growth of the typhoid organisms, until after the colonies of bacillus coli communis—which it is most important to separate—have attained a vigorous growth. He, after careful research, has become convinced that the method recently initiated by Drigalski and Conrad is the most effective, because, instead of retarding the development of typhoid colonies, these bacteriologists have made it their object to accelerate their growth, and have devised a culture medium which has a restraining effect upon the larger number of intestinal bacteria, other than those belonging to the coli group. Other organisms which may have succeeded in growing can be readily excluded by obvious differences in the appearance of their colonies, and it then remains to distinguish between the typhoid and coli organisms. Finally the presence of typhoid colonies is confirmed, and their possible confusion with other intestinal bacilli excluded, by the serum agglutination test. The writer asserts that by this method an absolutely reliable diagnosis can be made in twenty-four hours and the presence of typhoid organisms in patients recognized as early as the second day of the disease.

Professor Koch then describes at some length the successful practical application of these methods in a small epidemic of typhoid fever which occurred at Trier, Germany, and further states that all the cases witnessed there proceeded from direct infection from person to person, and were not in any way due to water pollution, although a brook was in close proximity to the cottages in which the disease was present.

Professor Koch seems inclined to somewhat depreciate the importance of cleanliness, pure water, and good sanitation as means of checking the spread of typhoid fever. He rightly lays especial emphasis upon the value of rapid diagnosis, and the necessity of destroying the infective material as soon as the disease is found to be typhoid fever. The fact has been proved again and again, that if typhoid excreta be not disinfected, that the disease will spread. Disinfection of the excreta is then the first and most essential step to be taken, after the other quite as obviously important point, that of correct and rapid diagnosis, has been decided.

The really valuable feature of Professor Koch's paper is the description of a mode of making a rapid diagnosis.

If the method of Drigalski and Conrad is as effective as Professor Koch declares it to be, there can be no doubt that a great addition has been made to the weapons of offence and defence in fighting typhoid fever. This has as yet to be proved by further and more extensive experiments. In the meantime it would be a distressing event if the promulgation of Professor Koch's views were to have the effect of rendering municipalities and individuals careless concerning water supplies and sanitation.

Pay every attention to the complete disinfection of fæces and urine, but at the same time the water supply and sanitation must not be neglected.

The duty of the physician at the present time, is to attack typhoid fever at its primary source, and of the sanitarian to prevent its spread by the strictest supervision of those agencies outside the human host which have been clearly demonstrated to be prominent factors in disseminating the disease.

THE PROGRESS OF MODERN MEDICINE.

The Edinburgh Review has an article on the advance made in medicine and surgery during the past century, the facts of which have been gathered from the "Life of Pasteur," "Memoirs of Sir Robert Christison," "Memoirs of Sir James Paget," "Life of Sir Charles Bell," "Life of Thomas Wakley," and other books. The writer of the article, referring to the most distinctive feature of present day medicine, says: "The note of modern medicine is precision. Everywhere, and by a variety of means, the physician seeks for precise knowledge. He is no longer content to be guided to a diagnosis by facial expression, and by his own unaided eyes and fingers. He looks, with the aid of modern instruments, into the eye, the larynx, and other organs; he measures the heart and the size of its cavities, listens to the sound of the chest, observes the reflexes, tests the nutritional condition of nerves and muscles, and records the temperature. With the help of a modern microscope he studies the blood. He asks, by all these new powers of observation, for a precise diagnosis, and having as he thinks found it, he demands from the pharmacologist or organic chemist, whom he can trust, to do precisely that to the organism which he wants done." The foregoing is an accurate description of the methods of the modern physician. He is able by means of instruments unthought of by his forefathers to make a diagnosis both quickly and surely.

Proceeding with his subject the author says: "Turning from the political and educational side of the question to the scientific, we see that about the middle of the century great advances were made in the evolution of modern medicine. Anæsthetics were discovered, and Virchow's 'Cellular Pathology' was published. Immediately resulting from the discovery of anæsthetics was the remarkable advance in abdominal surgery, beginning as it did with the revival of ovariotomy in the hands of Charles Clay, Spencer Wells, Baker Brown, and Thomas Keith. Pioneers in this direction had not been wanting in the pre-anæsthetic days. One of the most important of these, Dr. Ephraim McDowell, was an American."

It is pointed out, however, that the great glory of nineteenth century medicine was the revelation given to us by Pasteur and Lister as to the origin of many diseases, through the admission of germs, an advance which has revolutionized theory and practice in surgery and midwifery, and in many departments of medicine. The study of microorganisms developed almost as quickly as the rise of antiseptic surgery. Through the investigations of French and German biologists, in about the year 1880, it was found possible to separate the various bacteria, and the specific microorganism of tuberculosis, glanders, anthrax, tetanus, diphtheria, cholera, malaria, plague and influenza has been discovered, and its life history traced. The principle of toxins has been investigated, and these poisons have been isolated and studied. It has been also demonstrated, by means of experiments on animals, that antidotes to poisons in the system could be injected subcutaneously, and would exert a counteracting effect. To this discovery is due the antitoxic treatment of diphtheria. The writer, commenting upon the wonderful success of thus treating diphtheria, says: "Every step in such a research as this had to be tested over and over again upon humble animals before the results could be finally accepted. Therefore, every child saved by the antitoxic treatment of diphtheria owes its life to the scientific use of vivisection."

The article, which is a clear and comprehensive account of the forward movement of scientific and practical medicine during the past hundred years, but which is too long for more than a brief résumé in these pages, concludes with a eulogy of the schools of research in this country. The author says: "In the progress of medicine during the last twenty-five years the influence of the best universities in the United States, and in a smaller degree of those in Canada, has been a factor of considerable importance. The standard of work at, for instance, the Johns Hopkins University of Baltimore has conspicuously succeeded in influencing the best European workers on pathology, clinical medicine and surgery. The reason why certain universities in the United States have made their work felt so much more powerfully than any similar institution on this side of the Atlantic cannot be stated in a few words. It is a complex problem, made up of many factors. Among them, however, it is safe to say that the magnificent liberality shown by rich men and women in endowing some of the best universities in the States and Canada occupies an important place. Original research on any large scale is impossible in the absence of big endowments. The patient study of how to apply the results of research to clinical medicine and surgery is almost equally impossible without endowments. The best intellects of the age are wanted for progress in both these directions, and they cannot be had for the work if they are forced to allow themselves to be absorbed in the duty of earning a living on a lower intellectual plane. If England is to keep up with the United States in research and its applications to pathology and medicine large endowments must be forthcoming for Oxford and Cambridge and for the University of London. Failing them we shall have to be content with admiring the work done in the best American universities, and with taking a second place ourselves."

Such a thorough-going appreciation of the work of American medical scientists is seldom met with in British journals, where the habit is rather to give but grudging praise to the results of researches here. There is undoubtedly a bright future before the prominent American schools, and the day may come when in place of students going to Europe to sit at the feet of European medical Gamaliels, those in search of knowledge will flock from the other side to drink in scientific medical lore from the teachers in the United States.

THE MEDICINAL VALUE OF ALCOHOL.

THERE is at present practical agreement in the view that alcohol is not a necessary constituent of the ordinary dietary for a person in health, while on the other hand its indiscriminate, and particularly its excessive, use is a source of danger, quite apart from mere economic considerations. The discussion, however, as to the therapeutic utility of alcohol has been warm and protracted, and here considerable

diversity of opinion has been exhibited. The fact that alcohol when taken in small amounts is almost wholly consumed within the body indicates that it must have certain caloric value, but differences of opinion exist as to its physiologic effects. Some reflections upon this aspect of the subject have recently been recorded by the distinguished pharmacologist of Bonn, Prof. C. Binz (*Berliner klinische Wochenschrift*, January 19 and 26, 1903), who has shown that as a result of the administration of small amounts of alcohol both to lower animals and to man the respiratory activity is increased, as indicated by the amount of air that enters and makes its exit from the lungs within a unit of time. This increase occurs equally when the subject is drowsy and even asleep, and it is the more marked in the presence of hunger and of fatigue. The stimulating effect is the greater by reason of the presence of odorous substances. That the results noted are not due to reflex influences from irritation of the stomach was demonstrated experimentally. Observations of the blood-pressure showed also increase in correspondence with that in respiratory activity. It has further been shown that alcohol increases the secretion of gastric juice, in greatest degree when given by the mouth, but also when injected into the rectum. For the foregoing reasons it is believed that alcohol is a useful remedy in the presence of dangerous collapse, whether due to loss of blood, to internal disease or to wound-infection, whenever the breathing and the circulation are enfeebled. With reference to the dietetic value of alcohol, metabolism experiments by numerous recent investigators have shown that alcohol in small amounts and well diluted is capable of lessening nitrogenous disintegration and of taking the place of a corresponding amount of carbohydrates or of fat in the food.

From all that has been said upon this subject it would appear that while alcohol is not entirely devoid of dietetic and therapeutic value, this has been unduly exaggerated, and that, given under the proper conditions and in proper amount, alcohol is capable of stimulating respiration, circulation, and digestion, and to a certain degree also of subserving the purposes of a food and of supplying a certain amount of heat. This, further, is the position that it seems the pendulum must reach after its swing to either extreme.

THE INTOXICATION PSYCHOSIS DUE TO IODOFORM.

In the *Deutsche Medizinal-Zeitung* for February 2 and 5, 1903, Dr. Hans Schwerin discusses the above subject. After giving the history of iodoform in its chemical and pharmacological relations, the author discusses its employment with special reference to its use by internal administration and by injection into the bladder for the purpose of rendering purulent, decomposing urine aseptic. The patient, a man aged sixty-five, with slight arteriosclerosis and a tendency to melancholic ideas, somewhat nervous, but previously mentally sound, four weeks after a successful Bottini operation, was suddenly seized with mental confusion of high grade, strong excitement, hallucinations, and ideas of persecution, the first symptoms appeared after the injection of iodoform into the bladder for eight days, the amount being in all *ad maximum* 12 gms. Discussed in the light of Picque's post-operative pyschoses, this can hardly be classed as such, inasmuch as it came on after so long an interval. Senile dementia is excluded by the recovery. The senile form of acute hallucinatory confusion characterized by sudden onset, predominance of anxious change of disposition, striking weakness of effect in comparison with the delusions, smaller motor excitement, and great intellectual and bodily exhaustibility, can proceed to cure. As, however, the cerebral phenomena (according to Furstner, loss of consciousness, transitory aphasic symptoms, and other marks of severe cerebral circulatory disturbance), frequent in that form, were lacking, and as, moreover, this form is rare, it seems unjustifiable to include the case in this category. And by the agreement of this case with those heretofore reported as iodoform intoxications, we are warranted in placing it there. As described by Hadley and by Obersteiner, this intoxication has the marks characteristic of a recurring, often restless and anxious confusion, with, in light cases, a change of character, an inclination to weeping, and many times pronounced melancholy. In the higher grades there is mistaking of the surroundings, with mostly an anxious unrest; delirium of apparently terrifying content causes the patient to spring up; he wishes to flee, to get out of the window, to jump into water, and is often aggressive and violent. Such conditions appear suddenly and especially at night, and many times quiet days and restless nights alternate. After the attacks, which last some hours or days, the patients come to themselves often suddenly as though out of a dream, or gradually and, as a rule, with amnesia for the attack. Krafft-Ebing and Lewins describe the psychosis similarly. Schwerin adds that the pulse is constantly and considerably accelerated. Another consideration which clinched the diagnosis was the fact that the psychosis ceased abruptly, coincident with the disappearance of the iodin from the urine. The author emphasizes the fact that, whereas usually iodin appears in the urine as iodides, here it was found exclusively in organic combination; that is, it first responded to tests after evaporation to dryness and incineration, and he cites several cases reported by urinalysts in which iodin was found only under these conditions. While still on the twenty-first day confusion existed, and iodin, of course in diminished amount, was found in the urine, on the twenty-sixth day the patient was perfectly normal mentally and no iodin could be detected. The author refers to the discussion in the literature as to whether the toxic action of iodoform is the equivalent of that of iodin, and cites especially Harnack's observation in 1882, that iodoform psychoses occur only when the iodin is excreted in organic combination, or at least in a form which is demonstrable only after incineration of the evaporated urine. Whether this is an organic combination or, as Quaedvlig and Zeehuisen believe, inorganic compounds of iodin intermediate between iodides and iodates, matters not so much. The author then discusses the amount probably required to intoxicate. Given that during eight days the patient had received *ad maximum* 8 grams per day, the author calculates that at least one-fourth to one-third must have been expelled by urination, but

that owing to its high specific gravity much probably sank into the deepest part of the bladder, in which 4-29 c.cm. of residual were found. In the early days the surgeons used from 60 to 150 grams on one bandage but, fatal cases accumulating, König, as the result of experimental researches, placed 10 gms. as the limit of safety, as some persons show unusual sensitiveness to the drug. The author then gives a table of the amounts used by various surgeons by injection into the bladder, and concludes that as the amount used in his case was not excessive, other causes must be invoked. The injections were not sterilized, and Stubenrauch has shown that decomposition of the iodoform favors intoxication. The principal factor was, however, probably the local conditions, for Behring has demonstrated that blood through its oxygen, and pus through the contained microorganisms, are able, at body temperatures, to form in a short time from iodoform a number of loose iodin combinations. Then, too, the local conditions favored resorption for the three Bottini wounds, 4, 3.6, and 2.2 cm. long, were granulating, and Holger Mygind has shown, experimentally, that in this stage wounds absorb iodoform more readily than when fresh.

Discussion on Malaria and Yellow Fever at the Egyptian Medical Congress.

One of the most valuable and interesting discussions at the Egyptian Medical Congress was that on malaria and yellow fever, of which the *Lancet*, February 28, gives a summary. Major Ronald Ross, who was unable to be present himself, sent a paper. In the course of his remarks he declared his belief that the most important question now to decide is as to whether the gnats which do not belong to the genus Anopheles are or are not concerned in the propagation of malaria, and why certain individuals of one species of gnat are more dangerous than others. For instance, the researches of Stephens and Christophers demonstrate that the Anopheles Rossii may be almost exculpated as an agent of malaria. His own personal experience of three years' constant attention to the subject, in countries so different as water-logged Assam and Lagos on the one hand and arid Ismailia on the other, has led him to believe that the best personal prophylaxis is the ordinary mosquito-net during sleep, and to this he adds the prophylactic administration of quinine when the danger is especially great. As mosquitos seldom bite in the open air it seems an unnecessary policy to avoid them there, but he praises very highly the use of the punkah or the electric fan, together with the wholesale removal of breeding-places of all kinds of mosquitos.

Dr. Montaldo (Spanish Navy) read a paper based on his experience of malaria in the island of Fernando Po. He said that he was not at all converted to the mosquito theory, but believed chiefly in general hygiene and in the prophylactic use of valerianate or hydrochlorate of quinine, which he recommended in doses of from four to eight grains taken fasting before bedtime. Professor Mariani (Genoa) in a long speech praised the work of the Italians in elucidating the malaria problem, and complained that Professor Koch and others had not given them sufficient acknowledgement. Professor G. Gaglio recommended very highly the hypodermic injection of quinine, which he gives with urethane in the proportion of two of hydrochlorate of quinine to one of the latter. Major Gorgas of the United States Army Medical Corps contributed a paper on sanitation and yellow fever in Cuba, a matter which has been fully dealt with in the Medical Record. With regard to the ability to destroy mosquito larvæ on a large scale, Major Gorgas said that in January, 1901, just before the mosquito brigades were organized, an inspection of the whole city showed that mosquito larvæ existed in 26,000 different places in the city. A year later a similar inspection showed less than 300 deposits of larvæ in the same area.

In the same edition of the *Lancet* as the foregoing report appeared, is a description by Major Ross of what he deems the most effective mode of wiping out malaria. He thinks that measures taken to destroy larvæ and anopheletes is a better plan than dosing every one indiscriminately with quinine, or than leaving the natives callously to their fate, and especially than by attempting to protect Europeans by mosquito-proof houses. He also proffers the advice that not only the anopheles but also the culex should be summarily destroyed, as the culex pipiens and the stegomyia fasciata are capable of propagating elephantiasis and yellow fever.

In the discussion at Cairo nothing new with regard to malaria or yellow fever was brought forward, but the old ground was carefully gone over. There can be no doubt that the advice of Major Ross as to exterminating the anopheles, culex pipiens, and stegomyia mosquito is excellent, and, if possible, would quickly do away with malaria, elephantiasis, and yellow fever. How to destroy the anopheles species, however, is a problem hard to solve. At present, at any rate, we must rest content with employing every means in our power to wipe out these disease-bearing gnats in towns and in the neighborhood of towns, which is probably what Major Ross means. At the same time, the judicious use of quinine must not be neglected. It would seem, from the success attained in Cuba, that the day is in sight when yellow fever will be practically extinct, but the scope of yellow fever is limited, indeed, compared with malaria.

The Doctor's Bills.

In the *Medical Mirror*, January, Dr. Robert T. Morris discourses instructively concerning a matter of the greatest interest to the medical practitioner, that of his bills. It is a sad, but well-known fact that no profession suffers as does the medical in the matter of receiving adequate payment for services rendered, and the doctor is almost always the last to be paid. Dr. Morris points out that a man, in order to be well qualified to fulfill the duties of a physician or surgeon, must gain the requisite knowledge at great expense, and not only this, but when in practice he must keep himself *au courant* with the latest discoveries, new modes of operation or treatment and most recent literature pertaining to his profession. The life of a successful medical man is an arduous one, and calls for a continual drain upon his mental and physical resources, as well as upon his pocket. To lead such a strenuous existence—even if he be of iron constitution—he needs a vacation of at least two months in the year. When at home, too, he must live in good style, dress well, and in all respects sustain the dignity of his calling. It therefore is a self evident fact that the doctor should be well remunerated, and that his bills should be paid promptly.

The majority of medical men, however, if asked would undoubtedly say that the money due to them does not come in so rapidly as they could wish. Dr. Morris places his finger on one of the weak spots

in a doctor's makeup when he refers to leniency in charges and carelessness in collecting bills, and demonstrates the fallacy of so doing. His patients understand his motives, and can classify him accurately. In the writer's own words: "If he is too lenient in making charges and too slack about collecting bills, they understand that he is not putting himself in position to render them the very best sort of service, because they know that he cannot prepare himself for rendering the best service. If the doctor prepares himself for giving large services in a large way, he is at once in demand by the sort of people who are in the habit of making use of that sort of service in their lawyers and engineers." As to the charging of large fees, Dr. Morris thinks that such a procedure is quite right when the patient has received from the treatment beneficial effects, which has, perhaps, enabled him to continue in the control of a large business to his consequent great pecuniary advantage. If a rich man calls in a well-known physician he must expect to pay as much for the expert knowledge in safeguarding his health as he would to a lawyer for assisting him to advance his material interests.

Dr. Morris concludes as follows:

"While the conditions in the smaller towns are different from those in the cities, the principles remain the same, and the physician who has expensively prepared himself for good work, or who out of experience has developed into a skilful physician, has a right to ask for compensation freely and promptly, without in the least including any mercenary motives. His bills should be regularly sent out at least once a month, and if not paid by the end of the third month should go to the collector, unless the patient states a reason why such a business proceeding should not be applied in his case. If the reason is a good one, there are very few physicians indeed who cannot be depended upon to respect it, and to make the most kindly and generous disposition of the account. The important thing is to bring the matter to a business point in a business way at an early date, in order to give the doctor opportunity to be kind to his patient or just to himself. Lastly, a physician should never look after his books himself. His judgment on the subject of accounts is not so good as that of an outsider, and a paid secretary will earn twice as much as his salary in actual figures, aside from time and trouble saving, in the office of any physician."

The remarks of Dr. Morris are sound, and although, perhaps, his advice applies more closely to the great men of the medical profession than to its rank and file, yet much of his article may be taken to heart by all its members. It should be clearly understood that a man is by no means a worse doctor because he is a good business man. He will be better appreciated by the general public, and will benefit from a pecuniary point of view.

Insanitary Condition of the British Houses of Parliament.

For many years there have been grave complaints, on the part of its members, concerning the defective ventilation, ineffective drainage, and general insalubrity of the British Houses of Parliament, and especially of the House of Commons. According to recent accounts, matters in these respects seem to have gone from bad to worse, or, at least, have not improved. In *Mainly About People*, a well-known weekly journal published in London by a distinguished Member of Parliament, is a harrowing description of the ills with which the British legislator has to contend while in the performance of his duties. The writer says, in part: "The old idea of the House of Commons, that it was the best club in London, has received some severe shakes during the last few years. For instance, it was found, whenever there was an epidemic of influenza, that members of the House of Commons were among the first and worst victims. Committee after committee has sat on the drainage of the House; in nearly every case it has pronounced against it. Often the odors in the House have been found almost intolerable. I remember one night, when Lord Randolph Churchill was leader of the House, that he consented to an adjournment, on the express statement that he found the odors around the Treasury Bench so sickening that he was no longer able to stay in his place." It appears there is a form of headache known as "the House of Commons headache," and that attendance for any length of time in that legislative chamber produces such a feeling of lassitude and general malaise that only the strongest are able to be in their places as often as required without breaking down. Last year most of the Ministers fell ill, and the writer in *Mainly About People* declares that there were occasions when there were nearly as many absentees from the Treasury Bench as attendants. Undoubtedly there must be something radically wrong either with the situation of the building, its drainage, or its ventilation to account for this manifest unhealthiness. It seems somewhat curious that England, the pioneer country in sanitation, and where this science is supposed to have attained its highest development, should not place "the mother of parliaments" amid hygienic surroundings.

Housing of the London Poor.

The recrudescence of the tenement question in New York has aroused interest in the manner in which other large cities house their poor. Of course it is well understood that the problem of how to house the poor cheaply, efficiently, and under good sanitary conditions has not been satisfactorily solved anywhere, but it may be said that several large centers of population in Europe have come nearer to a successful solution than has New York. Glasgow, perhaps, treats her poor with greater intelligence than any other city. There, the gas, the water supply, the means of street locomotion, and to some extent the housing of the poor, are under municipal control, and the system is stated to work excellently well. The County Council of London, within recent years, has erected nuerous model tenement dwellings for the poor in that overgrown city, with a fair measure of success. In the annual report, 1901, of the Medical Officer of Health of the Administrative County of London, just published, are some useful details regarding the influence upon health and morality exerted by the development of tenement building. Mr. Shirley Murphy, the officer in question, says that "Tenements of less than five rooms have diminished in number, the fall being particularly apparent in the case of single-roomed tenements, The average number of occupants per room has also declined in all classes of dwellings, but the greatest decline has again been manifest in the case of tenements of only a single room. The relative number of so-called 'overcrowded' tenements, and also the number of their occupants in the poorer parts of London, showed a considerable reduction in 1901, as compared with the previous year." It is gathered from this report that a considerable improvement has taken place in the manner in which the people of London were housed

in 1901, in comparison with 1891—that is to say, overcrowding in the whole of the metropolis has declined in the past ten years as regards both quantity and intensity.

The *London Hospital*, February 28, referring to this matter, preaches the gospel of cleanliness—perhaps, believing with John Wesley that "cleanliness is next to godliness." Speaking of the dirtiness of London tenants, our esteemed contemporary says: "In point of fact, the question is very largely one of cleanliness; and the schools and county council, together, might effect a revolution in the habits of the working classes of London, in this respect, and might bring them up to some approach to the American standard. The County Council admits into its tram-cars, without hindrance, men in filthy working clothes, whose faces and hands are black with grease and grime, and who both leave stains upon any seat which they occupy and soil in a corresponding manner the clothes of any passenger who either succeed them, or is pressed against them. No American workman would show himself in public in such a condition; and if the council and the schools would particularly teach adults and children that personal filth is disgraceful, an increased demand for decent houses would before long follow from a demand for personal cleanliness." Undoubtedly, the extremely dirty, personal habits of a large proportion of the poor population of London tells against the healthiness of the dwellings which they occupy, but at the same time it is gratifying to learn from Dr. Murphy's report that the better housing of the poor has been attended with results beneficial to health and morals. Although New York has nothing to learn from London so far as cleanliness is concerned, her municipal authorities and philanthropists might copy with advantage the policy of the London County Council in erecting cheap and sanitary dwellings for the poor. The housing of the poor—it may be prophesied—will at no very distant date be regarded as a municipal affair by most large cities.

Treatment of Epileptics.

Dr. Fletcher Beach contributes to the *Lancet*, February 28, a paper on the treatment of epileptics, which is, in fact, his contribution to the discussion upon epilepsy, which recently took place before the Medical Society of London. Dr. Beach points out that in that discussion no mention was made of errors of refraction as a cause of epilepsy. The writer remarks that Mr. Work Dodd, in the sixteenth volume of "Brain", showed that this might be the cause. He examined one hundred consecutive cases of epilepsy, and found that by correcting the errors of refraction in combination with other treatment, forty-nine were cured or relieved. Dr. Beach agrees with Dr. Russell, Dr. Beevor, and others that a toxic cause of epilepsy has not been proved. With reference to treatment by drugs, he is in favor of giving large doses of the bromide. and prefers the combination of ammonium, sodium, and potassium. When this combination is not desirable, and only one salt required, Dr. Beach gives the bromide of ammonium, as it is not so depressing as the bromide of potassium As to the length of time during which the bromide should be administered, the writer is in favor of giving it for two years after the last fit in ordinary cases, and for three years in a few cases in which circumstances render it necessary. He is a firm believer in the colony treatment, and is at one with other authorities in thinking that a healthy out-of-door life, with occupation and good diet, together with the administration of bromide and suitable tonics, is the most effective and intelligent treatment of epilepsy. Errors of refraction were thought at one time to be important factors in the causation of epilepsy, but this view is no longer widely held; indeed, the origin of epilepsy is still unknown, although a very large number of neurologists are of the opinion that it proceeds from an autointoxication.

News of the Week.

An American Quack Doctor in Europe.—"Dr." J. H. Nicholson, said to be an American, was arraigned in the Bow Street Police Court, London, on March 21, on charges of fraud preferred from Berlin. Nicholson has had a long career as a quack on the European continent, and when he was first arrested he said that he was a native of Philadelphia, and had practised as a physician in New York. He afterward said that he was a Canadian. The magistrate finally decided that Nicholson was an American and granted his extradition to Germany. There are numerous charges of fraud against him.

Fighting Tuberculosis in Great Britain.—The British National Association for the Prevention of Consumption has just been held. The two prominent features of the meeting were the announcement of a gift of $200,000 for the erection of a sanatorium, and the other a particularly eloquent speech by the orator of the medical profession in Great Britain, Sir James Crichton Browne. The speaker expressed his conviction that the day was coming when the terrible scourge of tuberculosis would be eradicated.

Natives of India Refuse to Kill Rats.—According to the *Allahabad Pioneer*, a municipal committee that was appointed to take precautions against the spread of the plague at Amritsar initiated comprehensive plans to exterminate rats. The committee was immediately faced by a difficulty arising from the scruples of the natives, whose religious tenets forbid the taking of life, and consequently the committee was compelled to offer a reward for live rats, which will be maintained comfortably at public expense until the plague is suppressed, when, presumably, the rodents will be released. The municipality has authorized the expenditure of forty-two rupees a month for the board of the rats while the scheme is being tried.—*New York Sun.*

School and Churches Closed on Account of Smallpox.—Many cases of smallpox have been recently reported from the village of Davenport, Delaware County. The school has been closed and the village churches are not open for service.

Death from Glanders.—Benjamin Hilson, a cigarmaker, died on March 20, in the Metropolitan Hospital on Blackwell's Island, of glanders. He cut his finger on Washington's Birthday, and it is supposed the wound became infected through coming into the vicinity of horses suffering from the disease.

Clara Barton May Be Retired.—It is reported that, as a result of recent conferences of the Executive Board of the American National Red Cross Society, Miss Clara Barton will be relieved of active control of the organization. The statement is made that the new executive will be Rear-Admiral William K. Van Reypen, U.S.N., retired, formerly Surgeon-General of the navy. Miss Barton's retirement is declared to be an absolutely essential step toward restoring harmony among the members of the Red Cross Society. In addition to this reason, it is

pointed out that a new and energetic executive is badly needed in order to place the organization on a proper footing. It is proposed to call a meeting of the board of trustees of the Red Cross Society at Washington shortly, when it is expected that the recommendation of the executive committee will be confirmed. Miss Barton, as matters now stand, holds the presidency for life, and possesses absolute control of the society. There has been recently somewhat acute dissatisfaction with the high-handed manner in which Miss Barton has used the power placed in her hands, and this feeling culminated a short time ago in a memorial presented to Congress protesting against the continuance of supreme control being vested in Miss Barton. It was also stated that under such conditions neither the President nor the members of his Cabinet would serve on the board of consultation. As, however, an article in the constitution of the Red Cross Society requires that the President and Cabinet should be members of the Board of Consultation, their retirement brought up the question as to whether, in the event of their refusal to serve, the charter would not be nullified. The recent conferences had for their chief object the securing of the promise of President Roosevelt and his Cabinet to again take their seats at the board of consultation.

The Drink Question in London.—The New York *Sun*, March 22, in its London letter quotes figures which are being published, showing that the drinking facilities in many places are out of proportion to anything needed. In the metropolitan area of London, for example, there are 14,353 licenses, giving one to every 446 inhabitants, in spite of the fact that districts are included where there is only one license to over 1,600. In Holborn there is one public house to every 257 inhabitants; in Westminster, one to every 327; in Finsbury, one to every 364; and in Stepney, one to every 394. To put it in another way, it is found that there are 486 public houses per square mile in Holborn; 798 in St. James'; 379 in Finsbury, and 349 in Marylebone. One map is published of a certain nine-sixteenths of a square mile, where there is a public house, not including hotels and restaurants, for every seventeen inhabited houses. Assuming that the male adult population is normal, there is one public house for every twenty-two men in the strand licensing division, and one for every sixty-eight in Marylebone.

Man's Superior Brain.—A cable despatch to the New York *Sun*, March 22, reports the following: Professor Marchand of Marburg has accumulated the largest number of brain weights ever published. He gives a thorough analysis of 1,169 cases. He says he finds the average weight of the brain of a male child at birth is 360 gms., and of a female child 353 gms. Although Professor Marchand shows a certain relation between stature and brain weight, the relation is very inconstant. He concludes that the lesser weight of a woman's brain is not alone dependent on her smaller stature, as a comparison of both sexes of the same stature show that the male brain is invariably heavier. In a growing child, until it reaches a stature of 70 cm., the brain weight increases proportionately with the body length, irrespective of age or sex. After that the male brain begins to outstrip the female. The maximum brain weight is usually attained about the twentieth year, when the male's average is about 1,400 gms. The female maximum is usually reached about the seventeenth year, when the average is 1,275 gms.

Christian Science Investments.—The Christian Scientists, or, rather, those at the head of that sect, have contrived to amass a considerable amount of money. It has just been announced that the Christian Science Board of Directors, consisting of Ira O. Knapp, William B. Johnson, and Joseph Armstrong of Boston, and Stephen A. Chase of Fall River, has acquired title to a large extent of property in Boston. It is agreed that the transfer is made subject to conditions imposed by Mary Baker G. Eddy on the grantees named in September, 1892. Another stipulation is that no new tenet or law can be amended or annulled by the grantees without the consent of Mrs. Eddy.

Experiments with Formalin in Boston.—Dr. Hill of the Boston Health Department laboratory has been recently testing formalin as a remedy for blood-poisoning, and reports that he has found it to be of no use. Four rabbits were experimented upon, two of which had the bubonic plague and two the glanders. One of each was treated with formalin, and they died before the two that had not been treated at all. The formalin did not destroy the germs, but became absorbed in the tissues, and injured them more than the organisms which it was intended to attack.

Dedication of Cochran Surgical Pavilion.—At Yonkers, on March 21, the Cochran Surgical Pavilion was dedicated. The building was erected as an annex to St. John's Riverside Hospital with money left for the purpose by the late William Francis Cochran, who also provided the money to build the hospital itself. The new building is about seventy feet long by fifty feet wide, and three stories high, and is said to be one of the best equipped in the country.

New British Military Hospital.—The new Military Hospital, now being erected on part of the site of the old Milbank prison, will afford largely increased accommodation for soldier patients. It is part of a considerable scheme of building which the War Office has in process of completion at Milbank. Already the new Army Service Corps barracks are occupied, and the hospital, which affords room for some 200 beds, will soon be finished. The hospital part of the scheme is estimated to cost £100,000 ($500,000). It includes six separate blocks of buildings, carried out in red brick, with string courses and dressings of sandstone much after the style of St. Thomas's Hospital, and, as in the case of that great institution, there is provided suitable covered communication between the component blocks of the hospital.

A Fever Hospital Set on Fire.—Six attempts within a week have been made to fire the Edinburgh Fever Hospital. The first attempt was made with a barrel of paraffin oil. Four other outbreaks occurred behind doors, and the sixth attempt was made to fire the buildings.

Legacies to Charity.—The Paterson Orphan Asylum, the Catholic Orphan Asylum, the Paterson General Hospital, and St. Joseph's Hospital, each benefit to the extent of $25,000 by the death of William Laverack, a jeweller of Paterson.

X-Rays in the Spectrum.—Lord Rayleigh, professor of natural philosophy at the British Royal Institution, has announced that M. Blondelot, a skilful French experimenter, very recently adduced evidence going far to prove that the Röntgen rays are susceptible of polarization, if they have not been polarized already, and can therefore be traced in the spectrum. If this is true and the rays are transversal, as M. Blondelot thinks, it follows that they are a species of ordinary light, but of extremely short wave lengths, perhaps a hundred times shorter than the waves of the light that one can see. Lord

Rayleigh said he saw no reason to question the discovery, which is of first-rate importance in helping to determine the nature of the Röntgen rays, which has been in doubt ever since they were discovered.—*New York Sun.*

Tuberculosis Society in Washington.—A society of physicians, clergymen, and others has been established in Washington for the purpose of conducting a campaign of education in regard to tuberculosis. The society purposes to raise funds to carry on a systematic diffusion of knowledge about tuberculosis, its prevention and the relief of those who are afflicted, by means of public lectures, leaflets, and scientific documents. The work will also be made the subject of special instruction in the public schools.

Ordinance against Expectoration.—The Philadelphia Councils have passed and the Mayor has signed an ordinance declaring expectoration on the sidewalks, in public conveyances, and in other places resorted to by the public, a nuisance and prejudicial to health, the offender or offenders being liable to a fine of one dollar and costs for each violation.

The Philadelphia Society of Tropical Medicine has been organized with the special object of preparing students of medicine and physicians for service in the tropical dependencies of the United States, and the following officers have been elected: *President*, Dr. Thos. H. Fenton; *Vice-Presidents*, Drs. James C. Wilson and James Anders; *Secretary*, Dr. Joseph McFarland; *Treasurer*, Dr. E. B. Gleason; *Executive Committee*, Dr. John V. Shoemaker, chairman, and Drs. T. H. Fenton, Judson Deland, R. G. Curtin, Orville Horwitz, and Hobart A. Hare.

"Biochemisches Centralblatt."—A journal with this title has been established in Berlin under the editorial direction of Professors Ehrlich, Fischer, Kossel, Liebreich, Muller, Proskauer, Salkowski, and Zuntz. The object of the publication will be to report such chemical experiments and observations as are of importance to the physician; the study of plant physiology; of physiological chemistry; of the chemistry of the tissues and organs under normal and pathological conditions; of the chemistry of digestion, the secretions and excretions, metabolism, and the blood; of ferments and fermentations; of the chemistry of the pathogenic microorganisms (toxins, antitoxins), and the phenomena of immunity; of toxicology and pharmacology; and of hygienic chemistry, disinfection, and the examination of water. The American editor, to whom abstracts of papers on the subjects appearing in journals of this country and Canada should be sent, is Dr. Heinrich Stern, 56 East Seventy-sixth Street, New York City.

Obituary Notes.—Mrs. Ellen Hastings Scrimgeour, President of the Women's Health Protective Association of Brooklyn, died at her home in that city on March 21. She had been suffering from Bright's disease for some months. The deceased lady was sixty-eight years of age, and had been actively engaged for the past twenty years in woman's work in Brooklyn.

Dr. J. Augustus Carncross, assistant physician to the Friends' Asylum for the Insane at Frankford, Philadelphia, died on March 19 from heart failure, at the age of fifty-eight years. He was graduated from Jefferson Medical College in 1876, and he had been assistant physician in the State Hospital for the Insane at Warren, Pa., and in the Philadelphia Hospital.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

BART'S—ANKYLOSTOMIASIS—VOLKMAN'S CONTRACTURE—DISLOCATION OF TENDON—VARICOSITY IN CHILD—GRAVES'S DISEASE—LATENT EMPYEMA—HEMORRHAGIC TYPHOID—THE ROYAL ORTHOPEDIC AGAIN—CORONERS—PARLIAMENT—HOSPITALS ASSOCIATION.

London, March 6, 1903.

Old Bart's is to remain on the site it has so long occupied. At least that was the decision of the Lord Mayor's Committee by an almost unanimous vote on Monday last. The Lord Mayor again presided, and after a prolonged discussion of the evidence brought forward at the four previous meetings, the following resolution was passed by fourteen votes to one: "That, in the opinion of this committee it is desirable in the public interest to retain St. Bartholomew's Hospital on its present site." It was then decided to form two subcommittees, one to deal with buildings, the other with administration and finance, in order thoroughly to investigate the best means of providing a hospital, perfect in every detail and brought up to the latest requirements of modern scientific knowledge, on the present site of the hospital. Each subcommittee will meet once a week until their investigations are complete.

Sir. Wm. Church, President of the Royal College of Physicians, presided, on Wednesday, over the annual meeting of the "after-care association." This is the only charity of the kind in the kingdom. It takes care of poor persons discharged on recovery from lunatic asylums, boarding them out in the country under proper care and supervision, or placing them in convalescent homes. Grants of money and clothing are also made to some, and others are assisted to obtain suitable employment. It is obvious that such work is deserving of encouragement, and Sir W. Church was supported by Drs. Savage, Claye-Shaw, Henry Rayner, Robert Jones, and others. It was stated that the patients who had been assisted had shown great gratitude. The proportion of relapses was also said to be less where the patients had been in convalescent homes. The society received, in 1902, a total sum of £772, but a part of this was from exceptional sources, and increased subscriptions could be well employed.

Ankylostomiasis, as your reporter of the Egyptian Congress remarked, "must be remembered in seeking for the cause of obscure cases of anæmia, even in America and England." We have just had an illustration of this in the shape of an interim report to the Home Secretary on the Cornish mines. Dr. Haldane, F.R.S., was instructed to make an inquiry (with Mr. J. S. Martin, his Majesty's Inspector of Mines), and he found among the men employed in the Dolcoath Mine that for several years some of them had suffered from a state which they named the "Dolcoath disease." They were anæmic, became faint on exertion, and suffered from palpitation. Pustular eruptions and other complications were common. Intercurrent diseases, such as pneumonia or phthisis, carried off some of the patients, and others had dropsy. Neglected cases were apt to end in cardiac failure. Heart disease was sometimes blamed. Dr. Haldane came to the conclusion that the disease was ankylostomiasis. Common in Egypt and called "Egyptian chlorosis," its nature was determined in 1854, and it was soon after recognized in Brazil and most tropical and subtropical countries. When it appeared among the workmen engaged in making the St. Gothard tunnel it excited more attention, and recently Dr. Manson observed cases among the Lascars employed at the docks. It is supposed that the disease was introduced by miners who had been employed for a time abroad and afterward returned to their former work. The conditions for its spread are favorable, the temperature is high in the mines, at one level, Dr. Haldane found it was 79° F. Three or four years ago the manager of Dolcoath improved the ventilation and attempted disinfection with large quantities of chloride of lime and permanganate of potash. These measures are approved by Dr. Haldane, whose recommendations are in the direction of securing good ventilation and cleanliness.

Among the cases exhibited on Friday at the Clinical Society, I may mention some of considerable interest. There were three, for instance, of Volkman's contracture—one a child, aged five years, treated for two years by passive movements, massage, and Faradism. Only slight improvement was claimed. Another, a boy, aged nine years; injury to forearm two and a half years ago. Several operations, without result, massage, etc. Ultimately resection of one-half to three-quarters inch of both radius and ulna from posterior aspect of middle of each shaft; wired bones united, then massage; result, great improve-

ment. The third case was a boy, eight years old, similar operation with similar result.

A man, thirty-seven years old, was shown (by Mr. Betham Robinson), who had the head of the left humerus excised in St. Thomas's hospital, on account of recurrent dislocation, which had occurred nine times in three years. Six months ago he fractured the clavicle, which united rapidly. On January 3 he fell from a van, could not bring the arm to his side properly. Finds it takes this position at times, but is sometimes natural.

The humerus is abducted and inwardly rotated to a slight extent; the shoulder-joint being then fixed, attempted movement is attended by rotation of the scapula. The head is felt in the axilla and more prominent against the front of the capsule than normally.

The position is easily rectified by fixing scapula, and bringing elbow forward to relax the biceps, and then rotating outward. Mr. Betham Robinson suggested that the condition was associated with abnormal laxity of the capsule and increased play of the tendon in its groove. In abduction with inward rotation, the tendon slips over the great tuberosity, and at the same time the head of the bone is brought up against the front of the capsule at the anterior margin of the glenoid cavity.

Mr. Gould suggested hypertrophied synovial fringe as the cause. Mr. Marsh doubted whether it was dislocation of the long tendon, which usually took place inward, not outward. He thought the case should be thoroughly investigated.

Mr. Betham Robinson replied that the joint could be explored, but if it proved to be dislocation of the tendon, what should be done? He hardly thought it necessary to remove the head of the bone, as on the other side.

A little girl of seven years, shown by Mr. Kellock, had enlargement of the right internal saphena vein at the upper part. Varicosity was also seen at the side and front of the patella, behind the internal malleolus and over the inner side of the foot. Mr. Gould said he had never seen varicosity in so young a female, though varicocele was met with in male children. He thought the case supported his view of the cause of varicosity. Mr. H. Cripps, noticing that the foot looked bigger than its fellow, and the limb longer, suggested incipient giantism. Mr. Kellock admitted the limb was one-quarter inch longer, but there was no indication of enlarged lymphatics, and he proposed to remove a piece of vein above.

Dr. Batty Shaw showed a case of Graves's disease in a railway porter of forty-six years, whose son, aged twenty-one years, is also affected. Dr. Phillips said he had met with the disease in mother and daughter.

A paper on "latent empyema in infants" was discussed at the Royal Medico-Chirurgical Society. The adjective is scarcely appropriate, for the cases described were rather those in which the difficulties of diagnosis are such that the condition is often overlooked. An irregular raised temperature, with symptoms pointing to the respiratory system, should excite suspicion. The physical signs are often ill-defined or obscured by complications, but the disease is evidently serious, and the majority of the cases are fatal. The diagnosis from tuberculosis is especially difficult, but the long course with prevailing high temperature, often 103° F., may be noted. The difficulty usually arises from a small sacculated empyema in a position where it may be obscured. Thus the commonest situation is at the extreme posterior base, where the liver or stomach may interfere with the signs. As to small interlobular empyemata, it is almost, if not quite, impossible to diagnose them, for there may be only a thin layer of pus between the lobes. The spread of the infective agent may give rise to purulent pericarditis, meningitis, peritonitis, arthritis, etc. Several speakers thought repeated explorations with the needle should be made in doubtful cases, and one said the insertion of the needle did not give rise to much pain. Perhaps the children might have a different opinion. Even so, no doubt exploration must be resorted to. Possibly in some cases the *x*-rays may come to our aid. Some recommended resection of a portion of a rib, and one thought this operation rendered it possible to explore every part of the lung, but this was disputed, as in these cases the adhesions were considerable, and little would be gained unless the cavity of the empyema were opened. A case was mentioned in which a child died, apparently from the operation. Others were mentioned in which explorations had been futile, but resection enabled the pus to be found and evacuated. One physician had seen cases in which the temperature was normal or subnormal throughout the whole course of the disease.

Two cases of hemorrhagic typhoid were described by Dr. K. Fowler and Mr. Foulerton at the Medical Society with full bacteriological details. They admitted that their cases shed little light on the pathology. One case showed that in a severe case no other organism than the bacillus typhosus might be present, and that the mixed infection observed in other cases was not an essential feature. Widal's test was negative in both cases, and it was held that if this gave no reaction after twelve days' illness it was either not typhoid or else it was an extremely severe one. Dr. Wright said typhoid vaccine diminished the coagulability of the blood, so did diminished alkalinity, and suggested such cases should be tested in both these respects. Calcium chloride was only of use by combining with fibrinogen, but in typhoid fever this was diminished or wanting.

Dr. A. Voelcker regretted that the coagulability had not been estimated in these cases. He had seen a case of gastric ulcer with hemorrhage in which there was a marked diminution. Mr. Foulerton replied that in one of the cases the blood coagulated readily.

You will remember the scandal about the Royal Orthopædic Hospital. The managers have added another proof of their unfitness for their position. In a mean, underhand way, they have got rid of their chief surgeon. He did not agree with their views about removing the hospital. So, at the annual meeting, they omitted his name from the officers to be reëlected. He has served the hospital for more than twenty years. I think it must be nearly thirty. But the new committee does not care, and treats thus the one man who was an ornament to the staff. More will, perhaps, be heard of this.

Coroner Troutbeck is not to have everything his own way. The deputations to the County Council have had some effect, and a circular has been issued in which the council state that it is in special cases that a pathologist should be called in—a plan the practitioners concerned have always themselves recommended.

Not much of medical interest has come before the new session of Parliament. Sir Batty Tuke has introduced the Medical Acts Amendment Bill of the Medical Council. The Prime Minister has announced the intention to prolong the vaccination act for a year. Questions relating to the smallpox epidemic, dangerous shellfish, public health, etc., are to have some attention, but much depends on the time that can be spared from great political questions.

Some newspapers have been trying to get up a sensation about an alleged bicentenarian, who is said to be in hospital at Tomsk, and all sorts of talk about old age is being indulged in.

Sir H. Burdett addressed the Hospitals Association on Tuesday on the question whether some hospital should not be removed to other localities, and if so, which. He is in favor of the amalgamation of some hospitals.

LETTER FROM ZURICH.

THE ANALOGUE OF THE OSTEOPATH IN SWITZERLAND—TREATMENT OF PUERPERAL FEVER—EFFECTS OF HIGH ALTITUDES ON ELDERLY PERSONS—TREATMENT OF GALLSTONES.

ZURICH, March 1, 1903.

THE event which is occupying the medical mind, and also part of the lay press, in Switzerland, is the attempt that is being made to introduce free practice in the Canton of Zurich. A certain number of so-called "Nature-cure Societies" (Naturheil Vereine) who wish all illnesses to be exclusively treated by water, air, sunlight or electric light, electricity, massage, etc., in the most varied and oftimes curious forms, are seeking to upset the present law as regards medical practice. So far only men possessed of a Federal State Diploma, which can be obtained only after a medical curriculum of six years and severe examinations, have been allowed to practise the art of medicine. Now every effort is made to gain the vote of the public to allow any man whose own opinion is to qualify him to practise the art of healing, provided he prescribes no medicines, it being left to the certified medical practitioner to write recipes, or as these brave champions for the welfare of the country put it in their lectures and in print, "to poison their patients." The Medical Society of the Canton of Zurich has taken the necessary steps to instruct the public at large regarding this movement, which is so far spread that it has a chance of success, a success which would later on be bitterly rued perhaps even by the instigators, when left to the merciless hands of some uneducated quacks.

Professor von Herff, who occupies the chair of obstetrics at the Basel University, has published a résumé of his treatment of severe cases of puerperal fever. He recommends one or two uterine douches at the onset of fever and uses chlorine water exclusively. Serum treatment gave indifferent results, as we generally have to do with mixed infections. His experiments with intravenous injections of the salts of silver, which have a strong bactericidic effect even in the weakest solutions, gave him some striking results, which he attributes to catalytic influences on the tissue.

Dr. Theodore Zangger lately lectured before the Medica.

Society of Zurich on the detrimental effects railway trips to high altitudes have on elderly people. The special dangers such patients run, who may apparently be hale and feel healthy, are those of apoplexy and acute dilatation of the heart. Such accidents may occur while the travelers are at the altitudes in question (8,000 to 10,000 feet), but sometimes supervene only twenty-four to forty-eight hours after return to the lowlands. Dr. Zangger has seen a good many such cases. Further clinical evidence will doubtless throw more light on such avoidable accidents. No person over the age of sixty years should expose himself to rapid differences of altitudes without getting a medical opinion as to the state of his heart, blood vessels, and lungs.

Dr. Robert Haser of Muri, whose successful treatment of gallstones has made quite a stir among the medical public the last few years, has just published a scientific report on his first hundred cases. He reports 79 per cent. of the patients as cured, and apparently this "cure" has lasted at least one year.

This sounds most satisfactory, as the great majority of the patients have but operative interference to look forward to. After experiments stretching over a period of twelve years, he has arrived at a satisfactory combination of mercury (in small quantities), podophyllin, oil of melissæ, camphor, and anise. He recommends the patients to go to a sanatorium for a month or two, be carefully dieted, have saline baths containing CO_2 and have plenty of fresh air, and to exercise deep breathing as soon as they are fit to move about. He assures his confrères that under such treatment stones in the gall-bladder and ducts are dissolved, and that the tendency to new formation of stones is eradicated. He does not consider a patient cured unless able to stand the *usual* dietary after the cure. His theory is that, primarily, cholelithiasis is a nervous disease, not an infectious disease: that, primarily, the secretory (sympathetic) nerves of the liver suffer, that, secondarily, cholesterin is formed, then the bile becomes infected, catarrh ensues and bilirubin calcium is excreted; thereupon we have the formation of gallstones and localized hyperæsthesia.

LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

HEALTH REPORTS—A DISPENSARY IN MANILA—MANUFACTURE OF SERUMS AND VACCINES—MEDICAL DEPARTMENT OF THE PHILIPPINE CONSTABULARY—RAISING OF THE QUARANTINE—INSANITY AMONG THE TROOPS.

MANILA, February 10, 1903

THE report of the Commissioner of Public Health for the Philippines for the month of November, which has just appeared, gives the total population of Manila as 302,154, of which 223,900 were Filipinos, 60,680 were Chinese, 7,852 were foreigners, and 9,722 were Americans. There was a total of 1,035 deaths during the month, giving an annual death rate per thousand of 41.70; the death rate for the Filipinos was 52.52, for the Chinese 11.03, for foreigners other than Americans, 10.85, and for Americans, 8.76. This would seem to show that under proper sanitary precautions Americans in Manila should prove excellent life-insurance risks. The annual birth rate per thousand for the month was but 7.93, though it is stated that the return of births is incomplete. Of the 1,089 deaths during the month, eighty-one occurred in infants less than a month old, and 319 in those from thirty days to a year old. This infant mortality is very high, and due to ignorance, filth, and poverty. Five deaths were reported as having occurred during the month in individuals more than one hundred years old. The mortality was greatly raised by cholera, there being 256 deaths from this cause during the month. There were eleven deaths from typhoid fever, 11 from malarial fevers, 10 from dysentery, 34 from beriberi, 72 from pulmonary tuberculosis. Among the children, 198 deaths occurred from tetanus. There were 54 deaths among transients, which were not included in the statistics for Manila.

Prior to the outbreak of cholera, the death rate had been about 30 per thousand per annum. During the month of November, 35,316 units of vaccine virus was issued from the vaccine farm, of which 6,896 units were used in Manila. There were 134,996 houses inspected by sanitary inspectors during the month, and 47,217 reinspected; 39,192 houses were cleaned, 485 whitewashed and painted, and 800 disinfected; 954 cesspools and 31,544 yards were cleaned. There were 134 sanitary inspectors on duty. A large amount of refuse and dead animals were destroyed by cremation. There were 57 chemical analyses and 214 clinical examinations made in the Government laboratories. The leper census up to the end of the month showed the presence of 3,288 lepers on the islands, of which 2,004 were men, 1,074 were women, and 210 were children. The greater number of lepers occurred in Iloilo Province on the island of Panay, with 176 in the Province of Ilveos Sur, in northern Luzon. There were 43 Igorrotes and 220 Moros reported as having leprosy. The report, as a whole, showed that a large amount of excellent sanitary work was being carried out, and reflects much credit on the Commissioner of Health.

In a previous letter mention was made of the fact that one crying need of Manila and the islands generally was hospitals, dispensaries, and the other places where the natives might receive gratuitous medical treatment. Since that time the matter has been taken up by the Episcopal bishop, and a dispensary has been established in connection with the "Settlement House." The hours for the clinics are from seven to ten in the morning, and from three to five in the afternoon. The physicians in attendance are fifteen in number, of whom ten are American and five Spanish or Filipino. The clinics include general medicine, surgery, diseases of the eye and ear, skin, and nervous system, also obstetrics and diseases of women and children. The staff includes some of the best practitioners in Manila. That this dispensary will do incalculable good goes without saying. Under the Spanish administration, no effort seemed to be made to secure proper treatment for the indigent natives. The ecclesiastical orders did not a little toward supporting the paupers and orphaned, but their charities usually took the form of small weekly donations of money or food, and medical charities were not encouraged. It is to be hoped that the new dispensary in Manila may prove the entering wedge for the establishment of similar institutions throughout the larger cities of the islands.

The farm for the production of vaccine virus and the serum institute have recently been consolidated, and transferred to the control of the Director of the Government Laboratories. The present director of the laboratories, Dr. Freer, will return to the United States to resume his position as assistant professor of chemistry at the University of Michigan, on the return of the new director, Dr. R. T. Strong, from Germany, where he is now studying. Dr. W. E. Musgrave has been given a provisional appointment as the head of the Government Pathological Laboratory, in which he has served for some months as assistant, having previously occupied a similar position in the Army Laboratory. He is well qualified for the position, and will undoubtedly give full satisfaction.

A medical department for the Philippine constabulary, made up of about 6,000 natives with white officers, is now being organized. So far, four appointments of medical officers have been made, the appointees being ex-contract army surgeons or medical officers of volunteers, and others will follow as the service is organized. Medical officers are rated as Inspectors of the first-class, and will receive $1,800 per annum. Their duties will be such as will permit of outside practice, and their positions will be much like those of police surgeons in the larger cities of the United States. Hospitals will be established where the members of the constabulary can be sent for treatment. The medical service is to be outfitted with the same supplies and equipment as is now issued to the army, with which the constabulary may be called upon to serve. There will be a hospital corps attached to the new medical service, the privates of which are to be natives, specially qualified for this work. There is to be a grade of pharmacist having the pay of a second-class inspector, or $1,500 a year. At the outset these pharmacists are to be taken from the army hospital stewards, appointed fourth-class inspectors in the line at $1,000 per annum, and promoted two grades when transferred to their medical duties. As the force of 5,000 native scouts, now attached to the army, is to be incorporated with the constabulary as a police force, this will give a total of 11,000 men whose medical needs must be given attention, and which will require the services of a considerable number of physicians when this consolidation is accomplished. At present, the army authorities are looking after the professional needs of the scouts. One difficulty to be encountered in the medical care of the constabulary is that they are to be scattered in small detachments all over the islands, and it will be possible to maintain surgeons only in the large cities and at centrally located points, much as the medical service of the Northwest Canadian Mounted Police is now carried on. The development of the new service will be watched with interest and encouragement by army medical officers, since its methods, policies, and equipment are to be identical with those of the military service. That it is much needed is shown by the fact that in a recent fight with "ladrones" an American inspector died from arterial hemorrhage from a bolo wound of the forearm, which would have proved relatively trifling had a surgeon or trained orderly been at hand to apply simple treatment and dressings. Of the four surgeons already appointed to the constabulary Drs. Kneedles and Baker will have charge of the First District, with headquarters at Manila; Dr. Wheate will go

to the Second District, with headquarters at Tayabas, and Dr. Winslow has been assigned to the Third District, the headquarters of which are at Cebu. New districts will be made and new assignments ordered as the work of organization progresses. The new service will be much like the British Indian Medical Service, but will be wholly distinct from the army.

In view of the cessation of cholera in Manila and vicinity, outgoing transports will no longer be held at the Mariveles Quarantine Station for five days, as has been required for the past ten months, provided that none of the troops or passengers have come from infected points within the five-day period. Usually troops brought up from cholera-infected points in the south are held in quarantine a sufficient time to determine the presence of infection among them, and further quarantine of the Pacific transports is deemed unnecessary under present improved sanitary conditions. The first transport to go out under the new conditions is the *Sheridan*, which left February 5 for the United States with about 175 sick and insane on board.

There is no question but that service in the islands, with its monotony, isolation, and tendency to produce home-sickness to a certain extent favors insanity. It is true that the rate of insanity among the soldiers in the islands is no higher than that for the general population of the United States, but this comparison is misleading, as the soldiers are carefully selected for mental as well as physical soundness, and no person who manifests any tendency toward lack of mental balance is permitted to enter the service. The amount of insanity among the soldiers in the islands is not at all as great as the "anti-imperialists" would have the public believe, but it is still unduly high, and is much higher than it will be when the troops are concentrated, according to the present policy, into large garrisons, where their comfort will be greater and amusements for their benefit can be supervised and promoted. There is no question but that the abolition of the sale of beer in the army canteen has increased the proportion of insanity, as it has favored "beno" drinking among the soldiers, a habit which cannot be long indulged in without the production of maniacal delirium. The abolition of the sale of beer in the canteen—which has meant, in the great majority of instances, the abolition of the canteen itself as an institution, due to insufficient receipts to pay expenses—has removed a potent factor in the maintenance of health and discipline. This is especially noticeable in these islands, where the climate prevents recourse for amusement to hunting, fishing and out-door sports, mail is infrequent, troops are in small detachments, and garrisons are surrounded by shacks furnishing incentives to vices of all kinds, and the lowest types. If the members of the W. C. T. U. are judged in the hereafter by the results of their action instead of their good intentions, the results in the Philippines alone will give them much to answer for. Their preconceived theories have not harmonized with conditions as they actually exist over here—a fact fully recognized by all except themselves.

Sarcoma of the Tibia Treated by Evacuation; Recovery.—Ch. Monod and Macaigne sum up the history of this case as follows: The patient was a woman of forty-two years, with a tumor of the knee diagnosed as sarcoma. An *x*-ray examination showed the lesion to be at the upper extremity of the tibia, and limited by a bony covering. The bone was curetted and the patient recovered. The tissue taken away was a gravish rose white, of friable consistence, without juice. Histological examination showed that it was a sarcoma. The greater part consisted of fusiform cells, isolated or in groups. The presence of myeloplaques served to characterize the tumor. They were separated by sarcomatous bands, of which the protoplasmic covering was rounded, or fusiform or irregularly polygonal, while within were numerous nuclei, ovoid, or round and colored.—*Bulletins et Mémoires de la Société Anatomique de Paris*, November, 1902.

Tropical Abscess of the Liver, with Report of a Case.—Solomon Solis Cohen and John H. Gibbon present this paper. Although multiple abscess of the liver is usually considered of pyæmic origin, still the fact that about half of the liver abscesses occurring in tropical countries are multiple would incline one to the view that the amœba is more often than is supposed the cause of this variety. Spontaneous cure often results from rupture into the lungs. Unless there is immediate operation, intraperitoneal rupture is invariably fatal. The treatment of this affection is entirely surgical and consists in thorough opening and thorough drainage. The two recognized methods of operating in this condition are: (1) Immediate drainage, and (2) exposing the liver, allowing it to become adherent to the abdominal wall, and then opening it twenty-four or forty-eight hours later.—*The American Journal of the American Sciences*, Feb., 1903.

Progress of Medical Science.

The Boston Medical and Surgical Journal, March 19, 1903.

An Account of Dr. Thaddeus Maccarty.—Burnside Foster gives a history of the life of Dr. Maccarty, a New England doctor of pre-Revolutionary days. In 1775 he had the smallpox and was successfully treated by Dr. Latham, according to the Suttonian method, which was then, and still is, a secret form of treatment. Delighted with the results, Dr. Maccarty entered into an agreement with Dr. Latham, and himself administered the treatment in his practice. He also erected a smallpox hospital, which was in existence long enough to carry through 800 persons with the loss of only five by death. After this he carried on his regular practice. In 1796 he was called to a new and until then unheard-of mode of curing diseases—the celebrated tractors of Dr. Elisha Perkins. For two years his delusions in regard to their efficacy continued, but the tractors then began to lose ground, and soon sunk into disgrace and oblivion. Dr. Maccarty seems always to have been held in great esteem, in spite of his leaning toward secret methods of practice; he was appointed a justice of the peace, and a justice of the quorum. He died in 1802.

Lipoma Arborescens.—Charles F. Painter and William G. Erving report seven cases of this affection. These fatty growths are not very uncommon; they occur as overgrowths of the synovial villi of the joint affected, or as true lipomata that have pushed in from the subserous fat as the result of laceration of the fibrous capsule. The authors agree in the main with Stieda's conclusion as to these growths, namely, that there is a hyperplasia and fatty degeneration of pre-existing synovial tabs; that histologically, the appearance is that of a typical chronic inflammatory condition, with, in addition, a specific appearance in case of tuberculosis. In an unopened joint the diagnosis is not certain, the swelling, tenderness, limitation of motion and ability to palpate not being absolutely diagnostic. The prognosis of spontaneous healing and recovery of joint function are unfavorable, and treatment should consist of arthrectomy (erasion), or, when tuberculosis is present, resection of the joint. The authors differ from Stieda in giving tuberculosis relatively a less important place in the etiology, and they would urge the importance of the absence of the clinical evidence of joint disease as leading to the diagnosis of a non-tuberculous condition, and encourage exploration of the joint where any doubt exists as to the nature of the pathological process.

Journal of the American Medical Association, March 21, 1903.

Some New and Unusual Therapeutic Applications of Ergot.—A. T. Livingston advocates the use of ergot in insomnia associated with nervous affections, headache, eye and ear disorders due to vascular relaxation, pain in general from the same cause, morphine and opium poisoning, appendicitis, drug habits (especially opium and alcohol), delirium tremens, asthma, puerperal eclampsia, hystero-epilepsy and chorea, bulbar paralysis, and paresis, acute inflammations, typhoid fever, and angina pectoris. In all of these conditions the drug acts through the restoration to the normal of faulty vascular conditions. Ergot is useful as a preliminary to operations, and as a modifier or preventer of shock. In many of these clinical emergencies, the remedy must be used hypodermically. The author prepares the solution by dissolving one drachm of Squibb's extract of ergot in one ounce of 1-3,000 formalin solution. Distilled water should be sterilized and then the formalin added, after which the ergot is dissolved and the whole filtered.

Observations on the Mechanics of Digestion.—W. B. Cannon gives the name of "rhythmic segmentation" to the process by which, in the small intestine, the food is mixed with the digestive secretions exposed to the absorbing wall and carried forward. This muscular activity begins in the duodenum, in which a mass has accumulated after repeated relaxations of the pylorus. Suddenly irregular movements occur about the mass, and then, at regular intervals along its length, constrictions of the circular fibers separate the mass into a number of equal portions. Hardly have the constrictions thus occurred when similar constrictions begin to appear about the middle of each segment. As these new constrictions deepen, the first constrictions begin to relax. Finally, when the new constrictions have completely divided the segments, the first constrictions have entirely relaxed and the neighboring halves of the divided segments unite to form new segments in the region of the first constriction. Now these new segments are again divided by circular constrictions about their middle, and neighboring halves of these divided segments unite to make a third series, and so on. This

process of rhythmic segmentation of the food may go on for several minutes in the duodenum (at the rate of thirty divisions per minute in the cat), so that the food, coming from the stomach, becomes thoroughly mixed with the outpouring secretions of the liver and the pancreas. It is usual for the process to be brought to an abrupt end in the duodenum by active peristalsis. A peristaltic wave forms behind the mass of food and sweeps it swiftly forward through several coils of the intestine.

The Plantar Reflex in Epilepsy, with Special Reference to the Babinski Phenomenon.—This topic is considered by J. M. Keniston, who made, on thirty-five insane male epileptics, tests for the plantar reflex as follows: (1) 700 observations at varying intervals between seizures in order to establish a norm for each individual; (2) 1,088 tests made immediately after seizures, as soon as clonus had ceased, and (3) a similar number of tests made an hour later. In these 35 patients we found the individual intervallary reflex to be of the normal type—flexion of toes on both sides—in 10 cases; there was a marked extensor response (Babinski) in 7; no response whatever in 2; and in the remaining 16 cases a mixed response, *i. e.* right flexor, left extensor, 5; right flexor, left negative, 5; right extensor, left flexor, 2; and in 4 cases an irregular response, sometimes flexor, sometimes extensor, or varying mixtures of flexor, extensor, and negative in one or other foot, with no predominant type. The percentages were: flexor response, 28.57 per cent.; extensor response (Babinski), 20 per cent.; mixed response, 45.71 per cent., and entire absence of response in 5.71 per cent.

Medical News, March 21, 1903.

A Preliminary Report on the Venous Hum in Relation to the State of the Blood.—C. N. B. Camac has observed in certain cases a bruit in the vessels of the neck, together with normal blood. Normal blood has been frequently found in cases of marked pallor. He tabulates a number of cases, and concludes that the practical point to a clinician is that pallor, and even a cervical bruit, may not indicate anæmia, and that the blood should be examined to determine this point. If the suggestion that the vascular tone is faulty be correct, cardiovascular stimulants would be indicated, and not the exclusive administration of iron.

Pneumonia: An Infectious Disease.—J. O. Cobb declares that a careful study of the clinical histories of cases in large hospitals is convincing that the "cold" theory is untenable. It is a disease incident to overcrowding and caused much by man's own fault, because it could nearly be wiped out by careful details of ventilation and disinfection. It kills as many people as tuberculosis, and it is increasing rather than diminishing. It is a disease incident to overcrowding, and cold or dampness have nothing to do with its spread, though dryness is a great factor. It is appalling to note the stupendous death-rate and to see that nothing is done to check the spitting habit, which seems to be the only cause of its spread.

The Indications for Operative Interference in Intracranial Tension.—Frederic S. Dennis states that the treatment of intracranial tension is a new subject, and one to which he has given of late special study. He believes that operative treatment is indicated in many of these cases, and has employed this measure with most gratifying success. The indications for operative interference are in some cases perfectly clear, while in others the phenomena present would not justify so severe a measure. The greatest difficulty is to determine what the line of demarcation is between the cases that demand trephining or lumbar puncture and those in which the plan of expectancy can be adopted. Deep coma calls for immediate operation. In the absence of deep coma, the writer is in doubt as to the expediency of operative interference in less severe cases of intracranial tension. When there is a fracture of the skull, indications for operation are clear. It is in those cases of intracranial tension with no external injury that doubt arises. Cases of intracranial tension can be divided into two classes as regards operation interference. Those in which intracranial tension produces profound coma; those in which the tension is not sufficient to produce profound coma. Operation will save cases included in the first class that uniformly died under the expectant plan of treatment. Operation will save the cases embraced in the second class when the symptoms are gradually increased in severity.

New York Medical Journal, March 1, 1903.

Report of a Case of Epidemic Parotiditis with Fatal Termination.—The patient of W. J. S. Stewart was a sailor en route from Manila to this country. The disease developed in the usual manner, but no specially severe signs or symptoms were noted. In two or three days great restlessness developed with slight delirium. Breathing was difficult, resembling that of chronic asthma. The extremities were cool—not cold—and there was a faint trace of blueness beneath the finger nails. The face was pale, anxious in expression, and wet with perspiration, although the weather was cool. Having been propped up in bed with pillows and a back rest, he seemed to become more comfortable, and his respiration was apparently accomplished with somewhat less effort. At this time he complained of difficulty in obtaining his breath, and of sharp pain in the region of his heart, holding his left hand over his left breast the greater part of the time. While in this condition on the fifth day, he gave one prolonged gasp and died instantly. The cause of death was considered to be sudden heart failure, occasioned by the excessive strain of the difficult breathing.

The Treatment of Felon.—E. W. Lee places his patient in a recumbent position and advises a general anæsthetic, as the sufferer is generally worn out with pain and is nervously excited. The hand and forearm should be made as nearly aseptic as possible, and an Esmarch bandage applied. The hand is then placed on an aseptic towel over a hard substance and an incision made from a few lines back of the inflamed area to the tip of the finger, down, if necessary, to the bone. As all hemorrhages and oozing have been prevented by the application of the Esmarch, the extent of the disease can be clearly defined. All pus and sloughing débris should be cleaned out with peroxide of hydrogen, and the wound cavity washed with a 1 to 1,000 bichloride-of-mercury solution. With knife, scissors, and curette all diseased tissue should be removed: integument, cellular tissue, tendon, periosteum, and bone. Not a vestige of diseased tissue should be left, for it may be the cause of further infection. The wound should again be cleaned out with peroxide and washed with bichloride. The whole cavity should then be swabbed with pure carbolic acid, immediately followed by a washing with alcohol, which will prevent over-action of the carbolic acid. The wound is again washed with a 1 to 1,000 bichloride-of-mercury solution. The wound can now be closed and held in this position with a snug, moist, bichloride gauze compress over which a dry gauze bandage is applied; over this, rubber tissue, and over all, including the whole hand, cotton gauze and a bandage, the arm and hand being placed on a splint and elevated. In four or five days the dressing can be removed, and if the work has been thoroughly done, the wound will be found closed, free from discharge, and on the rapid road to recovery without further loss of tissue or constitutional disturbances. A similar dressing should now be applied. Four days more will find the parts united, and then the wound only needs a protective dressing until new epidermis and skin have formed.

American Medicine, March 21, 1903.

Influence of Marriage and Pregnancy on Diseases of the Heart.—M. J. Backenstoe declares that he should not offer serious objection to marriage in the absence of all cardiovascular symptoms of certain gravity, when the patient is willing to promise to observe the proper diet in the case of pregnancy. He thinks that milk not only exerts a preventing action on gravidocardiac symptoms, but also on the appearance of albuminuria. He advises a mixed milk diet, the milk being taken at the rate of two liters daily. He approves of this diet from the third month of pregnancy. However, cardiac lesions are aggravated by repeated pregnancies. In the case of existing hæmoptysis or marked dyspnœa, marriage should be disadvised. But even here one must not be too uncompromising, and the various circumstances which have given rise to these symptoms should be considered, and the effect of treatment be inquired into. The situation of the patient in respect to occupation and hygienic surroundings must also be considered. If conditions are all favorable there is no reason for objecting to marriage. However, the patient should be well warned and instructed in the precautions necessary for her to observe.

Excision of the Superior Maxillary Under Medullary Narcosis.—A. W. Morton has found that under the influence of medullary narcosis, analgesia about the mouth is as complete as in the lower extremities. Nor are there any more constitutional disturbances than when the analgesia is used for operations on the lower extremities. In the case here reported, carcinoma of the entire right jaw, the upper lip was divided near the middle line; the soft parts were raised and reflected outward, exposing the superior maxillary to its attachment to the zygoma; the hard palate and the nasal process was divided by a saw; the back part was separated with forceps and chisel, and the periosteum separated from the orbital portion. The mass was removed as well as the soft palate, and the cavity cauterized. The writer has used this form of analgesia in 929 cases, seventy-six of which were operations above the

diaphragm. This patient was free from pain and did not swallow any of the blood or allow any to pass into the lungs. The writer believes that the greatest field of usefulness of this method is for operations in locations where there is danger of blood and secretions entering the lungs.

On the Transportation of Cellular Emboli through the Thoracic Duct into the Lungs.—W. G. MacCallum describes a case of multiple hemorrhagic infarctions of the lung produced by the plugging of the branches of the pulmonary artery with masses of cells of the lymphoid type and larger mononuclear phagocytic cells. The cells must reach the veins and then the heart, to be propelled into the lungs, and this may occur in one of three ways: They may be poured directly into some systemic vein, or they may pass by way of the portal vein through the liver, or they may enter the thoracic duct and be thus carried into the subclavian vein. The last method seems the most plausible, especially as the liver does not show any great number of these cells in its vessels. It can hardly be doubted that the embolism of the pulmonary arteries in one of the cases reported here was due to the transportation of masses of cells derived from the lymph sinuses of the lymph glands through the thoracic duct into the heart, and thus into the pulmonary circulation. In the contents of the normal thoracic duct the small lymphoid cell is predominant, while eosinophile and neutrophile leucocytes also occur.

Philadelphia Medical Journal, March 21, 1903.

Trunecek's Serum, and Its Value in Disturbed Cerebral Functions Caused by Circulatory Changes, with Report of Twelve Cases.—Alfred Gordon arrives at the following conclusions: (1) The combination of the inorganic salts known under the name of Trunecek's serum may be a valuable remedy in some cases of disturbed cerebral function caused by circulatory changes. (2) Not only by hypodermic and intravenous administration, but also internally this remedy may give favorable results. (3) When the iodides, nitrites, and other means used in such cases are without avail, Trunecek's serum should be given a trial. Sometimes a combination of both may be necessary. (4) Several days—at least a week—must elapse before the desirable results can be expected. Finally, there are cases in which the remedy is absolutely useless.

Cryoscopy.—D. S. Grim concludes that: (1) Cryoscopy cannot replace, but only supplement, the older qualitative tests and microscopical examination of urines. (2) It is probably the most delicate test we possess in detecting and estimating the effect of therapeutic measures directed toward cardiac and kidney lesions. (3) It permits of reasonable accuracy in diagnosing renal insufficiency and the type of renal lesion present, though the examinations should be prolonged over a number of days; his conclusions coinciding with Lindemann's. (4) Uræmia cannot be diagnosed from the examination of the urine alone. (5) Cryoscopy of the urine from each kidney, obtained by ureteral catheterization, and especially when supplemented by the phloridzin and methylene-blue tests, becomes a very delicate and reliable test in determining a unilateral kidney lesion and the degree of insufficiency of the affected kidney. Because of an insufficient number of cryoscopic examinations of the blood, the "interchange" theory of Koranyi cannot be criticized by the writer.

A Case of Diabetes Mellitus in a Young Child.—James Hendrie Lloyd states that it is obvious that a mistake or oversight in diagnosis of this affection may readily occur in very young children. The symptom that usually attracts the attention of the mother is the excessive thirst. Failure of nutrition is also usually rapid, and a general appearance of ill health quickly supervenes. Polyuria is not so apt to attract attention as in older patients. In these young patients the progress of the disease is almost always very rapid, and the result seems to be uniformly fatal. In not a few cases there is a history of heredity. Injuries figure in the histories of a few cases. The essential cause, however, is just as obscure as in the cases of adults. The writer reports the case of a boy aged two years and two months. The grandmother was said to have diabetes, but this could not be personally confirmed by the writer. The child had undergone a surgical operation, and had been under ether for nearly an hour, only about ten days before the onset of the symptoms. Whether the operation and etherization acted like a shock or trauma is a matter of speculation. The writer appends a list of undoubted cases of diabetes mellitus in children under three years of age.

The Lancet, March 7, 1903.

An Unusual Form of Vesical Calculus.—The stone was removed by H. W. Page, by the suprapubic route, from an idiotic boy of seven years. Lateral lithotomy was attempted, but no stone could be felt by sounding. There was, however, a hard lump on the hypogastrium, and it was thought this that might be a calculus lodged in a bladder diverticulum near the fundus. The mass removed was about the size of a large walnut, and consisted of some ten to twelve layers of laminated, tough material in appearance like wash-leather and like the decolorized blood-clot from an aneurysmal sac. The layers could be separated without difficulty. In the center of the mass was found a soft friable nucleus of mixed urates and phosphates about as large as a kidney-bean. This was doubtless the origin of the trouble and round it blood had been deposited in laminæ which had gradually been decolorized. No bladder pouch was discovered, and it is not easy to account for the deposition of laminated blood-clot round a nucleus, subjected, as it must have been, to the perpetual wash of urine. After the operation the child was kept in a warm bath and recovery was uninterrupted. He very soon lost his pain and began to take as much interest in his surroundings as his idiot state would allow.

A Case of Acute Tetanus with Certain Points of Interest.—The patient of L. D. Saunders was a man of thirty-eight years, who received a lacerated wound above the left patella and several scratches on the hands and face, from a carriage accident. The wounds were properly dressed, but eleven days ater he began to show tetanus symptoms. Antitoxin was given, but without avail, and on the thirteenth day he died. The points of interest stated by the author are as follows: (1) The antitoxin apparently had no effect whatever on the course of the disease. (2) No premonitory symptoms were complained of before the onset of the disease on the eleventh day after the accident. (3) Although the pulse gradually increased in frequency the temperature was normal, and it only rose to 101.8° F. just before death. (4) The opisthotonos spasms were comparatively slight and unaccompanied by pain, and were only noticed a few hours before death. (5) The end came quite quietly and painlessly and apparently was due to sudden heart failure. The patient was quite conscious to the end, and was able to swallow his nourishment without much difficulty. At the time of the accident the patient was in good health and had no history of previous illness.

Hydatid Cyst of the Spleen.—F. R. Seager reports the case of a boy of eleven years with a swelling over the left side of the stomach. The mass became larger after eating and at night. The boy was in good health and had been accustomed to drink considerable brook water and eat freely of watercress. Examination showed a swelling of the size of a small orange, distinctly noticeable in the left hypochondrium, projecting from below the costal margin, with its center just internal to the nipple line. Palpation of the tumor, beyond giving the sense of a cystic swelling, revealed nothing to suggest its nature or as to which was the organ affected. The percussion note was resonant over the tumor. There were no increase in splenic or renal dulness, no pain or tenderness on manipulation, and no appreciable movement with inspiration. The urine showed a trace of albumin. The diagnosis was thought to lie between a hydronephrosis or a hydatid cyst of some part. Incision was made under an anæsthetic over the tumor, and on opening the peritoneal cavity the spleen at once presented in the wound, with two-thirds of its anterior surface occupied by a tense, shining, yellow-colored tumor, which fluctuated on palpation. This was tapped and fully half a pint of clear limpid fluid was drawn off. The wound made by the tapping was then enlarged and a thick cyst-wall was shelled out in the ordinary way. The wall of the cavity was then stitched to the skin, a tube was inserted, and the rest of the wound was stitched. The boy made an uninterrupted recovery. The cyst was single with no daughter cysts.

The Conditions Which Modify the Characters of Inflammation of the Skin and Their Influence on Treatment.—In the second Lettsomian lecture, H. R. Crocker considers the influence of toxin absorption, the nervous system, the seasons ingesta, drugs, gout, and pregnancy. He notes as the most distinctive skin lesion of pregnancy the so-called "herpes gestationis," which is now acknowledged to be a dermatitis herpetiformis, with a special etiology, as precisely similar eruptions may occur both in single women and in males. Its general behavior in relation to pregnancy is interesting. Once it has occurred in relation to this state it is almost sure to recur in every succeeding pregnancy. One of his patients had seven pregnancies in eleven years and it attacked her at each gestation. It tends to begin earlier and earlier in the pregnancy, until sometimes it is the first intimation to the patient of her condition. With exacerbations and remissions it then continues throughout pregnancy, and shortly after parturition an attack of explosive violence occurs, and then the attacks diminish in severity until they cease altogether in from three to six weeks. Some begin in the same month

of each pregnancy and may stop before parturition and may recur after it, and some begin just after pregnancy. They may also last for a very long time after parturition, or may even become chronic or recur without a fresh pregnancy. In one of his cases at the fourth attack the patient was found not to be pregnant but to have cancer of the cervix uteri. The same kind of eruption has even been known to begin independently of pregnancy, to disappear when this occurred, and to recur when the menses appeared again, but naturally this could not be called a herpes gestationis.

Rise of Blood Pressure in Later Life.—Omitting the rarer conditions, such as obliterating endarteritis, neuritic arteritis, and periarteritis nodosa, Clifford Allbut suggests three classes of the so-called "arteriosclerosis:" (1) The involutionary—common in old people, often hereditary, not necessarily or usually associated with rise of arterial pressure; the nature of which, intrinsic or extrinsic, is unknown but does not lie in high living. This kind may be vaguely referred to the "faltering rheums of age." (2) The mechanical—the result of long-persisting high-blood pressure of whatsoever origin. (3) The toxic—resulting from such causes as lead, alcohol, or syphilis; usually met with in younger persons, in some of whom the pressure rises, in others not. For reasons he elaborates in full, he considers this condition to be quite distinct from the granular kidney. He believes the great cause to lie in excessive eating, and does not think that alcohol alone with food will cause it. There are a few old men, who, usually of lean habit and inheriting longevity, are endowed with enormous and persistent energy of mind and body, and who have never denied themselves meat or drink, yet at threescore and ten or fourscore years have good arteries and a moderate blood-pressure, but such men are few; in most persons, as life slows down, the powers of expenditure and excretion fall within much narrower limits. The ordinary man must be warned—say, as he passes the age of forty years—to keep up muscular exercise in the open air, and to control his appetite. Many men eat and drink far more than they need for the day's work; they are supplied with food generously, without hunting for it; and annual blood-letting has gone out of fashion. As soon as high pressure becomes manifest rigorous diet, deobstruent remedies, and exercise, such as cautious hill-climbing under the careful regulation of the physician, are necessary, and necessary not only during a month, but also for the rest of the patient's life.

The Lancet, March 14, 1903.

Concerning Antistreptococcic Serum and Its Use in Malignant Endocarditis.—C. Ogle concludes: (1) That the gravest symptoms, combined with streptococcic infection, even of the blood stream, are not incompatible with recovery if treated by injections of antistreptococcic serum; (2) that this is true also in malignant endocarditis, but that here the chances are probably less favorable on account of the colony of micrococci involved in the vegetations in constant contact with the blood stream; (3) that in malignant endocarditis staphylococci are frequent, or a mixed infection of staphylococci and streptococci, and (4) that if an examination of the blood be negative it would be prudent, therefore, to use injections of antistaphylococcic together with antistreptococcic serum.

The Use of Salicylic Acid as a Preservative in Food.—C. J. Macalister and T. R. Bradshaw claim that the use of salicylic acid as a food preservative is perfectly proper, and that the popular hue and cry against it is without justification. They challenge the opponents of its use to bring forward a single instance in which it can be shown that bodily injury has resulted from its employment in such a manner, and they deny that in the proportion in which they have met with it in articles submitted to them for examination it could be taken by any rational beings to such an extent as to do them any harm whatever. They further maintain that the use of this substance enables manufacturers to place on the market wholesome, agreeable, and inexpensive articles of food which form an acceptable and beneficial variety in the diet of persons who cannot afford more costly luxuries, and which, above all, supply the place of intoxicating drinks. They take this position after mature consideration, and with, they assert, an adequate sense of responsibility.

A Case of Floating Kidney in an Infant.—The patient of R. Phillips was a male child whose initial symptoms of illness were an attack of greenish vomiting and collapse coming on a few days after birth. From these symptoms it soon recovered. Examination of the abdomen revealed a very lax and atonic condition of the walls, and there appeared to be a small oval tumor causing a prominence of the abdominal wall just below the ribs on the left side. Palpation showed that this tumor was the left kidney "floating" forward. It glided about readily within the abdomen and could be displaced forward so as to come in contact with the abdominal wall just to the left of the umbilicus. The right kidney was also "movable," but not "floating." Its movement was chiefly in a vertical direction, and the anterior and posterior walls of the abdomen could be compressed together above its upper extremity and the kidney thus held down. The patient had several subsequent vomiting attacks and convulsive seizures. The author is not prepared to say that these symptoms are due to the kidney abnormality, as they occurred regardless of the position in which the child was held.

Some Points in the Anatomy and Pathology of the Vermiform Appendix.—In the second Hunterian Lecture W. McA. Eccles states that many varieties of bacteria may be found within the lumen of the appendix, in the walls of the tube, in the lymph formed on its serous surface, in the adherent portions of omentum, in the peritoneal fluid, in consecutive abscess cavities, in distant collections of pus, and even in the blood and remote organs. They may be classified as follows: (1) *Bacilli*—(*a*) bacillus coli communis in its various forms; (*b*) bacillus pyocyaneus; (*c*) bacillus prodigiosus; and (*d*) bacillus tuberculosis. (2) *Cocci*—(*a*) staphylococcus pyogenes aureus; (*b*) staphylococcus pyogenes albus; (*c*) streptococcus pyogenes citreus, and (*d*) diplococcus pneumoniæ. As to the frequency with which the more common individual organisms are found, the following may be taken as a fairly accurate estimate, based, as it is, upon the combined results of the investigations of many authorities: (1) varieties of the bacillus coli communis, 94.0 per cent.; (2) bacillus pyocyaneus, 0.5 per cent.; (3) bacillus prodigiosus, 0.5 per cent.; (4) bacillus tuberculosis, 2.0 per cent.; (5) staphylococci, 1.5 per cent., and (6) streptococci, 1.5 per cent. The bacillus coli communis is the only organism which is commonly found alone in cases of appendicitis. Cocci are but rarely present by themselves, though they are more often found in association with the colon bacillus. Tuberculosis of the appendix may be primary or merely part of a general infection of the alimentary tract. In its primary form, which is decidedly rare, it is apt to be very chronic, producing signs and symptoms of a chronic appendicitis. In these instances the mucosa and the submucosa will ordinarily be the parts involved, the serous membrane frequently remaining free. Now and then there are seen instances in which connective tissue hyperplasia is the predominant anatomical feature of the lesion, giving rise to a mass which to the naked eye is very difficult to distinguish from a new growth. This hyperplasia is probably the outcome of a low virulence of the bacillus and a consequent disinclination to caseation, and a great increase of newly-formed connective tissue in place of it. Secondary tuberculosis of the appendix is by no means rare, and, as a rule, presents no marked signs or symptoms of its own presence, these being marked by those of the more extensive infection.

British Medical Journal, March 7, 1903.

Diabetic Coma Treated by Transfusion.—David Young reviews this case. The patient, a man of thirty-nine years, was from the first weakly and unable to stand heroic treatment by purging and hot-air baths. His pulse and general condition called rather for stimulants, and he responded to transfusion in a very remarkable manner. Although the coma was very severe in type, still the patient lived for nearly eleven days after its onset, showing marked improvement after each transfusion. It could always be given painlessly after a hypodermic injection of a weak cocaine solution. On the first two occasions normal saline solution was used, and the liquor sodii solution for the later transfusions. It appeared as if the patient would be tided over his attack of coma till pericarditis developed, and apparently caused his death.

Case of Rheumatic Fever Complicated by Chorea, Iritis, and Endocarditis; Recovery.—Fred. C. Forster reports this case. The patient was a girl of twelve and a half years, suffering with sore throat and slight aching pains in the right knee and along the right tibia. The tonsils were inflamed. Although she was put to bed, and ordered to have a strictly milk diet, a saline purge and sodium salicylate mixture, the next morning the right knee-joint was much swollen and inflamed, as well as the right elbow and left ankle. At the end of a fortnight the cardiac condition was satisfactory. But three days later choreic movements began to develop. This continued for four weeks, and as they began to subside iritis developed. For some time the patient was very ill. Shortly after the onset of the iritis, endocarditis developed. Cyanosis and œdema accompanied the dilatation, and the outcome for several days was doubtful, but she finally recovered.

The associations between rheumatic fever, chorea, iritis, and endocarditis are well recognized, but it is rare for them to occur consecutively in one patient.

Case of Apparent Secondary Abdominal Pregnancy in a Rabbit after Primary Rupture of the Uterus.—Kurt Kamann describes the condition which he found at the necropsy on a rabbit. There was a complete fetal sac in the abdominal cavity containing a full-time fœtus only recently dead. The sac was attached to a very vascular part of the great omentum which had been drawn out in the form of a pedicle. The placenta was on the wall of the sac opposite its point of attachment to the omentum, which was the only means of connection between the fetal sac and the mother. The internal genital organs were at some distance from the sac, and appeared to be free of any marked changes. On examination of the uterus by sections, the left uterine horn showed, microscopically, a tear in its wall, filled with fresh granulation tissue. This proved that the fœtus had not developed primarily in the abdominal cavity, but in the uterus, and that the full-time fetal sac, together with the placenta, had passed out through the tear in the uterine wall. The writer believes that its attachment to the omentum took place during the course of a gradual protracted rupture of the uterus, so that the fetal sac, becoming adherent to the omentum, received its blood supply from it before being completely expelled from the uterus. He compares these phenomena with the so-called abdominal pregnancy in the human female, believing that the Fallopian tube gradually ruptures and that the fetal sac, which is slowly expelled, becomes adherent to the neighboring abdominal organs.

British Medical Journal, March 14, 1903.

Sanatoria Plus Homes for Consumption.—W. Rushton Parker believes that if all consumptives could be treated in sanatoria for three months during the earliest stage of their disease, and taught how to preserve the health there regained, very few would reach the advanced stage so dangerous to the general community, and thus a great public benefit would be gained. Sanatoria might well be erected and maintained out of the rates for the general good. Not only sanatoria for the arrest of the disease in its early stage, but also homes for the isolation of advanced cases from the rest of the community are needed.

The Dietetic Treatment of Pulmonary Tuberculosis from the Point of View of Its Hæmatology and Histopathology.—J. J. Galbraith groups cases of pulmonary tuberculosis under two headings: Those in which the recuperative power of the system is sufficient to produce a reaction, capable when properly guided and sustained, of stopping the progress of the disease; and those in which the system is incapable of stimulation by the ordinary means and the disease progresses toward a fatal issue. The recuperative power itself also falls naturally under two headings: The physiological tissue reaction, the main factor in recovery, and the physical capability of the infected organ for repair. The former, in many cases, is sufficient to arrest the progress of the disease. If it be true that the leucocytes have a special antibacterial action, and that changes in them are the evidence of a reaction to poisoning, which may be common to all tissues, but is demonstrable only in the blood, then only those constituents of the diet which produce or favor this reaction need be in excess of the normal. The remainder is increased as the capability for making a proper use of it is gradually restored. Digestive leucocytosis is produced, not by the absorption of nitrogenous food indiscriminately, but by the action of the nuclear constituents, and is in proportion to the amount present. A diet mainly animal furnishes the largest amount of nuclein derivatives in proportion to the quantity taken, while, if properly administered, it throws least strain on the organism. One advantage of a meat diet, in addition to its directly curative value, is that it supplies organically combined iron, and renders the administration of other organic hæmatinics unnecessary. The percentage of hæmoglobin rapidly rises. From a histopathological point of view, rational dieting consists in furnishing a diet rich in the appropriate albuminous constituents. The special advantage of a meat diet in this relation is that, besides containing the nuclear bodies which have a directly stimulant action, it contains also proteids which have a high nutrient value. Sufficient fat and carbohydrate must be given to meet the physiological needs, and increased later, as metabolism and absorption improve, to the maximum which can be elaborated.

Münchener medicinische Wochenschrift, March 3, 1903.

Is Lupus Erythematoides a Tuberculide?—A. Gunselt negatives this question and reports a case of disseminated lupus erythemoides in which, upon autopsy, no tuberculous lesions were found to be present anywhere in the body. Including the cases hitherto reported this makes twenty cases of this disease which have been autopsied. In only nine of these have tuberculous lesions been present. On this basis it certainly cannot be claimed that lupus erythemoides is a tuberculide; that is a disease produced by the effects of tubercule toxin.

Gonorrhœal Cutaneous Ulcers.—Oskar Salomon and A. Blaschko report the case of a female in whom, while she was suffering from gonorrhœa, an ulcer developed upon the internal surface of the right labium majus. The ulcerated surface spread rapidly and produced an abundant secretion. Upon examination the latter was found to contain the gonococcus almost in pure culture. The identity of the organism was established by both microscopical and cultural methods. Later, the pus became contaminated with both streptococci and staphylococci. The ulcer completely healed in short time under applications of a 1-per-cent. solution of nitrate of silver.

Spinalgia as an Early Symptom of Tuberculous Infection.—Johannes Petruschky says that spinalgia (a susceptibility upon pressure of the spinous processes of any of the vertebra from the second to the seventh dorsal) is an early symptom of tuberculosis of the bronchial glands, and is often present when tubercular lesions in the lungs or other regions of the body are not present. Its value in the early diagnosis of tubercular infection is hence apparent. This symptom is not, however, always present. Its absence, therefore, does not negative tubercular infection. The above opinion is based upon the observation of seventy-nine cases of tuberculosis by the author. All but two of these reacted positively to tuberculin. All showed typical spinalgia upon examination.

Berliner klinische Wochenschrift, March 2, 1903.

Some Causes of Hay Fever.—G. Rosenfeld reviews the various well-known varieties of pollen that may cause this disease, and adds thereto one not hitherto mentioned, and which is to be principally found in the vicinity of Stuttgart. It comes from the plant known as the plantus occidentalis. This plant is in bloom from the middle of May to the first of July, and it is during this time that the disease is prevalent. The symptoms are similar to those of hay fever, as seen in other locations, and experimental observations have definitely shown that the pollen of this plant produces, in this locality, the disease.

Autolysis.—F. Umber reports observations which show that autolysis, as produced by autolytic ferments, is a process active during the life of the human organism. The presence of autolytic products was demonstrated in various fresh pathological exudates. Furthermore, such exudates, when placed in vitro, under conditions favorable for autolytic action, show, after a few hours, a marked increase in autolytic products, and a corresponding reduction in albuminoids. The difference of these results from those announced by J. Schütz is probably to be accounted for by the fact that the exudates used by Schütz contained few if any leucocytes, while these were very abundant in those employed by the author.

Deutsche medicinische Wochenschrift, February 26, 1903.

Etiology and Serumtherapy of Hay Fever.—Dunbar shows, by a series of experiments, that the special symptoms of this disease are caused by the action of the so-called pollen-toxin," "which is a substance obtained from the pollen of various grains and plants by a process of extraction. If this toxin in watery solution is inoculated subcutaneously or instilled into the eyes of susceptible persons the characteristic symptoms of the disease are produced. Unsusceptible persons (those who have never suffered from hay fever) are in no way affected by this treatment. A long series of observations has absolutely proven this statement. The author has produced a specific antiserum by the successive inoculation of animals with this toxin. Such an antiserum absolutely destroys the action of the toxin when the two are mixed in vitro. It also causes the symptoms produced by the toxin to rapidly disappear if inoculated subcutaneously or instilled into the eye of a susceptible individual shortly after such a toxin has been similarly introduced. In the above experiments the author used a pollen-toxin obtained from maize, and the antiserum was obtained by the inoculation of the same toxin. Further experiments have shown that a serum obtained by the use of one variety of pollen-toxin may be active against an infection with another variety, both in vitro and therapeutically. Thus, pollen-toxin from rye is neutralized in vitro by an antiserum obtained from maize, and the symptoms produced by the rye-toxin were fully subjugated by the use of the maize antitoxin. If a similar inter-activity between the other various varieties is found to exist, the problem of producing an efficient antiserum for general practical use will be greatly simplified.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

ANDREW H. SMITH, M.D., PRESIDENT.

Stated Meeting, Held March 19, 1903.

Typhoid Fever in Infants and Children.—A symposium on this topic was held under the auspices of the Section on Pediatrics.

The Occurrence of Fetal and Infantile Typhoid.—Dr. J. LOVETT MORSE of Boston presented this paper. He said that although much had been written on this subject, yet, on account of the inherent difficulties of diagnosis from both the symptomatological and the pathological standpoint, no satisfactory conclusions had been drawn from these writings. However, conclusions based on the presence of the Widal reaction and of the typhoid bacilli had made the subject more definite. It should be noted that abortion of typhoid fever occurred in from 50 to 70 per cent. of the cases.

Fetal Typhoid.—In considering intrauterine typhoid infection it was necessary to throw out all the cases reported before the discovery of the typhoid bacillus. The majority of the cases would be found to be far from conclusive. There were, however, fifteen cases, proved by autopsies and cultures to be genuine typhoid. Of these, ten were born dead or died at birth. There was no longer any doubt about the possibility of the infection passing from the mother to the fœtus through the placenta. The possibility of bacilli passing through the placenta had been proved experimentally by several observers, though there was still some doubt about whether this could take place through the normal placenta. There were only seven or eight reported cases of congenital typhoid. The fœtus must often die *in utero* as a result of typhoid infection. In twelve cases the organs were carefully examined. In four of the cases the spleen was somewhat enlarged; in one there were healed ulcers and enlarged mesenteric glands; in one there was marked swelling of the liver and hemorrhages beneath the capsule. The lesions of the intestine and mesenteric glands were not found in intrauterine typhoid unless the infant lived for some time after its birth. These differences from extrauterine typhoid were probably to be explained by the different mode of entrance of the infection; one was a primary, and the other a secondary septicæmia. The cases of adult typhoid without intestinal lesions were of interest in connection with the study of intrauterine typhoid, but it should be remembered that in the one infant living for three weeks after birth, there were quite distinct lesions of the mesenteric glands and in the intestine. The septicæmic nature of the infection accounted for the extreme mortality in fetal and congenital typhoid. There were many cases which proved that infection of the fœtus was not a necessary result of typhoid in the mother.

Infantile Typhoid.—A number of years ago there was considerable discussion as to whether typhoid fever ever occurred in infancy, and while this question was soon settled in the affirmative, there was much difference of opinion expressed regarding the comparative frequency of the disease in infants. Statistics in epidemics and in large series of cases apparently showed that typhoid was uncommon at the age of two years. The striking feature was the large proportion of them occurring in connection with cases in the same house or in connection with large epidemics, which suggested that infants only contracted the disease when there was considerable exposure. He had been able to find records of thirty-two cases of typhoid occurring in infants under two years of age, in which the diagnosis was undoubted. A positive Widal reaction was present in twenty-three, a bacteriological examination established the diagnosis in five, and in four cases both methods were employed. Of the thirty-two cases, sixteen died, giving a mortality of over 50 per cent. Rose spots were present in sixteen cases; distention of the abdomen in eleven; diarrhœa in nineteen, and constipation in five cases. Most of the cases had high fever. In the light of our present knowledge, the symptomatology of typhoid in infancy and early childhood was essentially the same as in adult life, and the disease was really and not apparently infrequent at this period of life.

The Occurrence of Typhoid Fever in Infants and Young Children.—Dr. J. P. CROZER GRIFFITH of Philadelphia read this paper. As regards the influence of age in the production of the disease, he said it was interesting to notice the change of opinion that had taken place in recent years. The belief was gaining ground that typhoid fever was not rare in infancy and childhood, although when compared with the number of cases met with in adults it was, of course, uncommon. He had reported eighteen personal cases occurring in children under two years and a half old. The principal cause of the relative immunity he believed to be the lesser frequency with which typhoid bacilli entered the intestinal tract. As compared with the symptomatology of the disease in adult life, the two chief characteristics in infancy and childhood were the less characteristic onset and course, and the tendency of the nervous symptoms to overbalance the intestinal symptoms. In general, it might be said that in infancy the disease was apt to be atypical in most respects; in early childhood the usual symptoms were greatly modified; in later childhood the symptomatology approached much more closely to those of adult life. The onset in infancy and childhood was apt to be slow and insidious, and children were often quite able to be brought to dispensaries, and, indeed, had to be observed for several visits before the diagnosis could be made. Vomiting was a comparatively common initial symptom in childhood, though it rarely gave much trouble. Epistaxis was not as frequent as in adults. Some degree of cough was common, associated with coarse mucous râles in the chest. Diarrhœa was a not infrequent symptom of the disease in the first eighteen months of life. The frequency in infancy, as distinguished from childhood, was probably due to the tendency of the intestine in early life to excite diarrhœa under slight provocation. Again, ulceration was known to be much less severe in early than in later life. It was a curious fact that during the present winter diarrhœa had been unusually prevalent in the Children's Hospital in Philadelphia. Abdominal pain was not infrequent. Rose spots were present in the majority of cases. The spleen was probably always enlarged. Desquamation had often been observed in his cases, but he had been unable to convince himself that it was in any way characteristic. The nervous symptoms were very marked, but the grave symptoms of the advanced typhoid state, so commonly seen in the adult, were not so often met with in the young child. There was generally a slight degree of apathy, which was characteristic, and there was apt to be delirium at night. Headache was common, but was not so severe as in later life. Meningeal symptoms were quite common, and often led to errors in diagnosis. The total average duration of the disease was from fourteen to twenty-one days. The temperature usually rose rapidly, and there was very little variation between the morning and evening elevation. It fell much more rapidly than in adults, and in some instances this fall was almost critical in type. Not infrequently there was a tendency for a moderate temperature to persist for weeks after every other symptom had disappeared. The solitary glands of the intestine were enlarged, elevated and of a pinkish color, and the mesenteric glands were usually decidedly enlarged. The tendency to ulceration of the intestine was not great. It was probably owing to this absence of severe intestinal lesion that the duration of the disease was short. The diagnosis of typhoid fever in early life was certainly difficult, and the value of the Widal reaction was inestimable at this

period of life. Meningitis must be carefully excluded. Enterocolitis could be usually distinguished after a little time. Influenza offered peculiar difficulties, because in both there was a continued pyrexia without adequate and obvious cause. The failure of the Widal reaction to show itself should not be looked upon as proof that typhoid fever was absent, because occasionally this reaction did not appear until very late in the disease. The various other infectious diseases might occur simultaneously with, or consecutive to typhoid fever. Noma was an unusual complication in children. Intestinal hemorrhage was quite infrequent, though he had seen one fatal case of intestinal hemorrhage in an undoubted typhoid fever in an infant of five months. Perforation was a very great rarity in childhood, yet he had happened to see four such cases, all in children approaching the age of puberty. Relapses were about as frequent as in adult life. The prognosis was good in children. Of 137 cases occurring during ten years in the Children's Hospital up to 1898 the mortality was only 2.9 per cent. In the period from 1898 to 1902 there were 295 cases with a mortality of 6.7 per cent., thus giving a total mortality of 5.32 per cent. In a series of 278 cases occurring in infants under two years and a half old the mortality was unusually high—51 per cent.

Treatment.—The bath method of Brand carried out with exactitude was not applicable to young children. Even a tepid plunge of 85° or 90° F. was often not well borne by older children. His custom was to employ sponging first, because it was often quite sufficient; if not, a graduated bath was used, beginning at 90° F. and cooling it down to 85°F. This was the safer plan. Sometimes a warm bath of 95° or 100° F. was useful, and the same was true of the abdominal ice-bag. Hydrotherapy should never be used in young children as a necessary routine, and the prolonged sponging of a struggling child was neither useful nor judicious.

The Symptoms and Etiology of Typhoid Fever in Children, Especially the Widal Reaction.—Dr. A. D. Blackader of Montreal read this paper. He said it was generally admitted that the symptoms of typhoid fever arose from a systemic poisoning brought about by an infection with the typhoid bacillus. The development of this bacillus in milk did not appreciably change the taste or appearance of the milk. Hand-to-hand infection was especially common among children. It was possible that flies might act as carriers of the infection. Out of 398 cases entering the Montreal General Hospital since 1900, 4 were below five years old, 19 were between five and ten, 32 between eleven and fifteen, 89 between sixteen and twenty years of age, and 92 between twenty-one and twenty-five years of age. After this age the numbers fell rapidly, so that only three of the patients were over fifty years of age. Similar statistics could be collected from the hospitals of any large city. It was urged that these figures were misleading, for the reason that young children were more apt than adults to be treated at home when sick. Typhoid fever under the age of five years was quite rare in private practice in Montreal. Of the 100 cases reported by him in 1900, 4 were under two years of age; 13 were over two and under six; 40 were over six and under eleven, and 43 were over eleven and under fifteen years of age. In his opinion, typhoid infection was most frequently met with in those children who exhibited a tendency to intestinal rather than gastric disorders. At times a double infection might occur, as, for example, of scarlet fever and typhoid. Comparing the onset, course and termination of typhoid fever in children and adult life, one was impressed by the mildness of the disease and its short duration. The onset was more frequently sudden in the child than in the adult, and sometimes simulated pneumonia, yet in about two-thirds of the cases the onset was even more vague than in the adult. The temperature curve was apt to be atypical, and the stage of continued fever brief. The disease usually ran its course in children in about three weeks, but the first few weeks of convalescence were often marked by sudden elevations of temperature. Abortive cases were not infrequent in childhood, the pyrexia terminating after the eighth or ninth day. He had been unable to find any record of typhoid fever running its course in children without fever. The mortality of simple typhoid in childhood was undoubtedly low. In his one hundred cases there was only one death, and in fifty consecutive cases under fifteen years of age taken into the Montreal Hospital, from 1900 to the present time, only three deaths occurrred. Deaths from typhoid in childhood were usually from some intercurrent affection, whereas hemorrhage and perforation were the chief causes of a fatal issue in the adult. In the great majority of cases the enlarged spleen could be palpated toward the end of the first week. Percussion often gave less definite results. With defervescence the spleen underwent rapid diminution in size. Gurgling in the ileocæcal region was of little importance, but sudden tenderness and sensitiveness could be made out in a certain number of cases in the second week, and should be carefully differentiated from appendicitis. The typical roseola could be found, if carefully looked for in the larger number of cases. It was generally present on the abdomen, though sometimes on the back, appearing between the tenth and fourteenth days of the illness. Evanescent exanthematas were met with in rare instances in cases complicated by some intestinal disorder. Desquamation was not generally noticed in this country. Large ecchymotic spots on the skin must be regarded as of unfavorable omen. Some bronchitis was generally to be found in children, if looked for, though it might not be evidenced by cough. It was a common sign of typhoid intoxication, and was of some diagnostic value. A high pulse frequency was the rule; only in long and severe cases did symptoms of actual cardiac asthenia develop. Transitory intermission of the pulse was, however, not infrequent, especially during the subnormal temperature. Dicrotism was almost never observed in children under ten years of age. The symptoms of intestinal irritation were seldom prominent in children. While a slight diarrhœa was present in the majority of cases at the onset, it quickly subsided under a careful dietary, and was frequently replaced by constipation. In his experience tympanites had been a rare complication. In a few cases pseudomeningitis might be an early symptom, but in these cases the slightly rounded abdomen, the palpable spleen, and, later on, the appearance of the roseola would generally clear up the diagnosis in a few days. True meningitis in the course of typhoid infection was extremely rare. Mental changes were also decidedly rare. Nephritis, as indicated by albuminuria and casts, was an occasional complication in older children, and it was not to be forgotten that the typhoid bacillus might develop in the urine and, in cases of retention, might set up a cystitis. True relapses were met with less frequently in children than in adults. Ehrlich's diazo-reaction was often present considerably earlier than the Widal reaction, and, when distinct, was frequently helpful, although, as was well known, it was by no means absolute in its indications. The Widal reaction should be sought for at least every second day in suspicious cases. In Montreal, where the dried blood method was first used on a large scale, it was the rule to employ a dilution of one in forty and a time limit of one hour. Definite clumping of the bacilli was considered essential. While nineteen of his cases had given the reaction on the tenth day, his experience was that in many instances the reaction was wanting until after the tenth day.

Typhoid Rare in Children of New York.—Dr. L. Emmett Holt said that he thought all pediatricians would agree that most of the cases which had given trouble in diagnosis were those in which there was a prolonged fever. There would be found a considerable number of cases of continued fever in which, after the illness had passed, the physician was still unable to make a positive diagnosis. The question

arose as to whether these were cases of typhoid fever or some other form of infection. He was disposed to think that a very small proportion of these cases were typhoid, but he considered it wholly unwarranted to assume that they were typhoid because there was an absence of the ordinary local inflammations. He was astounded to hear that Dr. Griffith had had such a large number of cases of typhoid fever in the Children's Hospital, because in his own hospital, during the past six months, he had met with only one case in a young child. This was the more remarkable because in the Babies' Hospital they were ever ready to make cultures and examine for the Widal reaction in every case of continued fever. In that hospital only three cases of typhoid fever had been found in fourteen years. It was evident, therefore, that the conditions under which Dr. Griffith had made his observations were very different from those existing in New York City. In the absence of the Widal reaction, after repeated examinations for it, the probability of the presence of typhoid fever was exceedingly small. In very young children typhoid fever appeared to be very much more a nervous than an intestinal disease; hence, the caution given by Dr. Griffith about looking for typhoid in cases suspected to be meningitis was of practical value. He had seen two or three cases in which the typhoid eruption was so profuse and prominent as to lead to the erroneous diagnosis of measles.

Dr. William P. Northrup said that in the New York Foundling Hospital, in a period of twenty-eight years, Dr. J. Lewis Smith, Dr. Joseph O'Dwyer, Dr. Roland G. Freeman and himself had not met with a single case of undoubted typhoid. From the literature of the world Dr. Griffith had only succeeded in collecting 417 cases of typhoid in children under two years and a half old, and of these there were 23 congenital cases. Personally, he had seen only six cases in children of two years or under, their ages being nine, thirteen, sixteen, twenty-two and twenty-four months, respectively. The subject was now in the hands of the laboratory workers, and it was in their power to settle this dispute.

Dr. H. Koplik said that the prevalence of typhoid fever in infants and children could not be determined as yet, because even experts differed as to what was essential for making the diagnosis. Koch insisted that it was necessary to examine the feces. In children over two years of age he was sure typhoid fever was much more prevalent than was generally supposed. In many very young infants the disease certainly often passed undetected. The mortality was about the same as in adults, and, as in them, varied very greatly with the prevailing type. The Widal reaction was of special value in those cases simulating meningitis and pneumonia.

Dr. Morse said he had personally gone over almost all of the literature of typhoid fever in infancy, and he was free to say that many of the cases reported by Dr. Griffith should not be accepted, and he did not think that Dr. Griffith would have accepted them had he personally examined the original reports.

Dr. Griffith insisted that the profession at large should be impressed with the fact that typhoid fever did occur at times even in young infants, for a great many physicians never even thought of this disease in such young patients, and did not look for the typhoid eruption. He had heard Dr. Northrup insist that one should not make the diagnosis of typhoid in infancy without the presence of the typhoid eruption, tympanites, diarrhœa and other characteristic symptoms, and yet, if this rule were applied to adult cases, many of the latter would be wrongly diagnosed.

Dr. Blackader said that the mortality, as stated by him, had been as he had ordinarily found it, and did not represent any exceptional type. He was aware that in France the mortality was placed much higher, though why he did not know. Certainly, in Canada, typhoid fever in children was looked upon as a mild disease.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held March 16, 1903.

Alexander Lambert, M.D., President.

Some New and Unusual Therapeutic Applications of Ergot.—Dr. Alfred T. Livingston, of Jamestown, N. Y., presented this paper. He said that it was almost thirty years since, as assistant physician in the State Insane Asylum at Utica, he had begun the use of ergot to modify the circulation in the brain in cases of insanity, especially those of melancholia. At first he had used al-almost exclusively the fluid extract of ergot, given by mouth, though some experiments were made regarding the hypodermic administration of the drug. In 1878, while practicing in Philadelphia, he had first become fully impressed with the therapeutic possibilities of ergot. He was called at that time to a man who had been retching violently and constantly for about four hours, and was greatly exhausted in consequence. The frontal vein was enormously distended, the pulse was full and bounding and the patient complained of much pain. Ergot was injected slowly, because experience had taught him that it was not wise to inject it as suddenly as morphine. By the time the syringe had been emptied the suffusion had disappeared, the retching and pain had ceased and the pulse was soft and but slightly increased in frequency. In a short time the man fell asleep and slept for six hours continuously. Some time afterward he had been called to the same man, who was in a state of great mental excitement because of the loss of a considerable sum of money. An injection of ergot was given with just as good effect as in the first instance. Ergot exerted a specific tonic effect on the circulation, especially on the vessels which were relaxed from lack of sufficient nervous impulse or from paralysis of the vessels from over-distension. Under these conditions the vessels were incapable of contracting against this pressure from nervous impulse alone. The drug acted on all dilated vessels wherever found, and in this way established equilibrium. It was contended that it raised the blood-pressure in the arteries, but if it did this it also diminished the pressure in the veins and capillaries; hence this objection was not valid if ergot were given in any ordinary rational dosage. The most important therapeutic property of ergot was its power to restore equilibrium and tone to the circulation.

Insomnia.—It was generally accepted that in natural sleep there was a diminished blood supply to the brain. Ergot was not only the most effective agent in insomnia, but the sleep following its administration was the most natural produced by any drug, probably because it produced that condition of the circulation which belonged to natural sleep. Many times patients had fallen asleep in his office after having received a hypodermic injection of ergot for the relief of a headache.

Headache.—Headache was probably the most common complaint of humanity, and it afforded a most extensive field for the therapeutic application of ergot, not only for immediate relief, but for the prevention of recurrences. Galvanization over the cervical sympathetic was a valuable adjuvant. The function of sight was often disturbed in persons suffering from headache, and he believed in many instances eyeglasses were prescribed when both the impaired vision and the headache were dependent upon a common cause.

Iritis.—The relief of pain in iritis from the use of ergot was both astounding and lasting. He wished the ophthalmologists would give ergot a fair trial in glaucoma.

Opium Poisoning.—To those who had not used ergot broadly, many of its effects would seem very strange. The author related a desperate case of morphine poisoning in which the respirations had sunk to two per minute, and strong faradization was used for two hours before the action of the current was perceived. However, on stop-

ping the faradization the patient promptly relapsed into deep stupor, from which he was most abruptly and completely aroused by the hypodermic injection of ergot. There was no relapse this time. He was so confident of this beneficial action of ergot that he insisted that this method could be relied upon along with the washing out of the drug from the stomach when it had been administered by that route.

Drug Habits.—He had also found ergot very useful in the treatment of opium and other drug habits, and had found it a most effective substitute for these drugs. He had frequently used ergot in pregnant women without any mishap, and there was good obstetric authority for this use of it when it was indicated during pregnancy.

Ergot was exceedingly useful in cases of acute alcoholism, in asthma, hysteria, hysteroepilepsy and catalepsy. In all these references to ergot it was to be understood that the drug was to be given only hypodermically. He had no confidence in its action when administered by the mouth, and moreover the ergot often seriously disturbed the stomach when so given. Many cases of general paresis were greatly relieved by ergot in the early stages.

Acute Inflammatory Diseases.—Ergot was certainly indicated in acute inflammatory diseases, and his practice had confirmed his opinion of its value in such disorders as meningitis, pneumonia, peritonitis, appendicitis, tonsillitis, erysipelas, erythema and inflammation of the veins and arteries. Among the troublesome sequelæ of influenza were local passive congestions of certain internal organs. These could be slowly but surely relieved by the persistent use of ergot.

Heart Affections.—He was of the opinion that too much attention was given to the heart in many cases and not enough to the conditions giving rise to the disturbed heart action. Ergot was ten-fold more valuable and efficient than all of the heart tonics and stimulants combined. He did not condemn this whole class of medicaments, but only their very common and improper use. For instance, it was clearly indicated that the load should be taken as much as possible off the heart in angina pectoris, and yet many excellent authorities in this field did not hesitate to condemn this use of ergot.

Ergot in Surgery.—Inflammations could only follow congestions, and the latter could only occur when the walls of the blood vessels in the wounded part had not sufficient tone. If there were lack of proper tone ergot would make good this deficiency. He had found the administration of ergot an exceedingly useful expedient in connection with the preparation of patients for surgical operations. Shock could be wholly prevented, or at least, greatly modified by the proper use of ergot. This often saved valuable time, which would otherwise be lost while waiting for reaction from shock. He felt that the most important part of his message was the statement that ergot would most effectively and surely secure that proper caliber of the blood vessels which would maintain a proper circulation in the body. Ergot would relieve pain just as effectively as did morphine, and without the congestion and disturbance of the vital functions which were associated with morphine.

Mode of Administration.—He had given considerable study to the mode of preparing the ergot and administering it. Many antiseptics had been tried with varying results. The mercurial had been discarded because of the irritation produced; iodine because of the tendency to the setting free of the iodine, and the carbolic-acid group because of its tendency to produce a turbidity which could not be removed by filtration. The solution ordinarily employed by him was Squibb's extract of ergot, one drachm dissolved in an ounce of water containing formaldehyde in the proportion of one to two or three thousand, or else a small percentage of trikresol. A syringeful of this solution, *i.e.* 25 or 30 minims, represented three grains of the drug. The solution should be made with distilled water sterilized by boiling, and the antiseptic should be added before dissolving the ergot. As a final step, the solution should be filtered. Experience had shown, though the reason for it was not clear, that a solution a few days old caused less pain and was more satisfactory than one just prepared. The minimum effective dose for an adult was fifteen minims, but it was frequently necessary to give two syringefuls. In extreme cases, as of uræmic convulsions, he would give four such syringefuls in such quick succession as practically to constitute one dose. One syringeful would generally relieve a bad headache, but if relief were not obtained the dose would be repeated in half an hour. The largest quantity of ergot that he had given in the twenty-four hours was ten ordinary syringefuls, or thirty grains of the solid extract. He preferred to give the injection in the left deltoid, but the space between the scapulæ was also good for making the injection beneath the skin. The injection caused some congestion and soreness in the part until a few doses had improved the tone of the blood vessels in the vicinity, when the patient would not longer mind the injections. He made it a rule always to inject the ergot solution very slowly.

Ill Effects.—He had never had an abscess purely from ergot. He had had a large experience with ergot, and yet had never seen a suggestion of ergotism or of other ill effects. With a proper solution and a sterile syringe and needle the ergot could be used freely until the desired effects were obtained, and the physician or surgeon need have no anxiety as to the outcome.

In conclusion, Dr. Livingston said he knew full well that as he did not come with the weight of medical authority there would be many disbelievers in his audience. He also knew that there was a strong prejudice against ergot itself, and that in some foreign countries it was difficult even to procure this drug, as it was looked upon as a rank poison. All that he asked was that his recommendations be given a fair trial, even though his paper seemed to indicate that he had a kaleidoscopic view of ergot, and that he used it as a music box upon which to play many tunes. All that was novel in the broad therapeutic application of ergot was the recognition of the varied inharmonious tones in the one chord he had mentioned, *i.e.* the disturbed circulation. Ergot was the master hand which, by its magical touch, would vibrate them in harmony and for health.

Dr. Frederick Holme Wiggin said it afforded him much pleasure to be able to say a few words in corroboration of the statements made in this paper. He had heard some of these statements made at a medical meeting last summer, and had been so deeply impressed by them that he had quickly tried ergot in his surgical practice. In the first case, one of laparotomy complicated by very strong adhesions, and in which after operation there was severe and dangerous intestinal paresis, he began the use of ergot hypodermically. The patient received ten syringefuls of aseptic ergot in twenty-four hours, and with the greatest improvement in the patient's condition. During the next day whenever the patient complained of pain or showed any sign of intestinal distention, ergot was administered. The patient made an excellent recovery. Since then he had had occasion to use ergot both before and after operation. It certainly had an excellent effect in controlling the nausea caused by the anæsthetic. A few weeks ago he had used it in a case of acute articular rheumatism of the ankle and wrist-joints. In a recent case of morphine habituation marked relief was afforded by the hypodermic use of ergot. In many other cases he had used the drug with equally good results.

Pulmonary Œdema.—Dr. S. W. S. Toms of Nyack said that he had had an important experience with ergot in two cases. About three weeks ago he had been asked in the middle of the night to see a brother practitioner eight miles away, who was said to be suffering severely from dyspnœa. Before his arrival another physician

had given digitalin, nitroglycerin, and strychnine. The patient was found to be deeply cyanosed, and had expectorated over a pint of frothy mucus. The dyspnœa was very distressing. He was a strong man, and had been busy all day with his practice. The attack had come on suddenly in the night, apparently provoked by anxiety over his daughter who was ill with typhoid fever. The speaker said he gave two syringefuls of Squibb's solution of ergot. In five minutes the breathing had been greatly relieved, but after twenty minutes, as the dyspnœa appeared to be returning, another syringeful was given. In a few minutes all cough and expectoration ceased, and in half an hour the attack of acute œdema of the lungs, due to disturbed compensation of the heart, had ceased, and he slept many hours.

Purpura.—The other case was that of a man of forty-eight, a grocer, having a good family and personal history. Some weeks prior to the present illness there was said to have been a rheumatoid condition, characterized by pain in the left shoulder-joint and radiating into the arm muscles, and not intensified by motion. This pain suddenly ceased, and was almost immediately followed by a rash over the lateral aspect of the feet and legs. The skin lesions were bright red petechiæ and ecchymoses into the submucous tissues, and they did not disappear on pressure. There was neither pain nor itching, and the lesions were not elevated above the surface. The head, face, and neck were exempt from the eruption. There were no erythematous manifestations. He had been taking a proprietary medicine largely composed of salicin. A careful inquiry into his dietary did not lead to any suspicion of scurvy, and the gums were perfectly healthy. There was no history of hæmophilia in the family. The attack referred to occurred on the evening of February 22. He suffered from violent pain in the left side, which suggested renal colic from hemorrhage into the kidney. It required two hypodermic injections of morphine to relieve it. There were no vesical symptoms, and the urine was then, as well as subsequently, normal. He was excessively nervous and erratic, and demanded immediate relief. There was slight rigidity of the abdominal muscles, and there was general tenderness on pressure, but especially over the region where the pain was first felt. The rash was not prominent over the articulations except the ankles. About the fourth day he was given a calomel purge. The pulse was about 100, full and tense. Two days later there were pretty free hemorrhages from the bowel with some vomiting of blood. This occurred for several days whenever he came out of the influence of the morphine. He was unable to take or retain any nourishment for over a week. The pulse then became quite weak, and averaged about 100. There was no elevation of temperature. On March 8 there was a slight indication of a recurrence of the rash about the ankles, and the next day it was quite marked upon the legs. The man was extremely nervous and weak. He was given a hypodermic injection of ergot at this time. The result was astonishingly prompt and satisfactory. He slept that night, and the next day the rash was fading. He received two injections daily for several days. On March 13 there was a marked recurrence of the rash, but without the former bad symptoms. This was attributed to some salicin that he had taken. This medicine was stopped and he improved. He had steadily improved since that time, and although still under treatment he was recovering rapidly. After each injection of the ergot the rash changed from a light red to a dark red, and by the next day the spots would be fading very perceptibly.

Dr. Charles Phelps was invited to take part in the discussion. He said that during the past month he had made some use of ergot, though not in the class of surgical cases in which it was most indicated. He had used it with admirable results in cases of arteriosclerosis. In some of these cases, occurring in old people who suffered from vertigo, the latter was quickly relieved by the ergot. The drug should prove of great service in cases of cerebral contusion, in which the mortality was considerable and was dependent upon hypermæia and œdema.

Dr. W. E. Ford of Utica said that he had been familiar with Dr. Livingston's work in nervous diseases and with his diagnostic ability in this field, and hence considerable weight should be given his statements, striking and novel though they were. The discussion was particularly interesting to him because ergot was an old and well-known drug. He had only used it himself in the field of gynecology, although formerly he had employed it with good results in nervous headaches. He was of the opinion that ergot was somewhat neglected in gynecology. Dr. H. N. Vineberg had called attention some years ago to the advantage of using ergot in cases of subinvolution and metritis, particularly where, as a result of this condition, the natural stimulus was absent and the mother found herself unable to nurse her child. He had found ergot very useful in such cases. While no doubt ergot might prove useful in many cases of weak heart, it was difficult for him to believe that it could take the place of strychnine, digitalis, and nitroglycerin. If increasing experience should make good the author's claims for ergot in this great field, this drug would certainly prove a most welcome and valuable addition to the physician's armamentarium.

Angina Pectoris.—Dr. Alexander Lambert spoke of his own recent experience with ergot. His first experience was in a case of angina pectoris in an old man with bad arteries, an aortic and a mitral regurgitation, and a very much damaged right heart. For some time amyl nitrite relieved him, but one time it utterly failed, and he then tried ergot. To his surprise, within about five minutes the patient's color was pink and his expression was better, and in ten minutes he was relieved. The same experience was repeated a number of times, although he finally died of a slow cardiac failure and not from an attack of angina pectoris. The case had seemed so desperate before the use of ergot that this result made a deep impression upon him.

Opium Poisoning.—His next experience was in a case of opium poisoning. Here the ergot awakened the patient, and kept him awake, after which recovery was uneventful.

Alcoholism.—The next experience was in cases of alcoholic "wet brain" in the alcoholic wards of Bellevue Hospital. For the past ten years he had had 800 or more alcoholic cases yearly under his care. He had tried everything that had been suggested to him in these cases of alcoholic wet brain, and yet always with a mortality of 95 per cent. Recently he had found such a patient lying puffing with a respiration resembling the Cheyne-Stokes' type. Ergot was ordered in doses of 15 minims every two hours. On his return the man was sitting up in bed smiling, and the nurse stated that after three hours the œdema had vanished and the man had become rational. He remained rational, and did not fall again into the state of serous apoplexy. There were ten cases of this kind, and seven of them were saved under the use of ergot. It should be remembered that these were not ordinary patients, for autopsies showed the patients of this class to have all sorts of remarkable pathological processes. He had also made use of ergot to relieve the intense tremor and dilapidation of alcoholics. He had used it extensively in this way, and had yet to see the alcoholic patient, even in Bellevue Hospital, who had not been sobered up in twenty-four hours by the use of fifteen minims of ergot every two hours.

Pneumonia and Pulmonary Congestion.—He had used ergot also in a severe case of alcoholic pneumonia following a three-weeks' debauch. The man had a most dreadful alcoholic tremor. He received nothing but ergot. The next day his temperature was normal, the tremor and the congestion of both lungs had disappeared and there was a small patch of pneumonia left in one lung. In four days this had disappeared and the man appeared to be perfectly well. About this time a woman who had con-

gestion of one entire lung from exposure during a cold snap was given nothing but ergot, and the following day the temperature had fallen to normal, the leucocytosis had disappeared and she recovered promptly. More recently he had observed four cases of pneumonia, three of them alcoholic, upon which ergot had not been previously used. In the middle of the night each of these patients developed general and marked œdema of both lungs, and the house physician, Dr. Gillette, reported that he did nothing but push the administration of ergot. In three hours they were comfortable, and all four recovered. Of course, he had seen cases of pneumonia in which the circulation was failing which had not been saved by ergot or by anything else. In one exceedingly severe case of asthma ergot did no good. The other day he had seen a peculiar case of poisoning from amylene hydrate as a hypnotic. The patient while in a stupor had reached out and taken the contents of the bottle, altogether nearly one ounce of amylene hydrate. Most of this was vomited. When seen by him six hours later she was still in a very deep sleep. She would awaken and speak a few words and then relapse into a remarkably deep sleep. The heart action appeared to be good. She was given two doses of ergot with the result that she promptly recovered.

Surgical Shock.—In still another case, one of strangulated hernia with organic disease of the heart, the patient was found in a state of intense shock. Although operation was urgently demanded the surgeon feared to operate because of the severe shock. The patient was given 15 minims of ergot. In fifteen minutes the pulse became quite good, and the anæsthetic was administered. At the completion of the operation the patient appeared rosy and in excellent condition, and he no longer showed any evidence of shock. Recovery was smooth and uneventful. Dr. Lambert said, in conclusion, that he had begun this use of ergot with a prejudice against it and no respect for it. He had lost this prejudice and now had a respect for it.

Prostatic Hypertrophy.—Dr. Edward Wallace Lee said that in cases of chronic hypertrophy of the prostate and in acute inflammations of this gland he had made use of ergot for many years, and was positive that the benefit from such medication had been very marked. Of course, the benefit in the acute cases might be questioned.

Dr. Livingston closed the discussion. He said that he had seen immediate and strikingly beneficial effects from the use of ergot in cases of cerebral concussion.

Pathological Society of Philadelphia.—At a stated meeting, held February 26, Drs. S. Solis-Cohen and David Riesman read a paper entitled "Ulcerative Endocarditis of Long Duration." Dr. M. H. Cryer presented two examples of lesions of the jaw. Drs. G. E. de Schweinitz and E. A. Shumway presented a communication entitled "A Study of the Corneal Lesions in Keratitis Bullosa." Dr. M. Howard Fussell presented specimens from a case of gallstones. During life a tumor had been present in the right hypochondrium, which was thought to be an enlarged gall-bladder containing gallstones, but which operation showed to be an anomalous lobe of the liver, while the gall-bladder was retracted beneath the liver, and it did contain gallstones. Dr. J. L. Carncross exhibited for Drs. W. S. Wadsworth and D. J. McCarthy specimens from three cases of cerebral aneurysm. In one symptoms of morphine poisoning, namely, embarrassed breathing of Cheyne-Stokes' character, with pinpoint pupils, were present, but on post-mortem examination an aneurysm of the posterior cerebral artery, with rupture into the lateral ventricles, was found. Dr. Carncross exhibited also a specimen of amyloid liver and kidneys from a case of hip-joint disease with spondylitis. The liver was enormously enlarged, while the kidneys were reduced in size.

New Instruments.

PORTABLE AND EASILY-ADJUSTED MECHANISMS FOR ULTRAVIOLET LIGHT.

By MARGARET A. CLEAVES, M.D.,
NEW YORK.

The results obtained by Finsen and his followers with ultraviolet light in the treatment of lupus vulgaris, alopecia areata and epitheliomas has created a widespread demand for simple and inexpensive apparatus for the purpose.

The Finsen tube by reason of its initial expense, as well as expense in operating and the long sittings required, is out of the question, save in isolated instances.

Many forms of light apparatus have been placed upon the market in the past three years, some of which are constructed so as to secure the maximum chemic action, others again of but limited actinic power. The use of unscientific apparatus minimizes the results and thereby depreciates the value of ultraviolet light.

From the beginning of my use of ultraviolet light, disassociated from the luminous and heat rays, in 1899, I have used a Finsen tube with glass lenses, one with quartz lenses, a special adjustment of a marine searchlight which is in daily use, and the two pieces of apparatus herein described.

The portability, simplicity of mechanism, and comparative inexpensiveness of the lamp, shown in

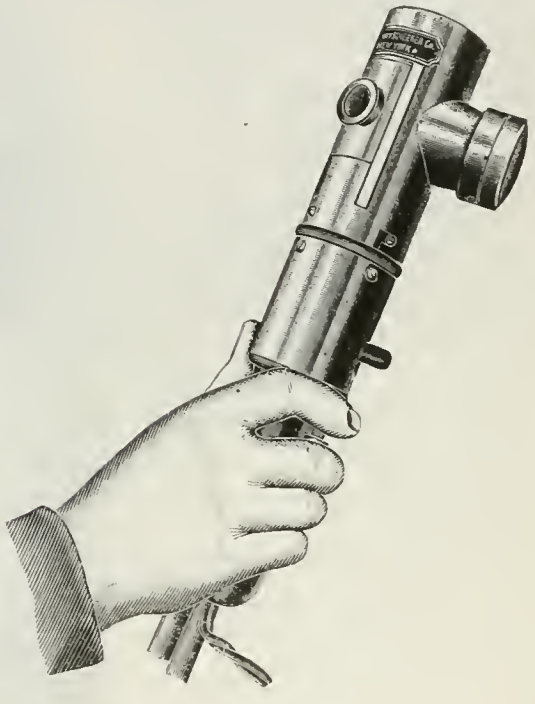

Fig. 1.

Fig. 1, renders it a desirable adjunct to the physician's equipment.

This lamp, manufactured by the Kny-Scheerer Co., N. Y., is modeled on the one devised by Dr. Sophus Bang, Finsen's assistant. It consists of a set of water-cooled iron electrodes instead of carbon. These electrodes are entirely enclosed in a cylindrical metal chamber which has two openings on the side. One of these has attached to it (by means of the ordinary bayonet lock), a water-cooling chamber and a set of quartz lenses. The other has a slide arrangement for holding a colored window, which serves the double purpose of allowing the operator to govern the intensity of light, or for treating such conditions as require a closer exposure to the direct rays of the arc. Through the hard rubber handle,

attached to the proximal end of the metal chamber, pass the conducting wires and also the rubber tubes for water circulation.

This apparatus is so constructed that the electrodes can be arranged for any intensity of light from 750 to 1500 candle power, and can be used on the direct circuit of 110 volts. The manufacturers are also at work upon one for alternating current circuits. A rheostat is included in the circuit, and is an absolute necessity in starting the light. After the arc is formed, the priming device should be released and the entire current can be turned on at the rheostat.

In the event of a coil being used for the *x*-ray, with suitable controller, the latter may be used for the lamp circuit, thereby minimizing the expense of the outfit.

Bang, in his experiments with an ordinary arc consuming 1375 volts of current per hour, found that it took four and one-half minutes to kill staphylococcus pyogenes aureus at a distance of 66 cm., while the lamp with the iron-cooled electrodes consuming the same amount of current at the same distance, less than four seconds were required.

The iron electrodes are particularly rich in the chemical rays of light, and by the water-cooling device a powerful actinic light is obtained, which can be used to within two inches from the arc itself. The spectrum of this lamp, while containing all the rays, is very intense and beautiful in the violet end. Photographically, it shows great actinic power, producing intense blackening of the bromide of silver paper in five seconds at a distance of twelve inches. Its bactericidal action, when consuming but one-third of the current, has been confirmed by experiments made by Dr. E. E. Smith and myself.

In a two minutes' application to a patient's face, sun-burn was produced, which lasted for several days, while a five minutes' application resulted in intense sun-burn with peeling of the skin. Its use has been followed in uterine cancer, by a relief from pain and irritation, as well as by a direct influence upon hemorrhage. Specula are made to use with this light.

In a case of recurrent epithelioma, two nodules on a woman's nose have been reduced fully one-half in three sittings of from three to five minutes each. The growth in this case was operated upon within the year, and a section examined at the time showed it to be an epithelioma.

In a case of rodent ulcer, the sensitiveness and soreness has been markedly relieved from a five minutes' exposure, and it is being used in this case in connection with the *x*-ray.

The second piece of apparatus is extremely simple and of immediate usefulness to every one possessing a high frequency coil or an influence machine. It was first suggested in 1901 by Görl[1] and Leduc.[2] Their mutual experiments demonstrated the richness of the electric spark, whether from a coil or an influence machine in ultraviolet light. Leduc found that photographic effects were obtained surpassing in intensity those of sunlight from the ultraviolet light thus produced, and that the rays produced intense fluorescence on a platino-cyanide screen without concentrating the beam, and in 1901 he suggested utilizing the influence machine as a source of ultraviolet light. He used these rays with a quartz compressor, as in the Finsen method.

The apparatus, manufactured by Van Hinlin &

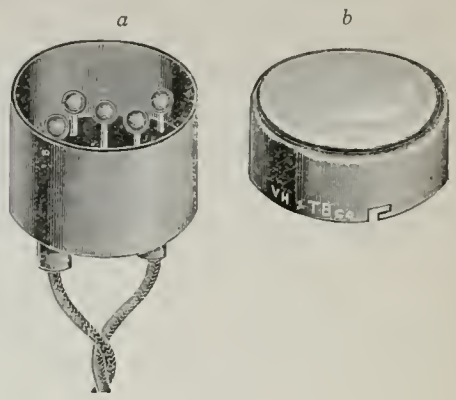

Fig. 3.

Ten Broeck, shown in Fig. 3, original with Görl, consists of five metal rods, preferably aluminum capped with small spheres of balls of similar metal. These rods are but an inch in length and the balls

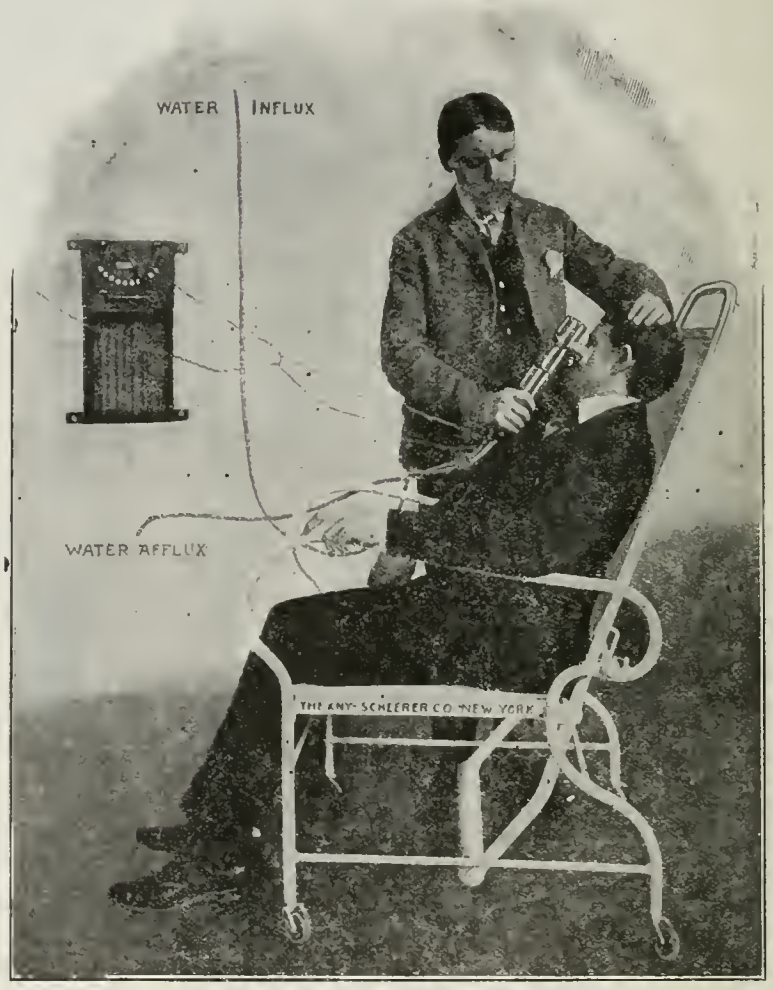

Fig. 2.

less than one-half inch in diameter. They are set at regular intervals in a hard rubber or mica base surrounded by a cylinder of hard rubber or mica, *a*. This in turn is fitted with a cap, *b*, containing a condensing lens. The spectrum gives all the colors, but the violet end is especially rich—not so intense as the violet end of the spectrum of the iron electrode arc, however.

Photographically, it shows very marked actinic power, but the darkening of the bromide of silver paper was not so intense with the same exposure and distance as with the arc.

Its bactericidal action remains unproven, although typhoid bacilli exposed, respectively, five and ten minutes were evidently weakened, as their development was delayed. With a thirty-minute exposure no action whatever was obtained on the staphylococcus pyogenes aureus. It emits a white light, is unaccompanied by heat or sensation of any sort, and, clinically, has been found to relieve sensitiveness and soreness in rodent ulcer and epithelioma, and also to produce the same sedative or soothing effect in uterine cancer as the iron electrode lamp. In it there is to be had an abundance of ultraviolet rays, not so great evidently as the arc, but capable of good when skilfully and judiciously used in a considerable range of pathology where the characteristic action of light vibrations are indicated. Better results are anticipated as a result of experiments in progress with a condenser containing a quartz lens. It may be used on either the primary or the secondary circuit of an influence machine. A specula is being constructed for uterine work fitted with a condensing lens of quartz. By means of the quartz lenses, in both the lamp and the condenser, the ultraviolet rays are permitted to pass, and the parts are rendered anæmic by pressure, as well thereby facilitating their penetration into the tissues.

1. *Münchener medicinische Wochenschrift*, No. 19, 1901.
2. *Comptes Rendus*, March 3, 1901.

70 Madison Avenue, February 7, 1903.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

A Textbook of Practical Medicine, Second Edition. By Wm. Gilman Thompson, M.D. 8vo, 1104 pages. Illustrated. Lea Brothers & Co., Philadelphia. Price, cloth, $5.00; leather, $6.00; half morocco, $6.50 net.

Diseases of the Skin, etc., Third Edition. By H. Radcliffe-Crocker, M.D. 8vo, 1466 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia. Price, oth, $5.00; sheep, $6.00 net.

Mechanical Vibratory Stimulation. By Maurice F. Pilgrim, M.D. 12mo, 152 pages. Illustrated. Metropolitan Publishing Co., New York City.

Physical Chemistry for Physicians and Biologists. By Dr. Ernest Cohen. 16mo, 343 pages. Illustrated. Henry Holt & Co., New York City.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By Dr. Carl von Noorden. 8vo, 64 pages. E. B. Treat & Co., New York. Price, 50 cents.

Progressive Medicine. Vol I, 1903. By Hobart A. Hare, M.D. 8vo, 450 pages. Lea Brothers & Co., New York City.

Erste Arztliche Hülfe. By Prof. Dr. George Meyer. 8vo, 438 pages. August Hirschwald, Berlin.

Diseases of Women. By George Ernest Herman. 8vo, 884 pages. Illustrated. Revised Edition. William Wood & Co., New York. Price, muslin, $5.00; leather. $5.75 net.

The Diagnosis and Modern Treatment of Pulmonary Consumption. By Arthur Latham, M.D. 8vo, 215 pages. Wm. Wood & Co. Price, $1.50 net.

Transactions of the American Ophthalmological Society. Vol IX. Part III. 8vo. 685 pages. Illustrated.

Nichtarzneiliche Therapie innerer Krankheiten. Von Dr. Buttersack. 8vo, 188 pages. Illustrated. August Hirschwald, Berlin, Germany.

Compendium der Operations-und Verbandstechnik. Von Dr. Eduard Sonnenburg und Dr. Richard Muhsam. 8vo, 171 pages. Illustrated. August Hirschwald. Berlin.

Practical Physiology. By M. S. Beddard, M.D., and others. 8vo, 495 pages. Illustrated. Edward Arnold, London; Longmans, Green & Co., New York. Price, $5.20.

The Mycology of the Mouth. By Kenneth Weldon Goadby. 8vo, 241 pages. Illustrated. Longman's, Green & Co., New York. Price, $3.00.

Petite Chirurgie Pratique. Par Th. Tuffier et P. Desfosses. 8vo, 528 pages. Illustrated. C. Naud, Paris, France. Price, 10 francs.

The American Year Book of Medicine and Surgery for 1903. By George M. Gould, M.D., and others. 8vo, 691 pages. Illustrated. W. B. Saunders & Co., Philadelphia. Price, cloth, $3.00 net; half morocco, $3.75 net.

Le Traitement Rationnel Du Biabete. Par M. le Dr. A. Lorand. 8vo, 53 pages. C. Naud, Paris, France. Price, 2 francs.

La Journee du Tuberculeux. Par M. le D'Coste de Lagrave. 32mo, 64 pages. A. Maloine, Paris.

Recherches Anthropometriques sur La Croissance des Diverses Parties du Corps. Par le Dr. Paul Godkin. A. Maloine, Paris, France. Price, 5 francs.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending March 21, 1903:

	Cases.	Deaths
Measles	247	10
Diphtheria and croup	364	42
Scarlet fever	304	17
Smallpox	1	..
Varicella	123	..
Tuberculosis	341	164
Typhoid fever	70	13
Cerebrospinal meningitis	..	6

The Treatment of Fractures.—Borchard describes a method of treating fractures of the long bones, except the femur, which aims to accelerate the return to usefulness of the limb and especially to avoid the usual stiffness in the neighboring joints. According to his observations the sequence of events in an ordinary fracture may be chronicled about as follows: As early as the second day swelling and infiltration of the tissues immediately surrounding the fracture begins, the periosteum proliferates. and at about the tenth day a soft gelatinous mass has formed surrounding the fractured ends. Up to the fourteenth day no ossification has taken place and deformities may be corrected as easily as at first. From this time on the definitive callus formation begins, and by the twenty-fourth to twenty-eighth day this has attained such a degree of firmness that further displacement is impossible without the application of force. The outward swelling begins a few hours after the injury, increases and remains about stationary up to the fifth or sixth day, after which time it subsides again, so that the limb has regained an approximately normal contour at the tenth to fourteenth day. The author applies a wet dressing and a simple coaptation splint as soon as the patient comes under observation, and this is removed daily for massage, which at first is very light. This is increased in effectiveness day by day, the neighboring joints being also subjected to passive motion. The effect of this is to hasten the subsidence of the swelling, to diminish pain, and prevent muscular atrophy. On the twelfth day the fragments are accurately opposed, under anæsthesia if necessary, and a plaster bandage is applied. This remains until the twenty-sixth day when it is cut down, and the massage and passive motion are recommenced. In a few

days more the patients are allowed to walk, if the fracture was of leg, and it is found that the usual disability, œdema, etc., are very slight.—*Zentralblatt für Chirurgie.*

Bacteriological Examinations in Acute Suppurative Otitis Media.—W. C. Phillips enumerates twenty-one different microorganisms that have been found in acute inflammation of the middle ear. The streptococcus is now considered to be the most virulent and to possess the greatest migratory tendencies. This is true both as to the rapidity of its invasions and the severity of the accompanying symptoms. A few hours will sometimes suffice for an invasion of the attic, antrum, and mastoid cells. Current advice is to abandon the use of the ice-coil in streptococcus cases, and to operate after failure to relieve the symptoms by drainage and surgical cleanliness continued from twenty-four to forty-eight hours. The next most virulent type of inflammation, in proportion to its frequency, is that caused by the diplococcus intercellularis meningitis. Treatment should be the same as in streptococcus cases. The staphylococcus generally occurs in combination and most frequently with the streptococcus. The pneumococcus is frequently found, but is not to be considered especially virulent. It is probably the most frequent microorganism of all those enumerated.—*Archives of Otology.*

Malaria and Malignant Diseases in Hot Climates.—James Cantlie submits statistics concerning malaria and malignant diseases, which have been collated from the Colonial Office reports. They only show that malaria and malignant diseases may co-exist in the same communities, but we have no means of ascertaining whether the persons attacked by malignant disease were suffering from, or had ever suffered from, malaria. The question of malignant disease among native races remains a vexed one; and although these tables do not show whether we are dealing with Europeans or natives, it is a fact that over 90 per cent. of the hospital inmates are natives. In a hospital in the West Indies, British Guiana, for instance, natives form the principal number of occupants, while, in say the Government Hospital of Hongkong, Europeans form a large proportion of the patients. We require more exact statements as to the nationality of the population and the numbers of each nationality in our colonial hospitals before a conclusion can be arrived at.—*The Journal of Tropical Medicine.*

Free Spherical Thrombi in the Cavity of the Heart.—M. Kobsarenko says that only sixteen cases are known of this condition. In one case the thrombus was in the right auricle, in all the rest it was in the left auricle. In two cases there was no valvular lesion, while in the remaining thirteen there was stenosis of the auriculoventricular orifice in the left auricle. The size of the thrombi varied between that of a cherry to a hen's egg. Their consistency has been described in six cases only—one was soft, and the others hard. One of the authors mentions the existence of an endothelial membrane around the thrombus. As to the influence of sex and age, the thrombi were found equally in men and in women, and between the ages of twenty-five and forty years. The seventeenth case has recently been observed by Wyssokowicz at Kieff. The history of this case is given by the author.—*Russki Arkhiv Patologii, etc.*, November 30, 1903.

A Hint in the Application of the Colpeurynter.—Kurrer offers a suggestion which should make the employment of the rubber bag for the induction of labor a simpler matter. The ordinary method of filling such bags with a syringe requires constant supervision in order to prevent their premature expulsion as the cervix dilates. The author's method is, after introduction of the bag, to connect its tube with an ordinary irrigator filled with sterile saline solution and suspended at six feet above the level of the bed. This keeps the bag distended at a sufficient pressure and makes it keep pace with the relaxation of the cervix, so that it cannot be expelled until full dilation is effected.—*Zentralblatt für Gynäkologie.*

Modern Medical Education.—The whole scheme of modern high standard medical education appears to aim at the acquisition of huge masses of particular phenomena and observations to the crowding out of general laws and principles.—*Medical Press.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending March 21, 1903:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
Alabama, Mobile	Mar.	7–14	4	..
California, Berkeley	Mar.	4–11	1	..
Los Angeles	Feb.	28–Mar. 7	5	..
Sacramento	Feb.	28–Mar. 7	1	..
San Francisco	Mar.	1–8	8	..
Colorado, Denver	Feb.	28–Mar. 7	17	..
District of Columbia, Washington	Mar.	7–14	2	..
Illinois, Chicago	Mar.	7–14	8	2
Indiana, Elwood	Mar.	8–15	1	..
Evansville	Mar.	7–14	2	..
Iowa, Davenport	Mar.	7–14	8	..
Dubuque	Mar.	7–14	1	..
Kansas, Douglas County	Feb.	1–28	1	..
Maine, Biddeford	Feb.	28–Mar. 14	8	..
Maryland, Baltimore	Mar.	7–14	5	..
Massachusetts, Boston	Mar.	7–14	1	..
Fall River	Mar.	7–14	3	..
New Bedford	Mar.	6	1	..
New Bedford	Mar.	7–14	1	..
Michigan, Detroit	Mar.	7–14	17	..
Grand Rapids	Feb.	28–Mar. 14	24	1
Port Huron	Mar.	7–14	3	..
Missouri, St. Louis	Mar.	8–15	4	..
Nebraska, Omaha	Mar.	7–14	2	..
New Hampshire, Manchester	Feb.	28–Mar. 14	16	..
New Jersey, Camden	Mar.	7–14	1	..
Jersey City	Mar.	8–15	3	..
Newark	Mar.	7–14	1	..
New York, Buffalo	Mar.	7–14	2	..
New York	Mar.	7–14	2	..
Ohio, Cincinnati	Mar.	6–13	10	..
Cleveland	Mar.	7–14	1	..
Dayton	Mar.	7–14	7	2
Pennsylvania, Altoona	Mar.	7–14	1	..
Philadelphia	Mar.	7–14	44	5
Pittsburg	Mar.	7–14	48	2
South Carolina, Charleston	Mar.	7–14	3	..
Greenville	Feb.	28–Mar. 7	2	..
Tennessee, Johnson City	Feb.	28–Mar. 7	14	..
Memphis	Mar.	7–14	2	..
Nashville	Mar.	7–14	1	..
Washington, Colfax	Mar.	1	(Present)	..
Wisconsin, Greenbay	Mar.	8–15	3	..
Milwaukee	Mar.	7–14	2	..

SMALLPOX—INSULAR.

Philippine Islands, Manila	Jan.	3	2	..

SMALLPOX—FOREIGN.

Austria, Prague	Feb.	14–28	20	..
Belgium, Brussels	Feb.	14–28	..	0
Brazil, Pernambuco	Jan.	15–31	..	10
Rio de Janeiro	Feb.	5–12	..	8
Canada, St. John, N. B.	Mar.	13	1	..
Chile, Antofagasta	Jan.	1–31	..	13
Ecuador, Guayaquil	Feb.	7–21	..	1
France, Rheims	Feb.	8–15	2	..
Roubaix	Feb.	1–28	..	6
Great Britain, Birmingham	Feb.	21–28	11	..
Cardiff	Jan.	25–31	1	..
Glasgow	Feb.	27–Mar. 6	..	1
Leeds	Feb.	21–28	9	..
Liverpool	To Feb.	28	60	7
Nottingham	Feb.	14–21	4	..
Sheffield	Feb.	28–Mar. 7	2	..
India, Bombay	Feb.	10–17	..	36
Calcutta	Feb.	7–14	..	2
Karachi	Feb.	8–15	1	..
Madras	Jan.	31–Feb. 6	..	1
Italy, Palermo	Feb.	21–28	5	..
Mexico, City of Mexico	Feb.	22–Mar. 1	7	4
Vera Cruz	Feb.	28–Mar. 7	1	..
Russia, Moscow	Feb.	7–21	11	2
Odessa	Feb.	14–28	..	4
St. Petersburg	Feb.	14–28	100	0
Straits Settlements, Singapore	Jan.	17–31	..	10

YELLOW FEVER.

Brazil, Rio de Janeiro	Feb.	5–12	..	40
Colombia, Panama	Feb.	26–Mar. 5	2	1
Mexico, Vera Cruz	Feb.	28–Mar. 14	7	4

CHOLERA—INSULAR.

Philippine Islands, Manila	Dec.	27–Jan. 31	6	4
Provinces	Dec.	27–Jan. 31	1,085	1,430

PLAGUE—INSULAR.

Philippine Islands, Manila	Dec.	27–Jan. 3	..	3

PLAGUE—FOREIGN.

India, Bombay	Feb.	10–17	..	888
Calcutta	Feb.	7–14	..	171
Karachi	Feb.	8–15	23	19
Mexico, Mazatlan	To Mar.	13	313	255
Oso	To Feb.	15	1	..

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Original Articles.

OBSERVATIONS ON THE PLAGUE IN THE PHILIPPINES AND INDIA.

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In this paper I shall only attempt to portray my short experience in observation of some fifty cases of bubonic plague, principally in Chinese, during the epidemic at Manila in the spring of 1901, with a brief description of my journey through India and the methods of plague treatment there. Three post-mortem examinations and some twelve or fifteen plague-stricken Filipinos were also seen at the Civil Government Pest Camp, and may be added to the list of cases observed by me. The Chinese were all confined in the Chinese Pest Hospital.

The difficulties in studying plague among Chinamen are very great; due in part to the national dread of a post-mortem, which, I think, must touch upon their religious belief, as well as to a very old Chinese custom that does not permit of any section of the dead whatsoever; hence post-mortems were not attempted by me. In a few instances I availed myself of an opportunity to cut down on the buboes and the principal blood vessels of cadavers, for the purpose of making cultures and blood specimens. Chinamen, I found, have a much greater dread of those dead of the plague than of the living suffering from this disease; hence I had a clearer field during the very limited opportunities afforded me in the dead-house.

My attention was first attracted to the subject of plague by a Circular Letter issued by the Board of Health of Manila, dated March 7, 1901, containing, as I thought, some misleading statements relative to this disease. The circular mentioned described pretty accurately the "black plague" of the middle ages, with the further statement that "in Manila the organism had been found in 90 per cent. of the bloods examined."

While in charge of the Pathological Laboratory of Santa Mesa Hospital, Manila, I had occasion to make some few blood examinations of plague patients, and these results not being in accord with the statement referred to by the Board of Health circular, I was anxious to determine by further observation to what extent my findings were correct.

My visits to the Chinese Pest Hospital extended over some two months and averaged several times weekly. During my early visits I found the pest-house in charge of Chinese physicians, and seemed only under partial control of the Manila Health authorities; but later—I think it was in April—a contract surgeon, U. S. Army, was detailed for duty at this institution.

The Chinese Pest-house is located on elevated ground in the northwestern suburbs of the city of Manila, very conveniently in close proximity to their well-known grave-yard, which, from its peculiar character and position on the side of a hill, is readily seen for long distances.

The Pest Camp, for treatment of Filipino plague cases, was separate and distinct from that mentioned and under entire control of the city health authorities.

The term "bungalow" might be used as expressive of the character of the tropical building used by the Chinese as a pest-house. It was a long, low building, raised by wooden piles some four feet above the ground; the walls and roof made of bamboo-frame-work, supporting nipa palm, with a floor of rough lumber. The roof was of the ridge pattern. Three doors served for entrance and exit, while some eight or ten windows, protected by bamboo-nipa blinds, gave light and air. The furniture was of the crudest kind, consisting of a few native cots; beds were not in general use, as most of the patients were found lying upon the rough floor. My visits were productive of some good in this respect, as the use of beds became more general, though some patients still occupied the floor up to the time when my calls ceased.

Besides solving the question as to whether examination of the blood in plague was of very much diagnostic significance, I was anxious to make some biologic studies of the pest organism. So, with this in view, I took, under antiseptic precautions, blood from the lobe of the ear in about fifty cases of plague, and after making smears upon glass slides, planted the blood in different media, such as agar, bouillon, milk, glucose agar, gelatin, etc., with a view to studying the developmental phases of the bacillus. I also made smears from the incised and suppurating buboes, as well as from the viscera of cadavers, seen by me, undergoing post-mortem.

I was able to detect the bacillus pestis in the blood of only about 3 per cent. of cases when the examination was made at all early in the disease, but growing the blood on culture media gave positive results in some thirty cases in which it was impossible to determine its presence by staining the blood-smears. The stain generally used was Löffler's alkaline methylene blue, lightly applied, because it was found that, if permitted to remain on the dried smear more than two or three minutes, the entire bacillus was stained, thus obscuring the capsule, instead of merely staining the poles and leaving the clear central space. Care was exercised also that smears were not overheated.

The percentage of cases in which organisms were found in the blood just before death was about ninety, and after death each of the twenty cases noted gave a positive result.

In the smears of some incised buboes the bacilli were readily detected, though in suppurating buboes pyogenic organisms were plentiful, and in continued suppuration, after a few days, the pest organism ceased to be found. I recall one case of this kind, in which a very extensive suppuration of femoral bubo had continued for several weeks, and the only treatment was a green leaf of some local plant applied to the part. No bacilli of pest were found in smears from this bubo at the time mentioned.

It is well to state that most Filipinos have more or less enlargement of the lymphatic glands

throughout the body, hence much care must be exercised in not confounding this with glandular swellings due to plague. I recall one woman with syphilis, and several men with venereal diseases, among the plague-stricken seen by me in the Chinese Pest-house, so that it is of the utmost importance that these cases be differentiated. One case of alveolar abscess in a Filipino, which was sent to the Pest Camp, is also brought to mind, in which some temperature and swelling of the submaxillary gland on the same side as abscess were noted. Leucocytosis of the polymorphonuclear variety was invariably found in all of the fifty cases examined, ranging from 8,000 to 50,000, commencing early and increasing in some cases as the disease progressed. The third corpuscle, the blood-platelets, were also increased markedly in number, associated with some anæmia and a moderate diminution in the amount of hæmoglobin. Some observers have found, experimentally, bacilli in the mononuclear leucocytes of the blood of the guinea-pig, though these have never been seen in the neutrophile.

Examination of the blood, then, may show at least two diagnostic features, the leucocytosis and the increase in the blood-plaques, or third corpuscles, which, even where no bacilli are to be found, serve to make the distinction as between malaria and typhoid fever. Early in the disease the blood is free from organisms, and especially, it seemed to me, the peripheral blood; hence it is not until the later phases of the disorder that the blood presents any very marked increase of organisms, which, twenty-four to forty-eight hours before death, becomes practically a pure culture. This late invasion of the blood by the pest microbe is quite in accord with the pathological processes taking place in the body in the bubonic variety of plague, when septicæmia or bacteræmia has usually developed, and, according to Cohn and Albrecht, the secondary buboes are being formed in different parts of the body.

I have nothing to add to the present stock of knowledge as the result of my brief bacteriologic study of the pest organism. It was some satisfaction to verify, in part at least, the work of eminent authorities in this very interesting domain of inquiry. In concise terms, then, the organism is to be found as to its

Origin.—In the lymphatic glands or buboes, and in some cases in small numbers in the blood, where it may occur singly, in pairs, clumps, or short chains. Authorities have found it in the sputum in the pneumonic form of the disease, as well as in the urine and fæces.

Form.—A short, thick bacillus with rounded ends (*cocco-bacillus*). At times it forms chains of from four to six cells. The organism is subject to great variation in form, and at times is surrounded by a capsule. Size is determined by the media in which it is grown. It is much shorter and plumper from blood, and capsule thick, but in media, bacillus is larger and capsule not always made out. I noted involution forms particularly on dry agar-agar, where the pyriform seemed to be the most strikingly characteristic. These vegetative forms are said to be mostly seen in the presence of antiseptics, mercury, salt, etc. Haffkine found them particularly numerous in 3 per cent. salt water agar.

Mobility.—I could detect no free movement in hanging drop, although I noted the marked Brownian motion. Kitasato alone holds that bacillus is actively motile. The organism is said by Gordon to possess one or two flagellæ.

Sporulation.—Spor formation not observed by me.

Staining.—It stains readily with most aniline dyes. That preferred by me is Löffler's alkaline methylene blue. Aovama says bacillus from blood is stained by Gram, but from other parts of body the organism is decolorized by this method, hence it is not applicable. All other observers hold that Gram's method decolorizes bacilli from every part of body. The bipolar effect and the capsule are only seen in fresh specimens from the body, and not observed in organisms growing on the various culture media. The beaded appearance has been observed in threads, and particularly in bouillon. The pyriform, large coccus, torula-like and other involution forms do not, as a rule, stain well.

Growth.—Is slow and not very abundant. Usually slimy—the cultures dying readily.

Plates.—The bacillus is essentially aerobic; that is, grows best in an atmosphere of oxygen, and an aerobic only in gelatin. Agar shows small, white transparent ground glass colony. Under the microscope colony is granular, of yellowish tint and darker in center than about the edges. On gelatin the colonies are small, round, sharply bordered, finally becoming granular and brown in color.

Stab.—Stab-cultures show very light white growth along line of needle puncture, spreading but little on surface. Streak culture on plain, neutral agar-agar shows whitish, slimy growth, made up usually of discrete colonies—in twenty-four hours the water of condensation is turbid, with slight sediment at bottom. Less growth found in two-per-cent. glycerin-agar. Blood serum yields good, but potato, poor growth. Bouillon: Organism grows very characteristically here, the liquid remains clear, while the granular, slightly flocculent growth develops just under the surface of the fluid and on walls of vessel. The stalactite growth is the most characteristic. The addition of 2 per cent. peptone and glycerin to bouillon makes a good media. In this soup all the bizarre forms are seen, and streptococci, like threads, are noted. Acid is produced in bouillon. Milk is not coagulated. There is no indol reaction in peptone solution.

Oxygen Requirements.—Bacillus is aerobic, grows on most media, in an atmosphere of oxygen best, and only as a facultative anaerobe in gelatin; that is, while it grows best in presence of air, it may grow, though less abundantly, in the absence of oxygen.

Light.—Direct sunlight destroys it in about three hours; it has been kept forty-five days on sterile paper in the dark.

Temperature.—Grows best at ordinary room temperature; cold has no effect; prolonged exposure to 32° C. unfavorable; an hour at 70° C. kills completely, as shown by Haffkine. Kitasato killed bouillon cultures of the bacillus with a temperature of 80° C., and in a few minutes with steam at 100° C.

Gelatin.—Bacillus does not liquify this medium.

Aeorgenises.—Organism is not a producer of gas—no effect when grown in glucose agar.

Attenuation.—The cultures of bacillus pestis generally lose virulence on artificial media, and organisms from convalescents are said to be non-virulent. The case of the Ann Arbor medical student is a very good illustration of the latter statement. Virulence is increased by passing through animals, or by the collodium sac method. The former was the only method in vogue until the collodium sac method was introduced a very few years since by Metchnikoff, Roux, and Salimbini. This, however, requires very delicate bacteriological technique for success. My experience shows that it is very difficult to keep the pest bacillus alive on the ordinary culture media used, unless this is alkaline in reaction and great precautions are taken to protect growth from light.

The moulds grow so luxuriously in the tropics, and are so resistant, that the ordinary test tube and Petri dish, when used under the usual bacteriologic conditions, hardly form proper receptacles for growing this organism. Again, the difficulties in the Philippines are further increased in the matter of making culture media by finding there water organisms so very refractory to heat that the autoclave (where heat is used under pressure) is absolutely necessary in sterilizing the culture media, the ordinary Arnold sterilizer not generating sufficient heat to kill these very resistant forms. I recall one, a drum-stick organism, which resembled the bacillus of tetanus in its morphology, and resisted a temperature of 70° C. for fifteen minutes.

While most of the plague cases seen by me were of the bubonic type, I recall a few somewhat out of the ordinary; one of these, of cutaneous plague, broadly speaking, in which the chief lesion consisted of a large pustule, or an aggregation of small ones, located on the right lumbar region of the back. It was some two and a half or three inches in extent, irregular in size, and originally contained pus. An irregular, granulating surface was that noted when I last saw the case. There were no enlargements of the lymphatic glands noticeable to the eye. The bacillus pestis was demonstrated in the blood. These pustular cases are rare. The patient, a Filipino woman, aged about thirty, recovered.

I have notes of several cases, among Chinamen, in whom the femoral buboes had broken down, leaving large, suppurating cavities, extending to the bone; neither of these gave a showing of the organism on smear, except when suppuration first commenced. These great, gaping, suppurative cavities are graphically portrayed by DeFoe in his *Journal of the Plague*, which disease ravaged London in 1665.

Of the post-mortems observed by me at the Pest Camp, I have notes on two cases which are illustrative of the characteristic lesions found in plague of the bubonic type. The case of a girl indicated that the portal of entry was at some point in the upper part of the body, as the primary bubo of the first order was located in the right axilla; no visible enlargement of the post-cervical or inguinal glands were noted, and none determined by palpation. The autopsy was only partial in this case, and was made to verify diagnosis of plague, when the microscopical examination had given a positive result.

The age was apparently about seventeen years; height, five feet five inches; hair and eyes, brown; weight about 120 pounds. Rigor mortis present; eyes dilated equally and normal. Lungs showed hypostatic congestion. The axillary lymphatic glands of right side showed swollen mass, two by three inches in size, with marked œdema and hemorrhage into adjacent tissue; the surrounding tissue much swollen; heart seemed to be normal in size, though minute hemorrhages visible to the naked eye noted on anterior surface of the ventricles. Liver was found to be enlarged and capsule adherent. No visible enlargement of post-cervical, left axillary or inguinal glands of either side and none found upon palpation. Serous surfaces generally ecchymotic and mucous membrane of alimentary canal hyperæmic.

Dissection of the region of the right axilla showed these glands to be enlarged, œdematous, and hemorrhagic, with peri-glandular infiltration extending into the surrounding areolar and fatty tissues. On cut section of the lymphatic gland, the substance bulged out, was œdematous, more or less hyperæmic and hemorrhagic; soft in the center, due, I think, to coagulative necrosis.

Am convinced that a further dissection would have shown a chain of second-order buboes extending from the axilla into the chest, along the blood vessels, presenting various degrees of hemorrhage, and probably carrying the infection by a backward flow of lymph to the cervical and glands of opposite side of body.

I am satisfied that this was a case of bubonic plague, in which the septicæmia (bacteræmia) was developed rapidly, before, in fact, buboes of the second order were formed. The microorganisms, as stated, were found in the blood. This patient died within twenty-four hours after entering the hospital.

The autopsy held on the Filipino boy gave the following: Age, about twelve years; height, four feet six inches; hair and eyes, black in color; rigor mortis quite well marked; few recent cuts, averaging three inches long, extending through integument, on top of head; pupils dilated equally and normally; axillary glands shotty; lungs normal, generally, though small tuberculous nodule in left apex and few pleuritic bands on the left side; heart, normal in size; number of small subpericardial hemorrhages seen on anterior and posterior surfaces of this organ. Ecchymoses of serous membranes generally throughout body. Spleen normal in size and capsule peeled readily. Liver enlarged, showing two areas of fatty degeneration on its anterior surface, some two and a half to three inches in diameter. Mucosa of stomach and alimentary track congested. Bladder distended with urine. Kidneys: the left shows fetal marking, stellate veins engorged, cortex normal, malpigian bodies seen with naked eye, some congestion of kidney substance; capsule strips readily. We see here clearly that the axillary glands form buboes of the second order and the infection has taken place from the primary inguinal bubo through the lymphatics of that side. Acruro inguinal lymphatic gland of left side is the primary seat of disease in this case. The glands are hypertrophied, engorged, hemorrhagic, and a chain of second-order glands is seen extending up to the common iliacs to the abdominal aorta, and downward, along the crural sheath. Associated with these buboes of the second order is a well-marked œdema, extending retroperitoneally upward to the diaphragm on the left side, and downward toward the apex of Scarpa's triangle. This œdema has the jelly-like appearance so peculiarly characteristic of plague. Cut sections through the œdematous tissues show these structures to be of straw-colored, gelatinous consistency, which yields light amber-colored fluid. The lymphatics and blood vessels in this region are widely distended, and the tissues immediately surrounding the bubo is infiltrated with small, round cells and some leucocytes, as shown by microscopic examination. Smear preparations from the blood, spleen, liver, and buboes almost invariably show the bacillus in pure culture, if the autopsy be made immediately after death; whereas a delay of twenty-four hours or more shows, by microscopical examination, a mixed infection, indicating the presence of secondary invaders. In cultures taken from the blood in the living, especially during the septicæmic or bacteræmic stage of the disease, is this true, for here I found pus organisms in a large percentage of cases, both staphylococci and streptococci. This boy gives a history of having been sick two days, being in a delirious condition when brought to the Pest Camp, and, while *en route*, fell out of the ambulance and suffered the cuts upon scalp mentioned in a utopsyprotocol.

Where were the portals of infection in these two cases? This, I fear, will never be answered. Experiments show that this disease is both infectious

and contagious, though the bacillus being non-spore forming, may disprove the contagion theory. The laboring Chinamen in the tropics invariably go without shoes, and while we know the portals of entry in the skin may be gross or microscopic, these are not characterized by any observable inflammatory action. That some local effect does take place, however, is readily shown in the guinea-pig, where, within a few hours after the introduction of the plague virus, a considerable amount of œdema is apparent around the puncture, and the nearest lymphatic gland is perceptibly swollen. Now if, immediately after death, a cut be made over the point of inoculation, a very red, bloody œdema comes to view, and the nearest lymphatic gland is swollen and full of bacilli. Investigators thus far have all failed to detect any inflammatory changes in the lymphatic vessels connecting the portal of entry with the primary first-order bubo.

It has further been repeatedly demonstrated that plague can be reproduced by feeding rats or mice with pure cultures, or on pieces of the liver or spleen of animals dead of plague. Again, Yersin's experiment of mingling healthy and inoculated mice in the same cage in which the inoculated mice died first, and later the originally healthy, un-inoculated mice succumbing, proves that this disease is not only infectious (inoculable), but communicable by contact or through the atmosphere, to a certain extent. Dissection wounds located on the hands have resulted in the death of some few investigators. Laboratory experimenters have died in some instances from plague, notably those at Vienna. The case occurring in an Ann Arbor medical student, reported by Professor Novy, did not result fatally. Physicians and nurses attendant upon the plague-stricken have, as a rule, escaped this dread disease.

The literature affords few exceptions to this statement.

In my visits to the Chinese Pest Hospital at Manila I took no special precautions except to use an antiseptic upon my hands and the soles of my shoes, the latter being made necessary by the vomiting which seemed very common among these patients, and, lacking the usual hospital facilities, was deposited at will upon the floor.

Clinically there are only two kinds of plague, the bubonic and the pneumonic. The symptoms of bubonic plague are dependent upon the type, as to whether mild or severe. The mild or ambulant form is apparently sporadic, non-fatal, and commonly mistaken for mumps, syphilis, malaria, scrofulous, or "climatic" glandular affections. A few of this type were seen by me and were found to have some fever, pain, tenderness and enlargement of glands, muscular weakness, the characteristic plague tongue with creamy white fur in the center and red at the edges and tip, the eyes congested and the speech thick. In the severe type of the disease, besides the buboes in the groin, armpit, or neck at the commencement, there are certain characteristic symptoms. The countenance early portrays anxiety and distress, later apathy; the eyes are red and congested, and these remain widely open, giving the "staring" eye appearance so common in this disorder. In delirium the face is flushed and the physiognomy wild, or in more advanced cases this may give way to an apathetic, vacant expression just prior to dissolution. The speech is peculiarly hesitating and broken, each syllable pronounced in a husky, thick tone, not unlike that of a drunken man. The creamy, white, furred tongue with the clean red tip and edges may later become dry and covered with a yellowish and whitish-brown fur, though the tip and edges remain red and angry.

In a typical case, then, besides the characteristic expression of the face, speech, and tongue, with the presence of a bubo, there are associated general symptoms, such as shivering, nausea, vomiting, high fever, intense general, though usually frontal, headache, tender and painful bubo, staggering gait, congested eyes, anxious expression, the coated tongue with red tip and edges, restlessness, with a roaming desire, dyspnœa, noisy delirium or coma, ending in gradual or sudden failure of the heart. The pulse, which is at first soft and compressible, becomes intermittent and not infrequently dicrotic, and often difficult to count. The tendency to collapse is marked. If the patient lives until the sixth or seventh day, his chances of recovery are greatly increased; if the buboes suppurate, this is about the eighth, and the temperature usually becomes normal about the tenth day.

The lymphatic system seems to be the elective seat of the plague organism, and the most important rôle is played by the glands. Albrecht and Cohn's nomenclature is so convenient and descriptive of the pathological changes occurring in them, that I shall mention it here.

These authorities, according to the sequence of infectivity, divide them into:

Primary buboes of the first order, primary buboes of the second order, and secondary buboes.

The first gland affected, and usually that showing the most change pathologically, is called a primary bubo of the first order.

Other buboes belonging to the same group or chain of glands as the buboes of the primary first order mentioned, and infected through the lymphatic vessels by the passage of the plague bacilli from these, are called primary buboes of the second order.

Glands, however, located in distant parts of the body, but infected through the blood supply, are called secondary buboes.

Buboes of the first order may occur from a few hours to the fifth day, usually, however, they do not appear until the second day. Those of the second order are developed shortly after the first, though in some cases buboes of both orders seem to develop together. As a rule the second-order buboes are not as large as the first, and the œdema and peri-glandular infiltration are always absent, except when these are associated with buboes of the first order. Secondary buboes may include all of the remaining glands of the body, but are not developed until the disease becomes general, or secondary septicæmia occurs. These are not so painful as those of the two orders mentioned; they are always small, freely movable, œdematous, hyperæmic, and sometimes hemorrhagic.

Primary septicæmia or bacteræmia—that is, the passing of the plague bacilli directly into the blood—is not thought to be possible in this disease.

The examination of the blood, then, I found to be of very little diagnostic value, and I was pleased to find this view verified by no less an authority than Professor Haffkine, formerly of the Pasteur Institute, but now in the service of the Indian Government. I had the pleasure of visiting the Old Government House at Parel, in the suburbs of Bombay, last October, and was shown the laboratory and its workings by Professor Haffkine himself. I was given an opportunity of witnessing the manufacture of the prophylactic against plague, which owes its discovery to Haffkine, and has been used so effectively in India. Old Government House was for many years used by the Indian Government for civil purposes, but about four years since it became a hospital, and finally a large part of this was turned over to

Professor Haffkine for a laboratory. I found it to be a very large building of the colonial type, situated in a large grove of tropical trees. One of the largest rooms contained the laboratory apparatus necessary for the production of the prophylactic, which is made, in brief, as follows:

A kilogram of finely chopped goat's meat is placed in a solution of HCl and heated in an autoclave at a pressure of four to five atmospheres for the purpose of making the albumin and peptones. This material, after filtering and neutralization, and the filtrate diluted to three liters, is sterilized, forming the medium on which the pure cultures of the plague bacillus are grown. A flask of this bouillon is now inoculated with the plague material, and the diagnosis of the organism is made through the characteristic stalactite growth first described by Haffkine.

As mentioned, the organism is extremely aerobic and grows luxuriantly on the surface of the bouillon culture, but after eight or ten days sends down long processes into the depths of the bouillon that resemble very much the stalactites from the roof of a grotto. A very characteristic picture is displayed when the culture flask is illuminated by a candle held behind it. After the culture is tested microscopically, it is transferred to a Pasteur flask, from which the large, three-liter flasks are inoculated. I saw hundreds of these flasks on long tables in the large dark room before mentioned, which serves in reality as a large thermostat, by reason of the mean temperature being so high in India. Here they remain until three successive formations of stalactites are obtained, the flasks being well shaken after each successive growth, which complete process takes place in about six weeks.

The cultures are now killed by placing them in a water bath at 60° C. for three hours, when they are transferred to small bottles, tested and dated, ready for use.

Experiments indicate that the precipitate of dead bacteria and the filtrate, or clear fluid, have widely different properties. The precipitate causes a marked local reaction with only slight constitutional phenomena, while injection of the clear fluid or filtrate excites marked constitutional, with slight local, reaction. The whole sterilized culture is used as a vaccine against the plague. Haffkine suggests that two centimeters of the prophylactic be used at a dose, but this may vary with the personal equation of the patient and the virulence of the dead culture. Two injections are usually given with a large hypodermic syringe. The first dose is injected into the subcutanous tissue over the insertion of the deltoid on the left side, while a week or so later the second injection is made over the triceps. The action consists in some elevation of temperature, a feeling of general malaise and headache, but this soon disappears.

An agglutination reaction toward virulent cultures of the organism is obtainable with the serum of all individuals that have been twice inoculated. Professor Haffkine, in order to meet the objections of the high-caste Hindus, is using gluten or like material free from meat extracts in his culture media. The Hindus differing from the Mahommedans in not using meat of any kind.

Haffkine's prophylactic has been used very extensively in India, and is said to have reduced the number attacked from 77 per cent. to 85 per cent., and the death rate 80 per cent. While the Indian Plague Commission reports in favor of the prophylactic, they are of the opinion that the best results can only be secured by more accurate standardization and dosage. Calmette and Salimbini demonstrated during the epidemic at Oporto, Portugal, that during period of immunization in the heated cultures, animals were extremely sensitive to minimum doses of virus rarely fatal for non-vaccinated animals; hence, a person inoculated with a mild attack of plague might have his malady seriously aggravated if he submitted to Haffkine's preventive inoculation, and a fatal result was possible. This, he thinks, explains some cases of rapid death observed in India following these inoculations. Calmette further holds that the lasting power of heated cultures is much less than that of serums, and did not exceed six months.

While Haffkine's remedy is preventive, it is not curative, hence there is at present but one strictly antitoxic or curative remedy, and this is the serum of Yersin-Roux. This is curative and likewise preventive. The method of its preparation is similar to that of the antitoxin of diphtheria, and is as follows. Horses are treated with the progressive increasing doses of the toxins of the plague, prepared by subjecting virulent bouillon cultures of the bacillus pestis to a degree of heat that destroys them. The injections are kept up until all reaction in the animal ceases. Toxins are now administered to the horse intravenously, and supplemented by the intravenous injection of live bouillon cultures. The horse is bled at various times, and experiments now made with the serum against both living and virulent cultures and against the precipitated toxins of the organism. When the serum has reached the strength where a does of 10 c.c. will protect a mouse of twenty-five grams weight against the living cultures and three times the mortal dose of toxin, it is now considered to have acquired a full antitoxic strength, and is prophylactic or preventive and antitoxic or curative. The dose is from 30 to 50 c.c. subcutaneously, or half this quantity intravenously. The Yersin-Roux serum seems to have been rejected upon insufficient evidence by the Indian Commission. The value of the serum, aside from the claims of the discoverers, is incontestable. The French Commission, upon investigation, determined that mortality was only 14 per cent. in cases treated with serum during the Oporto epidemic, while in those not treated it reached 70 per cent. In Professor Novy's case—the Ann Arbor medical student—the Yersin serum acted as a specific. The quantity used in twenty-four hours after the student was first seen was 120 c.c., one-half of which was injected intravenously. If I should acquire plague at any time, my desire would be to have the Yersin-Roux treatment.

Lustig's vaccine and serum are not as efficacious as the Yersin-Roux serum. They are based on the observation made by Lustig that a nucleo-proteid isolated from the bodies of plague microbes has immunizing properties when injected into animals. The bacilli are grown on agar plates, scraped off, and dissolved in a solution of caustic potash. The nucleo-proteid is now precipitated by acidifying the solution. It may be used, or an antitoxin serum may be obtained, by injecting it into horses. The value of Lustig's discovery is not great, as in 479 cases the percentage of recovery was only 39 per cent.

The treatment of plague, aside from the use of the Yersin-Roux serum, is symptomatic. During the epidemic in Poona, India, treatment consisted chiefly in an administration of stimulants. Ice was used to relieve the pain of buboes. At the Mahratta Hospital, Bombay, that in vogue was four drops of a one-per-cent. solution of atropine every few hours until the effects were observed in the pupils. This, it is said, clears up the tongue and has a general beneficial effect upon the patient.

Manson holds that in relieving symptoms the asthenic tendencies of the disease must be born in mind and depressant remedies of all kinds carefully avoided. He suggests ice-bags to the head and neck, during earlier stages when headache and high fever are present. Also prefers sponging the body hourly with warm water, rather than the employment of antipyretics. Lawson alleviates the vomiting by means of a full dose of calomel, followed by a saline. If this is not successful, or if diarrhœa be present, he recommends ice pills and a mixture of morphine and hydrocyanic acid; sinapisms to the epigastrium are also used. Later, when the pulse begins to fail, strychnia is the main reliance; indeed, Lawson says it should be used in all cases as a routine treatment, and commenced early in the disease. In collapse, various kinds of stimulants, including strong ammonia to nostrils and ether hypodermically. Morphine is the best hypnotic. For buboes in early stage, Manson suggests glycerin and belladonna. When red and inflamed, poultices, and on softening, incision and iodoform dressing. Iodine liniment for indolent buboes. Feeding and stimulation governed by usual indications. The death rate among Chinamen and Filipinos at Manila since the alleged introduction of plague in 1899 is reported to be 79.4 per cent. up to January last; that is, 618 deaths out of 778 cases. My case book for April, 1901, shows nineteen deaths in the fifteen days between April 2 and 16, inclusive, among the Chinese in Chinese Pest Hospital. The mortality of the disease is well known to be governed by racial cleanliness and the hygienic conditions in vogue. The death rate in epidemics may be anything between 40 and 95 per cent. The recent Hongkong epidemic gave a showing of 93.4 per cent. among Chinamen; 77 per cent. is reported among the natives of India; 60 per cent. among the Japanese, and 18.2 per cent. among Europeans. The recent epidemic in Portugal is said to have increased the European mortality to 40 per cent.

It should be understood that the mortality among Chinamen is greater than among the Filipinos. A knowledge of the habits, mode of life, environment, etc., is absolutely necessary to a proper understanding of the question as it affects the inhabitants of the Philippine Islands, and particularly its chief port and metropolis—Manila. Manila is said to have a population of 244,732 souls, exclusive of officers and men of our Army and Navy; of these it is estimated that the Chinese number 51,567, Filipinos, 81,361; Americans, 8,461; Spaniards, 2,382; and 961 scattered among seventeen other nationalities. Chinamen here are divided into a commercial and coolie class; the former are well-to-do, the latter very poor. The rich merchant lives well, while the small shopkeeper and coolie eke out a miserable existence in dark illy-ventilated houses with earthern floors, being, as a rule, poorly fed, badly nourished, and usually unwashed. The Filipinos, on the other hand, live in houses raised upon piles, a variable height above the ground, constructed of bamboo and nipa palm, with a cogon grass roof—here the ventilation is nearly perfect and light and air have full play. These nipa huts, or shacks, form the abiding place, then, of nine-tenths of all Filipinos, and, while they possess certain advantages for health, have, in many instances, dirty, filthy surroundings. Life in the tropics would hardly be bearable without those universal scavengers, the hog and the ant, coming actively to the rescue. The difference, in a word, between the Chinaman and Filipino of the lower class is, that the Filipino is the less dirty of the two. I am satisfied that the plague-stricken Filipinos, thus far, have been those living in close contact with Chinamen, as the number of Filipino women married to the "Chino" class is said to be large, and, aside from this, commercial interests cause much intermingling of the races.

Plague, I believe, has existed in Manila from time immemorial, but the Spanish physicians have called it by other names, and as the Chinamen are practically the property owners of the city, they will not change their mode of living nor the character of the houses they build for habitations and trade purposes. The Chinese shopkeeper usually sleeps, in fact lives, in the same room where his wares are exposed for sale, the only difference being that at night he closes his shop securely for fear of robbery, at the same time shutting out effectually the fresh air.

As stated, the mortality from the pest in Manila for the last three years has reached 79 per cent., and since Yersin has demonstrated the presence of an organism in the earthen floors of pest-infected dwellings, from four to five centimeters below the surface, possessing the morphology, staining, and culture reactions of the plague organism itself, though it is thought non-virulent, may be significant as to the reason why this disorder might continue to prevail.

The local conditions prevailing in Manila are similar, but in less degree, to those seen in India and Egypt, where the surroundings are ideal for the propagation of this pestilence. I was struck particularly with India—its mud huts, without light or air, the filth, overcrowding, and famine pictures. One of the suburbs of Calcutta Howrah, and also Bombay, were most interesting in this regard, as well as the native districts of some of the cities of the northern plain, Lucknow, Agra, and Delhi. Here the native sets to work to plan a home for himself and family; he gets a small plot of ground, which is usually flat, and following the desire of all dwellers in the tropics to build upon piles or elevated ground, he at once proceeds to carry out his plan by throwing the earth together in a heap, forming a small hillock. Upon this diminutive knoll he erects a structure of dried earth, which, while it may possess a door, rarely has a window. The entire building is made of sun-dried clay, as wood is scarce and costly, especially in the north of India. Fuel here consists entirely of dried cow-dung, and brings a fair price in the markets. The excavation left beside the house promptly fills with water at the first rainfall which now forms the drinking supply as well as the family bathing pool. The washing is performed in it weekly, and here the domestic animals disport themselves at will. The pool becomes the home of cholera, and the mud hut the habitat of plague.

This connection of plague with cholera is further emphasized by the recent introduction of the latter disease into the Philippines, where both are now raging. Associated with this is an economic question in India, where plague rages hand in hand with famine, the population being so great, existence so precarious, that while the cost of living has been reduced to three rupees (one dollar of our money) a month, yet many actually starve for want of food. Yet India is a great wheat-growing country, and the annual exports are large, as seen by me at Calcutta, Bombay, and at Kurachee, India's western port at the mouth of the Indus.

Egypt, the most ancient home of plague, if the pestilences described by Manetho are to be considered such, presents a modern picture not unlike that portrayed by India. While the habitations of the Mohammedans of India and those of the Hindus are equally dirty, the Arab and the Egyptian fellah

vie with each other as to who shall live the more filthy.

If Egypt be seen when the valley of the Nile is in flood, and its farmer class driven with the camel, ass, and kine to his hut of dried clay now situated upon the islands and peninsulars formed by the encroaching stream, a picture of squalor, such as is not beheld anywhere else in the world, comes to view. Here, in the most restricted space imaginable, are commingled the native with the domestic animals, so that not infrequently they occupy the same habitation; the resulting conditions productive of disease are not difficult to imagine. The time required for the subsidence of the annual flood is about three or four months. The waters were seen by me in their receding stage, during my visit last fall, which extended to Luxor, 450 miles south of Cairo. Here I found the natives so poor that some of the tombs of ancient Thebes were turned into dwellings for the indigent and needy.

Finally, then, I regard the plague as a cosmic question, governed by hygienic, sanitary, commercial, and, in part, religious considerations. The races, from a pest standpoint, dangerous to the world's well-being, are all located in the Orient, where ignorance, religion, and caste tend to swell the already large mortality list from this disease. While an intelligent quarantine system may modify the death rate and frequently be absolutely preventive, as conducted in many parts of the world, especially Egypt, it is farcical and oftentimes criminal, more especially by reason of the pretended security it exploits so broadly.

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IMPERATIVE CONCEPTIONS: A STUDY IN DIFFERENTIAL DIAGNOSIS.

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Imperative conceptions or ideas are those involuntary, unrelated, persistent notions that spring up in the minds of many victims of nervous disease. Though found in many states of mental and physical debility, they belong essentially and entirely to the psychoses. They are usually of a depressing, painful, or disagreeable nature, and represent generally unwarranted fears and troublesome doubts. Westphal calls them *compulsive no ions*. Griesinger groups them under the general head of *metaphysical mania*. Le Grand du Saule looks upon them as the expression of a *folie du doute*. Oppenheim names them *imperative ideas* or *notions of restraint*.

The general practitioner should be well acquainted with this symptom of nervous debility, for he will see it in many of his patients whose condition is not serious enough to require consultation with the neurologist or alienist. And yet the diagnosis of the nature and origin of these imperative ideas may determine, to a large extent, the diagnosis of sanity or insanity. In nearly all forms of insanity, impulsive conceptions and fixed ideas, more or less related here to distinct hallucinations, illusions, and delusions, are present. Hence there should always be made a sharp distinction between the imperative conceptions of the sane and of the insane. Probably the most striking difference between them is that in the case of the imperative conceptions of the sane, the patient's judgment remains unimpaired. Knowing that they are bizarre and irrelevant, though persistent, he tries to resist them, and often succeeds in not acting in accordance with their dictates. On the other hand, the imperative conceptions of the insane constitute, for the time being, the patient's very ego. He believes in their actuality and necessity and therefore acts in perfect accordance with their dictates. A neurasthenic who dreads to cross a particular street is the victim of an imperative conception; the man who is convinced that he is ordained by heaven to slay is subject to an insane delusion. In both instances the idea is an imperative one, a sort of delusion, but they differ vastly in degree. In the former the patient laughs at the idea; in the latter he attempts to carry it out to its logical conclusion. It appears, therefore, that it is not the idea itself that is so abnormal or illogical, as it is the patient's judgment in regard to it. The idea may spring out of a thousand real or fancied conditions, and may or may not be reasonable. The chief thing that makes it a valuable sign of mental aberration is the relationship of the patient's reasoning faculty in regard to it. There appeared at my clinic, some time ago, a young man in company with his mother and brother, who had, so far as the one examination revealed, two pronounced imperative or fixed ideas; namely, that he himself was his own brother, always giving his brother's name, age, etc., when asked what his own were, and that this brother was endeavoring to get his property away from him on the ground that he was mentally incompetent to care for it. The second of these ideas may or may not have been an insane delusion; the suspicion or fear may or may not have been well founded. Even granting that the man was insane, it nevertheless might well have been true that the brother in former years did try to get hold of the property and so implanted in the patient's mind the idea which now haunts him. It was impossible, therefore, to say at that time whether this was an insane delusion or a well-founded fear. The former of the two ideas, however—namely, that he was his brother—was very obviously an insane delusion, even in spite of the admitted possibility that the patient may have been trying to identify himself with his brother, so that if insanity were pronounced upon him, it would be the brother who would be sent to the asylum. Paranoiacs are sometimes shrewd enough to reason out such a scheme even as this. And yet, in view of other features in the case, I believe that the patient's false identification was the result of an insane delusion. In regard to this false identification, no amount of reasoning or explanation seemed to shake his belief. In regard to his property being sought after by his brother, he appeared at times to be sensibly impressed that after all he might be mistaken.

The insane delusion is deeper and more influential than the imperative conception. The former rules the patient; the latter can be, at times, controlled by him. The delusion enters into the very constitution of the patient's ego; he lives and moves and has his being in his delusions. It colors and outlines his objective world. The so-called imperative idea, on the other hand, is recognized by the patient to be a mere subjective phenomenon; annoying and persistent, it may be; yet it is possible to dispel it by rational analysis and earnest effort. Hallucinations and illusions are almost always associated with the false beliefs of the insane; hallucinations and illusions rarely, if ever, bear directly upon the imperative conceptions of the sane. Volition is enthralled by insane delusions; volition is free so far as the imperative conceptions of the sane are concerned. The suicidal and homicidal tendencies of the insane are usually the outgrowth of their delusions; the

imperative conceptions of the sane do not lead to the taking of life. In nearly all cases of homicide, committed during an epileptiform seizure, there will be discovered, as the result of diligent search, certain more or less pronounced delusions, if not actual illusions and hallucinations.

The imperative conceptions of the sane may be a forewarning of mental breakdown, but they are not necessarily indicative of existing insanity. Dean Swift, when at the height of his intellectual power, suffered from the ever-present fear that he would begin dying at the top like the trees in the fall of the year. As everybody knows his fear was all too sadly realized. Dr. Johnson was also the victim of an imperative conception. As Macaulay says, "he would conceive an unintelligible aversion to a particular alley and perform a great circuit rather than see the hateful place. He would set his heart on touching every post in the streets through which he walked. If by any chance he missed a post, he would go back a hundred yards and repair the omission." He was hypochondriacal and subject to fits of melancholy all his life. He was not insane, though decidedly neurotic. Many of his eccentricities of manner and dress were the result of his early training, his long struggle with poverty, his uncongenial environment and his indifference to petty things, so often shown by men of large minds. In speaking of his "Lives of the Poets," even Macaulay, who inclines to the view that the great lexicographer was not quite sane, says that his "remarks on life and on human nature are eminently shrewd and profound. The criticisms are often excellent, and even when grossly and provokingly unjust, well deserve to be studied. For, however erroneous they may be, they are never silly. *They are the judgments of a mind trammeled by prejudice and deficient in sensibility, but vigorous and acute.* (Italics ours.) During his last illness when death was drawing near "the ablest physicians and surgeons attended him and refused to accept fees from him. Burke parted from him with deep emotion. Windham sat much in the sick room, arranged the pillows, and sent his own servant to watch at night by the bed. Frances Burney, whom the old man had cherished with fatherly kindness, stood weeping at the door; while Langton, whose piety eminently qualified him to be an adviser and comforter at such a time, received the last pressure of his friend's hand. . . . And it is but just to say that our intimate acquaintance with what he would himself have called the anfractuosities of his intellect and of his temper, serves only to strengthen our conviction that he was both a great and a good man." All of which could scarcely have been affirmed of one who was insane!

In order to further emphasize and illustrate the difference between the imperative ideas of the sane and of the insane, I will quote from my private notes four cases, the first two of whom were sane, the last two insane.

1. This patient, an unmarried woman, past middle life, was, like Dr. Johnson, addicted to the senseless habit of repetition. Whenever she picked up an article, say a plate from the table, she would invariably turn it over half a dozen or more times to examine the bottom, before laying it down. If she passed through a door, she would open and close it a number of times before leaving it. Everything she did, she seemed to be doubtful about, and would invariably repeat a number of times before feeling satisfied. She manifested the symptom of fear, though she always denied fear. She would frequently turn half-way round, whether on the street or in the house, not systematically but occasionally, as though she had suspicions of some one following her. There were no hallucinations or illusions, and when asked why she acted thus, she would smile and declare that she did not know. She felt simply an irresistible desire to do it, an imperative conception. She had been considered odd all her life, but not in the least insane. She was devoted and affectionate, traveled and attended to her small business affairs with much skill. Perfectly normal and supposedly healthy individuals sometimes manifest this doubting state of mind, and unless great care be exercised to avoid it the habit will grow and cause much annoyance to the victim and his associates. The symptom when not the result of mere habit, reveals a slight congenital or acquired weakening of the mental forces, which may be the result of such various factors as bad discipline and education, physical exhaustion, toxæmia, and other vicious and debilitating influences.

2. This patient was a highly-educated divinity student, about thirty years of age. By means of extracts from the long "confession" which he wrote for me, I will let him explain his own acts and mental state, which he has done so vividly, merely premising that there was no neurotic heredity, no exciting causes, such as we usually find in these cases, involving the emotional and sexual life, but only the predisposing cause of severe study, with unwonted application to those branches of knowledge, such as logic and psychology, which favor much self-introspection. After making some unimportant statements in regard to his birth, parentage, previous condition of health, etc., he begins "as a child I was very sensitive, emotional, and I might add, characteristically tinged with melancholy. Sad tales, narrated in my school reading-books had a peculiar fascination for me, and I read them so frequently that I can, with a little reflection, recite many of them almost *verbatim et literatim* at the present time. Very early in life I had a taste for poetry, and was fond of thinking I would some day be a poet. At the age of thirteen or fourteen years, I had considerably developed a dreamy, poetical temperament." The development of such a temperament is not to be regarded as a sign of mental deterioration, for it may be the natural consequence of a false discipline or the result of an unsocial habit fostered by uncongenial environment due to differences of intellectual tastes. The fondness for solitude and day-dreaming, which Lombroso and his school make so much of as one of the indications of the insanity of genius, is more often the necessary result of the stupidity, ignorance, and indifference of the people among whom the genius is born. My patient clearly recognizes one of the commoner causes of this solitary, dream habit when he declares that "it may have been promoted by the fact that my parents never allowed me to associate freely with boys of my age. I have sometimes thought that here my social instincts were warped, and that perhaps here was laid the foundation of that feeling that has developed with years, viz., that I am not just like others and can't be." It is always unfortunate in such cases as these that the exaggeration and sharp definition of the ego, fostered by the earlier unsocial habits, should, as a rule, be still more increased by the higher education and its temptation to indulge in close self-analysis, which this class of individuals so ardently pursue.

Before entering college the patient was for a short time in the mercantile life, and while there enjoyed both his work and social pleasures "with little if any of the peculiar symptoms which later developed." The mercantile life being so largely materialistic, social, and competitive, it is not conducive to the cultivation of the habits of seclusion and self-analysis, and hence is well adapted to counteract the

tendencies of this and similar patients. I have often recommended such individuals to give up their studies, at least for a time, and enter the commercial world.

After entering college, the first indications of his present distressing frame of mind began to exhibit themselves. He says "at once I was overawed by the dignity of the professors and of those in authority, and I marked it as not a little strange that many of my fellow-students could meet and engage these same men with freedom and composure. And right here, let me say, was first brought to my mind a sense of *timidity when in the presence of strangers*, and especially so with my *superiors*. I never could feel easy in their presence, and was *always methodical in avoiding them*."

Note the next paragraph in this remarkably clear self-analysis. "I have ever since been engaged in study, and always stood among the leaders of my classes, ever, nevertheless, *avoiding professors* and those whom I observed to possess more than ordinary endowments. And it may be in place to state here that I have never had any *solid confidence* in my own *abilities*, being strangely prone to compare myself in this regard with others, and to force from such companions, regardless of evidence, a conclusion adverse to myself. Consequently, among those who know me familiarly, my modesty is almost proverbial. And yet, in my own mind, I am not entirely modest. I often feel that I possess superior powers, but courage to assert it is always wanting." The exaggeration of the ego is a common observation among the insane, among the neurasthenic, and among men of genius. The popular notion is that in all cases it is the expression of an inordinate and disgusting vanity. Lombroso has so far failed to distinguish one form from the other that he again makes use of this symptom to indicate the connection between genius and insanity. There is, however, a vast difference between the egotism of the mentally unsound and that of men of genius. In the former it is an unwarrantable pride in the *supposed* possession of powers which never materialize, however, into any actual or worthy production; in the latter it is a laudable satisfaction in real ability as shown by commendable work actually done. As Ruskin has pointed out, great men know that they can do certain things, and they do them. Sir Isaac Newton knew that he had the ability to work out certain problems which other men could not solve; Arnolfo knew that he could build a good dome at Florence. And yet, with all this knowledge of their own great abilities these men are filled with humility. With them their pride is first in their work and secondly in their power to accomplish that work. The insane man reveals his egotism often in identifying himself with great men, even assuming their names and manners while doing and saying things absolutely irrelevant and inconsequential. The mildly insane man, the neurasthenic, and the vain individual also mildly identifies himself with the great by imitating the eccentricities of the latter, by speaking of them in an over-familiar way, as though he and they were all of the same company, and in many other ways. With them their pride is primarily in their imaginary abilities, and secondarily in their work, if by any chance a single one of them accomplishes some petty trifle. The neurasthenic of average ability especially betrays the exaggeration of his ego by always "suspecting" that he "possesses superior powers," but in never having "the courage" (rather let us say, the real power) to assert it in a tangible and commendable form. Vanity, therefore, should be predicated only of the egotism of the mentally weak, but not of the egotism of real genius.

Let us proceed with the patient's self-examination and observe the steady growth and fixation of the imperative conceptions which he now finds so intrusive and from which he hopes to escape through medical advice. "During the last five years I have grown *suspicious* of people in general" (unwarranted vanity is always suspicious for very obvious reasons!) "feeling as it were, that I am the 'observed of all observers,' generally regarded with distrust and as one whom they wished *to avoid*, if possible. Within this period, also, I have observed that I always disliked anything light, humorous, or frivolous." Probably he did not dislike the humorous and frivolous when he was alone. With the play of light and frivolous conversation there is apt to be occasional scintillations of wit and satire of a more or less personal character, and this at times offends the neurasthenic's hypersensitiveness and *amour propre*. The patient reveals this in what immediately follows. "I have felt a growing tendency to resent any *freedom* or *liberties*, such as college boys take with each other, such as pushing, wrestling, teasing, etc. It seemed that I became *serious* in everything. It had ever been characteristic of my nature to be sociable, but something seemed to be dwarfing these faculties. . . . I imagined I was sick in one way or another; consulted a physician now and again for vague and ill-defined disorders. Insomnia annoyed me very much, and I became much dejected in my efforts to find out the precise nature of my malady, always thinking it something physical." He began to fear, about two years ago, that his mind was breaking down. "The tyranny of the thought became awful. I could not escape from it. My mind operated much like the vitascope, constantly flashing before me verses or stanzas of poetry I had read, propositions from philosophy, sentences I had written, etc., giving me no rest. . . . Prior to this period, perhaps as much as four years ago, I observed that I was beginning to stare. The eye has ever played a strong part in my disorder. I have always a dread of catching another's eye, as if in the interchange of glances was revealed the 'something wrong.' But in darkness I am entirely self-possessed and easy in any company, and even feel that I am agreeable to the company; while in the light, the eye of a child will unnerve me and urge me to get away and be alone." The eye is probably the most expressive single feature in the human countenance; hence both subjectively and objectively it always plays a great rôle in the symptomatology of the egotistic neurasthenic. "This symptom," continues the patient, "is not always the same, and while I am never entirely free of it, yet it becomes, at times, painfully acute. In this state I do not wish to see anyone, though if it cannot be avoided and something very interesting be under discussion, I forget my troubles, do not feel conscious of staring and feel as if a new man were in the place of the 'old.' But when conversation becomes dull, as it readily does, I at once fall back into my painful consciousness, if I may so call it, and the awful incubus is again upon me! I stare fearfully and want to escape, if possible. The moments are torturing; fear comes upon me, not physical is it, but rather, I suppose, moral—a fear of criticism, and I imagine the first utterance after I leave will be: 'There's something wrong with that fellow!'" The patient has attempted to diagnose his own case in the closing curious paragraph. He has named the chief symptom of his trouble "a permanent idea," but not being a student of medicine he does not recognize that he is the victim of psychical neurasthenia, sometimes called cerebrasthenia, the causes of which have been excessive study and self-analysis superimposed upon an early false training. He says

"the relations which exist between these various feelings are not entirely evident to me, though I have given thought to the question. What is *cause* and what *effect* seems difficult to answer. The only solution, however, that satisfies me is that I have *a permanent idea* that people in general have *evil* and *malevolent* designs upon me. This, it appears to me, excites that fear to which I have alluded, and from this follows the staring. For I have observed that persons of affable and deferential manners dispel this feeling, while those of the opposite character appreciably excite it. Hence I feel much more easy in the company of some than of others. But I am at a loss to know how such an idea could seat itself in my mind. Nobody ever did me any considerable injury that would give grounds for such an idea." I have quoted the patient's own words, italics included, as his description is so true of the neurasthenic state. The fear he speaks of is not the fear that sometimes springs out of delusions of insanity as in one of the following cases, prompting the patient to commit homicide; it is rather the fear of having his *amour propre* wounded, its source being in his vanity, his inordinate egotism. This distinction between the phobias associated with the imperative conceptions of the sane and the phobias associated with the delusions of the insane, should be carefully remembered. Unlike the fears of this case, which, it will be observed, are secondary to a mental hyperæsthesia and exaggeration of the ego, the fears of the two following cases, both insane, constituted the very ego itself, as it were, and entered as primary factors into the patient's mental makeup. The neurasthenic recognized his fears and could study them himself as though he were something separate and apart from them; the insane did not recognize theirs as fears, but accepted them as the logical and necessary basis for their manner of acting.

3. An unmarried man, twenty-seven years of age, with a highly neurotic heredity, was the victim of the insane delusion that he was under the control of spirits and other unseen agents. When a boy, he was struck on the side of the head. A discharge from the ear of the same side followed; and during the rest of his life there has been deafness in that ear. There has been no running from the ear for many years. Nervous troubles, without insanity, have been common in his family, especially on the paternal side. The father's relatives have all been quick-tempered and violent, and suffered much from neuralgias and headaches. One uncle used alcohol to great excess; the father contracted gonorrhœa, and had rheumatism followed by mitral insufficiency. The mother is hysterical and nervous; two sisters are highly hysterical; a third sister died of rapid pulmonary tuberculosis; while the patient himself has had many scrofulous glands removed from the neck. Two years before I saw him he was remanded to the Detention Hospital, but since he had been out he was fairly tractable, though inclined to be morose, melancholy, and obstinate. He is a skilled draughtsman, and a keen mathematician. Apparently rational, he is fond of minutiæ, and greatly given to detail work. In ordinary conversation one would never suspect him of insanity. And yet he imagines he hears voices calling him, especially at night. They trouble him at times during the day. They are usually pleasant, female voices, though sometimes they are threatening, masculine voices. They always come from a distance, even from the opposite side of the world, from above and from below. They are borne to him by means of some abstruse, unknown electrical means, for this purpose not needing any other conductor than the intervening air. Masturbation years ago was admitted. His dreams are highly erotic, and as the result of them, and of the imaginary voices, he almost nightly leaps out of bed, seizes an Indian club, poker, or other convenient article and pounds on the doors and walls, shouting to the spirits to stop calling and annoying him. He threatens injury if he can only come at them. At times he says he can see people floating before him and threatening him with personal violence. At these times all his acts are in perfect accord with these imaginary conditions. So great is his fear and delusion that he has threatened to kill even his father and mother. I sent the patient, at once, to the asylum. My purpose in referring to the case in this connection is to show how the patient's whole manner of action was determined by these delusions, which delusions, probably depending largely upon the visual and auditory hallucinations, color and even constitute the whole world of his ego. He cannot reason intelligently about these delusions, though he reasons with a kind of logical sequence within them. They are, therefore, the imperative conceptions of insanity.

4. Another young, unmarried man, twenty-seven years of age, whom I saw some time ago, declared that he was annoyed by voices calling to him during the day, but more particularly at night. He hears them more distinctly in the left than in the right ear. He identifies one of the voices as that of the "old boy" persuading him to do some wrong. He cannot describe the appearance of the "old boy" or the character of the temptation. Visual and auditory hallucinations are positively denied by the patient. He says he does not dream, and he is not troubled with lascivious thoughts. The mother of the patient says she was delirious with an attack of erysipelas when his birth took place at eight months. When seven months old, the patient had an abscess opened in the neck. Measles occurred at fourteen months of age. He had a severe fall down a long flight of steps at fifteen months; after which he ceased to talk until he was about four years of age. Epileptiform convulsions began when he was fifteen months old, finally stopping when he was eight years of age. He has had an attack of sunstroke; has always been fearful and irritable and consumed with the one idea of being a printer. There was no heredity of any importance. Many other details in my notes I will omit, as I wish to refer to the case only to illustrate the imperative conceptions of the insane, and how they determined this patient's entire mode of thinking and acting. Having strong homicidal tendencies under the delusions of these imperative conceptions, he was promptly sent to an asylum.

A young man, twenty-two years of age, referred to me by Dr. W. A. Mann, came of a markedly neurotic ancestry; was always considered very delicate, and was therefore always greatly humored. In addition to being addicted to cigarette smoking, he fell and hurt his spine and was treated for a long time for acute Bright's disease. A few days before I saw him, he had been greatly shocked and frightened by seeing a man threaten and attempt to kill a girl. He began to experience marked hallucinations of hearing, and was fearful all the time under the delusion that detectives were constantly dogging him. He declared he could hear the detectives whistling and it greatly angered him, so that he threatened to kill them whenever the opportunity presented itself. After talking quietly and rationally in my office, he suddenly began to chatter about his journalistic ventures and skill as a great war correspondent. As a matter of fact this was all a pure delusion, as he had never done any such work. He imagined that he was the greatest war correspondent in the world, that he was in the employ of all the great newspapers of

America and Europe, that he always managed to get the news first, and that his rivals knew of this and were ceaselessly trying to harass and supplant him. He volunteered to show me, if I would give him a pencil and some paper, how he wrote up the great battles then going on in South Africa. Then, suddenly becoming violent, leaping up and staring out of the window, he cried out, "But I'll get them some day. They are after me, and are trying to get at my secrets, and if they don't look out, I will kill them." The patient was admitted to the asylum.

I have omitted details in these cases, reporting them here merely to show how the patients, unlike those reported in the early part of this paper, did not and could not reason about their hallucinations and delusions, but acted logically in accordance with the dictates of their imperative conceptions or delusions. If you reason with the neurasthenic about his fixed ideas, he will recognize that they are abnormal, will smile at them himself, will ask your advice as to the best way of getting rid of them and will make an effort not to be influenced in thought or manner by them. On the other hand, if you attempt to reason with the victim of insanity in regard to his fixed ideas, even though he may be only a mild monomaniac, rational in all other things beside these ideas, he will manifest no confusion, and instead of asking you how he may get rid of them, will show a slight degree of irritability and disgust at your doubt in regard to them. Those patients who hear nocturnal voices, insist that they are real, and that they are actually heard by them, when they talk with you in the daytime during their lucid moments.

The imperative conception may involve all the faculties of the mind. It is a mistake to associate it with the imagination only, as some have tried to do. The memory, the imagination, and the intellect may individually or collectively be concerned in its production. A high degree of amnesia, such as we sometimes see in severe alcoholic intoxication or the excessive use of nicotine, will cause the victim to repeat, under a seeming compulsion, purposeless and irrelevant acts. A melody heard long ago will recur in the patient's mind with annoying persistency. Certain names, figures, problems, and incidents cling to the memory in spite of every effort to eradicate them. On the other hand, the imagination, especially under the high excitability usually given to it by general neuropaths, frequently develops ideas and conceptions that are persistent and lead to irrelevant acts. There are usually no distinct hallucinations or delusions with these impulsive conceptions. Memory and imagination are not infrequently involved together. A nervous lad, seventeen years of age, now under my care, saw his brother accidentally drowned several years ago. Now, the mere recital of a drowning in his presence throws him into a high state of excitement and awakens such distressing and vague fears that it is almost impossible to get him to leave his room. He is not melancholy, has no suicidal thoughts, and can reason most clearly in regard to the foolishness of his fears. And yet, in spite of his best efforts, he not only feels but shows that the very thought of crossing a bridge over a stream of water is horrible in the extreme. Martin Luther saw the devil and hurled an inkstand at him. This was probably an indistinct visual disturbance, the result of an overwrought imagination influenced by the common belief of the day in a personal, living devil. The early education, as well as the common beliefs of the day, should always be taken into account when differentiating insane from sane conceptions. It was only after years and years of effort that Goethe could overcome an ill-defined, superstitious dread. Like many children with a poetical temperament, he was sensitive and suffered from childish terrors. To overcome this, his somewhat stern and opinionated father used to compel him to sleep alone, and when the lad stole away from his own bed to that of his brothers, would chase him back disguised as a fantastic hobgoblin. Some of the terrors which Hoffman, the German romancer, suffered from, and on account of which he would call his wife to come and sit beside him while he wrote, were probably due to the overuse of the imagination with defective inhibition on the part of the intellect. Hoffman died of locomotor ataxia with terminal dementia. Note the different etiological foundations for the phobias and imperative conceptions of these three geniuses. They all feared, more or less distinctly, unseen agents, goblins, weird creatures. They were all the victims of imperative ideas. Luther was under a high strain, and therefore was probably neurasthenic. Indistinct illusions of sight are not uncommon in extreme nervous prostration. It was not unnatural that his illusion should assume the form of the devil in whom he believed, in harmony with the general belief of the day. This was not an insane delusion, as we usually understand it. Goethe was made the subject of his fears by a vicious training in early life. He, however, recognized their groundless character, and, by a continued, heroic effort, ultimately freed himself from them. Goethe's were not, therefore, insane fears, the result of mental aberration. Hoffman never got rid of his terrors. As the result of visual hallucinations and deep-seated psychic depression, he begged his wife to sit beside him hour after hour to scare off the goblins while he wrote. He never could be induced to laugh at or reason away his baseless fears. They constituted a part of his mental existence. He actually beheld the spirits, and always acted as if they were really present to others as well as to himself. This was an insane delusion, and unlike the preceding two, belonged to that class which Lombroso and his followers have accepted as an indication of the insanity of genius. The hallucinations of Luther and the superstitious dread of Goethe were sane conceptions, if I may be allowed the paradox, and do not lend validity to the contention of Lombroso anent the insanity of genius. Insanity is a broad and much-abused term. It should be replaced by the word psychosis, for with the former there is associated the notion of a sharp line of demarcation between mental health and mental disease, whereas all forms of mental debility, from the mildest aberration to the severest, from the slightest weakening of the patient's usual mental grasp to the most violent mania or hopeless dementia, may be comprehended under the latter. Impulsive ideas, as well as insane delusions, are to be classified as psychoses, but the former are at the beginning of the scale and easily recovered from, the latter at the end of it and generally hopeless.

The treatment for the eradication of these imperative conceptions is both physical and mental, both medicinal and disciplinary. When they are due to physical debility, organic insufficiencies, or toxic blood states, the relief of the latter will, in time, cause the disappearance of the psychic abnormalities. Every organ in the body should be sharply interrogated, and measures should be adopted to restore them to their proper functional activity. Obscure renal disease, weakened heart-action, or inefficient gastrointestinal peristalsis may lead to such a general condition of malnutrition as to affect decidedly the mental functions. The patient should be carefully studied as an organic compound. The treatment should not be instituted with the attention too closely riveted on any one organ. I have known of

the liver being blamed, and of chologogues being administered when exercise and a selected diet were all that was needed. I have seen exercise and a selected diet recommended to tone up the muscular system when assimilation was the chief element at fault. No class of cases needs a closer scrutiny or a more thoughtful therapeusis than do these. The mind, if not coextensive with the entire organism, is, nevertheless, powerfully under the influence of every part of it.

Insane delusions are, primarily, the result of a diseased cortex; imperative conceptions are the result generally of disease outside of the brain. Hence, a more thorough examination of the patient is necessary, as a rule, to discover the cause of the latter than that of the former. The cause of the latter being once discovered, the therapeutical and dietetic management, the physical treatment of the case will be obvious enough, and will involve a consideration of the entire field of internal medicine.

Medicinal treatment alone will not avail with some patients who are the victims of these troublesome phobias and impulsive ideas. The habit once formed, becomes persistent and is hard to get rid of. Note the example of Goethe cited above. In these cases disciplinary, educational, and environmental influences play a large rôle. The medical adviser must here become a character builder. He must keep in close touch with his patient, must exercise a strong personal influence over him, and must both do and say that which will tend to win him away from his psychic depression. This is a very large task, and it is at times exceedingly discouraging; but to the student of the mind and its vagaries, it is so fascinating that the difficulty of the task sinks into insignificance in comparison. To observe, analyze, and mould such a character demands a higher degree of skill than to watch, study, and control a case of typhoid fever or pneumonia. Patients of this type are not infrequently shrewder, deeper, and more intellectual than the medical consultant. While he may be fully able to suggest to them the proper medicines, food, and exercise, he too often shows the limitations of his own mental capability for healing the mind diseased. These patients call for something more than diet and medicines; they need advice frequently as to their reading, studies in art, scientific amusements, as well as the whole tenor of their intellectual lives. For instance, a precocious, highly emotional girl becomes hysterical. It is discovered that she is studying music. It will not do to tell her to give up her music absolutely; hence a selection must be made between studying Mozart and Bach, who are sedative, intellectual, and disciplinary, and Chopin, and Liszt, who are stimulating, emotional, and erratic. How can a physician obtain the best results in the treatment of such a case unless he is somewhat acquainted with the art of music? Among the great writers, Washington Irving is as different from Alexandre Dumas, or Goldsmith from Byron, as a soothing draught is different from an alcoholic stimulant. As I intimated before, one cannot tell these patients not to read at all, for the ennui that sometimes results would be worse than the disease. Therefore, it behooves the attendant to know a little—yes, a great deal—about general literature. How many physicians prepare themselves to treat and manage in this way these mentally overactive, imaginative, irritable, restless individuals? Here, more than elsewhere, do we, as a profession, too glaringly expose the one-sidedness of our training and pretensions. Our energies are too closely confined to the prescription and the scalpel.

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EXAMINATION OF MILK BY THE GENERAL PRACTITIONER.*

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Clinical methods for the examination of the patient and his excretions are now largely employed in the daily practice of physicians. The examination of urine, sputum, blood, and stomach contents can be made in a short time, and medical students are well drilled in the technique of these methods before leaving the medical school, and can deduct correct conclusions from their examinations.

In this paper it is purposed to outline a rapid and simple method of examining either human or cow's milk. There is a very prevalent idea abroad that a milk analysis requires expert chemical skill, expensive apparatus, and much time. For these reasons the general practitioner rarely, if ever, attempts to determine the character of the milk from a mother whose baby does not thrive. As a result the child is weaned from the breast and some much advertised food is prescribed.

It is not the object of this paper to discuss the importance and value of milk examinations, but it can be said that it is impossible to feed infants scientifically or intelligently without making, or having made, milk examinations from time to time.

A practical examination for a physician must be easy of application, consume little time, require simple and inexpensive apparatus, and be accurate in order to reach reliable conclusions. The scheme I wish to present does not take much more time than a complete chemical urinalysis, and requires no more skill. No originality is claimed, for "I have gathered a bunch of other men's roses, and only the cord that binds them is my own."

Care must be taken in obtaining the sample of mother's milk to remove all the milk from the breast. The composition of the fore milk differs from the last portion withdrawn. The sample of cow's milk should be well mixed before testing.

The first step is to determine the total acidity of the milk. With cow's milk this determination is of vast importance. Milk with an acidity of over .16 per cent. should never be used for infant feeding. The limit for drinking purposes is .2 per cent., and .3 per cent. is the point of souring. There is a close and definite relation between the degree of acidity and the number of bacteria. Souring is due to lactic acid producing bacteria, and milk containing many bacteria will have a high acidity. In this way we get some idea of the cleanliness employed at the dairy, and of the care taken in the transportation and delivery of the milk. There is a very practical bearing to us as physicians, for "milk on the point of souring is very liable to produce gastric and intestinal catarrhs of an acute or chronic character in infants, children or persons with feeble digestion." The chief causes for an untimely acidity of the milk are improper feeding of the cows, dirty milk pans and rooms, unclean udders and teats, and a high temperature.

The articles required in making this test are few, and consist of an alcoholic solution of phenolphthaline, decinormal sodic hydrate solution or a saturated solution of lime water, a small glass beaker, medicine dropper, and a small glass cylinder holding 10 c.c. and graduated into tenths of 1 c.c.

Five c.c. of the milk are measured into the beaker and a couple of drops of the phenolphthaline solution added. The cylinder is then cleansed and filled

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to the 10 c.c. mark with either alkaline solution. A small amount of the solution is taken up by the medicine dropper and added drop by drop to the milk, which is well stirred with a glass rod. When a faint pink color is obtained the excess of alkaline solution is returned to the cylinder and the amount of the alkaline solution used is readily ascertained.

The following formula is employed when the sodic hydrate solution is employed:

$$\frac{\text{c.c. alkali} \times .009}{\text{c.c. sample taken}} \times 100 = \text{total acidity.}$$

For example, if it takes .8 of 1 c.c. to neutralize 5 c.c. of milk the equation would read:

$$\frac{.8 \times .009}{5} \times 100 = .145 \text{ per cent.}$$

A saturated solution of lime water is approximately a one-twentieth normal solution, and when this is used the formula would read as follows:

$$\frac{\text{c.c. alkali} \times .0045}{\text{c.c. sample of milk}} \times 100 = \text{total acidity.}$$

A somewhat simpler but not so accurate a method is to use the Farrington alkaline tablets. These tablets consist of a definite quantity of alkali combined with coloring matter. These tablets keep much better than the standard solutions, require no apparatus and are very cheap. The test is made as follows: One tablet is dissolved in a half ounce of water. Two c.c. of this solution are added to a like quantity of milk. If the resulting mixture, after shaking, is pink, the milk contains less than two tenths of 1 per cent. acidity. If the milk remains white it contains more than two-tenths of 1 per cent. and is too sour to use, even though it smells and tastes sweet. Other combinations can be tried, such as adding 1 c.c. of the solution to 2 c.c. of milk. A resulting pink color would indicate an acidity of less than one-tenth of 1 per cent.

A standard decinormal alkaline solution can be made by dissolving twelve of these tablets in 50 c.c. of water. When this is used for the titration it is unnecessary to add phenolphthalein to the milk.

The specific gravity of the milk is next ascertained. For this purpose there are two types of lactometers. The New York Board of Health lactometer does not give the specific gravity of the milk directly, but has a scale divided into 120 equal parts, the mark 100 being placed at the point to which the lactometer sinks when lowered into milk of a specific gravity of 1.029 at 60° F. This lactometer requires a large amount of milk and certain calculations to convert the reading into the specific gravity.

The other type of lactometer is the Quevenne, which has the same scale as the ordinary urinometer, and registers the specific gravity directly. These lactometers are standardized at 60° F., and as the correct reading depends on the temperature of the milk these lactometers contain thermometers. Knowing the lactometer reading at a certain temperature, the specific gravity can be easily ascertained. A simple rule is to add .1 to lactometer reading for each degree above 60° F. and to subtract .1 for each degree below 60° F. The corrected reading can be found at a glance by using the sliding milk rule, which will be described later.

As the Quevenne lactometers on the market which contained thermometers were large and required a large quantity of milk, I had one made with a scale from 1020 to 1050, which only requires a little over half an ounce of milk to obtain a reading. This lactometer contains a thermometer, so that the temperature of the milk can be ascertained at the same time.

The reading must be made with care, for important information is obtained from it. The specific gravity of mother's milk averages 1030, and it is lowered by an increase of fat and raised by a high percentage of proteids. If the specific gravity of cow's milk is less than the normal (1029 at 60° F.) one of two things may be assumed. Either the milk contains an unusual amount of cream or the milk has been watered. If, on the other hand, the specific gravity is higher than normal and the percentage of fat is low, it is fair to assume that the milk has been skimmed. The most important use of the lactometer is to determine the percentage of solids in the milk and formulæ for this purpose will be given in another part of this paper.

The percentage of fat may be determined by many methods. We cannot at this time enter into a discussion of the relative merits of these methods. The principle of most of these is similar, and consists of dissolving out the solids not fat of the milk by means of various chemicals, and the fat either measured as such in a narrow graduated tube or brought into solution with ether, gasoline, etc., and weighed on evaporation of the solvent. The test suggested by Professor Babcock of Wisconsin, and known as the Babcock test, is the simplest and most accurate, and has replaced most of the older methods. No expert chemical knowledge is required and only one chemical is used. The accuracy of this test is such that several States employ it for their official examinations, and it is in very general use throughout the United States. The manipulations are few and easily learned, while the apparatus is

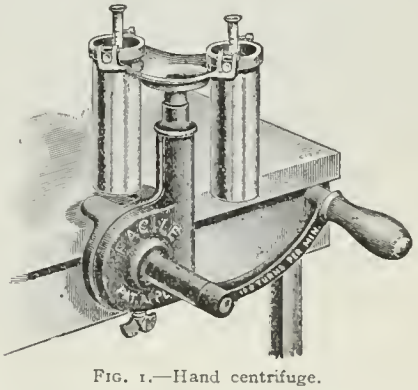

Fig. 1.—Hand centrifuge.

very cheap. The glassware consists of test bottles, a milk pipette, and an acid measure. The test bottles have a capacity of about 50 c.c. and are made of heavy, well-annealed glass. The neck of the test bottle on which the scale is sketched is three inches long, and is graduated from one to five or one to ten per cent., and small divisions make possible the estimation of the fat into tenths of one c.c. with perfect ease. Special bottles are used for testing cream and skim milk.

The Babcock tester is a centrifugal machine run by hand, steam or motor power. The machines on the market are all large and cumbersome, and are not practical for the physician's use. At my suggestion one of the large dairy supply houses, D. H. Burrell & Co. of Little Falls, N. Y., made a small hand centrifuge which is thoroughly practical, requires the regulation size Babcock test bottles, and takes up very little room in the physician's laboratory. In order to make this centrifuge of greater value to physicians, special sediment tubes are supplied, so that the machine can be used for urinary or other work. These tubes have a detachable tip, which is kept in place by cohesion of two

ground-glass surfaces. The sediment from a large quantity of urine can be collected in the small cap, which is of great value in the detection of typhoid and tubercle bacilli. These caps can be thoroughly cleansed, and the sediment easily collected and removed for microscopical work.

Fig. 2.—Test bottle. (½ size.)

Fig. 3.—Sediment tube. (½ size.)

The Babcock test is made as follows: Seventeen and six tenths c.c. of the milk are drawn into the milk pipette and allowed to run into one of the test bottles. Seventeen and a half c.c. of clean sulphuric acid with a specific gravity of 1.082 are measured in the acid measure and slowly run into the test bottle.

The milk and acid are thoroughly mixed in the test bottle by a rotary motion, placed in the centrifuge and whirled for four minutes. Boiling water is then added by means of the pipette until the lower part of the column of fat comes within the scale on the neck of the test bottle. A second whirling for one minute completes the separation of the fat. The test comes out clearer and nicer, and the fat is kept more limpid if boiling water is put in the cups which surround the bottles. The fat thus obtained should form a clear, yellowish liquid quite distinctly separated from the acid solution. The bottles must be kept warm until the readings are made. The fat is measured from the lower line of demarcation between the fat and the water, to the top of the meniscus of the upper line. The liability of error in reading is rendered less by using an ordinary pair of dividers. After the extent of the fat column is obtained the lower point of the dividers is placed at the zero mark of the scale and the percentage of fat read at the upper point. The normal variations in both mother's and cow's milk are from 3 to 5 per cent.

The test requires an ordinary amount of care, and a few cautions are necessary. The milk to be tested should be thoroughly stirred before the sample is taken. In order to balance the machine two tests must be made at a time, and if sufficient milk is obtainable it is a good plan to make a control test. The speed of the tester must be regular, and in order to obtain the clearest readings the milk and acid should be about 70° F. before mixing.

The mixing of the milk and acid must be done with care. When once begun the mixing should be continued until completed, for a partial, or interrupted mixing will often cause some black material to separate with the fat and obscure the reading. This will also occur if the acid is too strong. The water added in order to bring the fat into the neck of the bottles should be soft, or else the carbonic acid gas liberated from hard water by the sulphuric acid produces a layer of foam on the fat and renders the reading more difficult.

The percentage of sugar is almost constant in both human and cow's milk, and it is not necessary to estimate the amount of sugar in an ordinary routine examination. Lactose will reduce copper salts, and the percentage of sugar present can be ascertained by the well-known Fehling quantitative test. Lactose will not ferment with yeast, so the fermentation tubes cannot be employed. The average percentage of sugar in cow's milk is 4.5 per cent., and in mother's milk it is 6.5 per cent.

The total solids of the milk can be determined from the data already procured, namely, the corrected specific gravity and the percentage of fat. Under the term "solids not fat" are included the nitrogenous matter, milk, sugar, and mineral salts. These ingredients require complex chemical methods for their determination, but the ratio of these three constituents is rarely altered, so that it is unnecessary, save in exceptional cases, to make a minute chemical examination.

A number of chemists have derived formulæ for the calculation of milk solids, and in recent years some of these have been greatly simplified. The Babcock formula has been found to be accurate and it is extremely simple. It consists of dividing the specific gravity of the milk by four, and adding to this one-fifth of the per cent. of fat. For instance, the specific gravity of a specimen of milk is 1030.8 and the fat 4 per cent. One fourth of the specific gravity is 7.7 and one-fifth of the percentage of fat is .8, so by the rule the total solids not fat would be 8.5. Adding the percentage of fat we get 12.5 as the total solids.

The formula constructed by Richmond is:

Total solids = .25 Spec. Grav. + 1.2 Fat + .14.

Using the same figures as in the Babcock calculation we would get

Total solids = .25 (1030.8) + (1.2) 4. + 14.

or

Total solids = 12.6.

To further simplify this calculation Richmond has devised a sliding milk rule based on his formula. Both the corrected lactometer reading and the amount of total solids can be obtained at a glance, and it does away with the use of mathematics. This rule has a movable slide in the center of its upper surface. On this slide are two scales, one

Fig. 4.—Sliding milk rule.

representing the specific gravity and the other the lactometer reading. On one side of the stationary portion a scale is placed indicating the total solids, 1 per cent. of total solids equals one inch and is divided into tenths. On the upper portion of the other side the fat is shown from 1 to 6 per cent. with each per cent. divided into tenths. On the lower portion of the same side a temperature scale is marked from 32° to 80° F, with an arrow opposite the 60° F. mark. The rule is operated as follows: The lactometer reading and temperature of the milk have been obtained. Set the rule with the lactometer reading that has been observed, opposite the arrow at the 60° F. mark. For the true lactometer reading or specific gravity notice the point on the movable part of the scale opposite the temperature at which

the milk stood. For example, if the lactometer reading was 30 and the temperature of the milk 75° F., you would set the lactometer reading –30– on the 60° F. temperature line, and it would be seen that the 75° line corresponds with 32 on the lactometer scale, which is the correct lactometer reading.

The percentage of fat in the milk will have already been determined. The movable portion of the rule is adjusted so that the arrow points at the percentage of fat on the scale. With the scale thus adjusted the line indicating the specific gravity or corrected lactometer reading is placed against the required percentage of total solids in the milk. Suppose, for instance, the fat is 3½ per cent., the slide would be moved so that the arrow is opposite the 3½ mark. The specific gravity was found to be 32. Opposite 32 will be found 12.4, which would be the required total solids in the milk.

The amount of the proteids can be obtained approximately by subtracting the percentage of fat, sugar, and salts from the total solids. The percentage of sugar in mother's milk averages 6.5 per cent. and rarely varies except in a small range. The average amount of the salts in mother's milk is two tenths of one per cent. In cow's milk these figures are different. The sugar averages 4.5 per cent., and the salts seven-tenths of 1 per cent.

For example, the total solids in a specimen of cow's milk amount to 12.4 per cent. and the percentage of fat is 3½, the solids not fat would be 8.9. Subtract 5.3, the sum of the sugar and salt percentage, and you would get 3.6, the amount of proteids.

While this is a rough method and throws all the error on the proteids, it gives us valuable information, which is reliable enough for ordinary modifications of milk.

It is sometimes desirable to ascertain if preservatives have been added to the milk. The most common one now in use is formaldehyde. If a violet ring is seen at the junction of the sulphuric acid and milk in the Babcock test bottle, formaldehyde may be present, although other conditions may cause it. This is the Hehner test, and is said to be very delicate. The ring will not form if the percentage of formaldehyde is over .05 of 1 per cent. The phloroglucin test is more reliable. One gram of phloroglucin is dissolved in 100 c.c. of distilled water. Ten c.c. of the suspected milk are put in a test tube and 5 c.c. of the phloroglucin solution added. One c.c. of liquor potassæ (U.S.P.) is added, and a pink color develops at once if formaldehyde is present.

The detection of other preservatives requires special skill and takes some time. Their presence, however, must be strongly suspected if the milk remains sweet to taste and smell when the amount of acidity registers three-tenths of one per cent. or over.

A Floating Sanatorium.—The Berlin correspondent of the *Daily Chronicle* states that steps are being taken by several physicians and associations to test the value of sea-air on patients suffering from consumption. Ordinary steamers, owing to the noise, unpleasant smells, and want of proper accommodation, are unsuitable. It is, therefore, proposed to build a large floating sanatorium, with roomy, open-air wards and medical supervision, and a complete equipment for scientifically testing the effects of sea-air on consumptives. After careful inquiry it has been decided that the cruising ground for the new ship will be the northeastern Atlantic, in the neighborhood of the Canary Islands. Should success attend the effort, further floating sanatoria will be built. The voyages will last about six weeks.—*British Medical Journal.*

Clinical Department.

REPORT OF A CASE OF ALMOST FATAL POISONING BY SIX GRAINS OF QUININE.

By LEWIS A. CONNER, M.D.,
NEW YORK.
ATTENDING PHYSICIAN TO THE HUDSON STREET HOSPITAL.

That small doses of quinine, in persons with especial susceptibility to the drug, may produce unpleasant, and often violent, symptoms is sufficiently well known to call for no especial comment. That such doses may seriously threaten life or even cause death, however, is much less generally understood, and is worthy, perhaps, of some emphasis in view of the unrestricted and sometimes reckless use of the drug.

A healthy man, twenty-seven years old, of medium height and slender build, was brought to the Hudson Street Hospital on the afternoon of May 11 last, in a condition of collapse. Less than an hour before he had applied to an apothecary for medicine for a "cold," and had been given five pills said to contain quinine. He had taken two pills at once, and about fifteen minutes later had noticed a burning of the skin and fluttering of the heart. To these symptoms were soon added vertigo, faintness, tachycardia, and great weakness. These symptoms had so rapidly grown worse that he had been hurried to the hospital.

When seen by the acting house physician, Dr. Beckwith, the man was conscious and complained of some abdominal pain and of intense weakness. His face was pale and was covered with cold sweat, his respirations shallow, and no pulse whatever could be felt in the radial arteries.

On listening over the præcordium, faint heart-beats, too rapid to be counted, could be heard. The patient was given vigorous stimulation subcutaneously, together with external heat, and half an hour later the radial pulse could be felt, although still very feeble. The count at this time showed 180 beats to the minute. The burning and itching of the skin, which had been noticed early, gradually increased, and, about an hour after admission, there appeared over trunk, extremities, and face a diffuse scarlatiniform rash with much swelling of the skin, especially about the face. At this time the temperature was 100° F. Under very active stimulation the patient's general condition improved steadily, although the swelling, heat, and itching of the skin caused great discomfort and restlessness. On the following morning the eruption had well-nigh disappeared, and the patient, although still very weak, insisted upon going home. Two days later he was seen again. The pulse was normal in rate and of fair force, but was somewhat irregular, and occasionally intermittent. The patient still felt very weak, but was able to be about. There was still some unpleasant itching of the skin. It is interesting to note that at no time during the attack was there either ringing of the ears or deafness.

The remaining three pills proved, on analysis, to contain each three grains of quinine sulphate. These symptoms had, therefore, been produced by six grains of the drug.

The patient volunteered the information that there existed in his family a distinct idiosyncrasy toward quinine. One sister had twice been violently poisoned by the drug and had shown symptoms similar to his own. A brother had also shown the same susceptibility. On the other hand, a second sister and his parents had never displayed any such peculiarity. He himself, some years

before, had had some disagreeable symptoms after taking quinine, but they had been mild as compared with those of the present attack, and had not made much impression upon him.

The extreme cardiac depression seen in this case, which, for a short time, was such that death seemed imminent, is the feature which chiefly distinguishes it from the many other cases in which marked susceptibility to the drug is shown. The rash, the itching and burning of the skin, and the vertigo are not uncommon symptoms, and have sometimes been produced by doses smaller than that taken in this case. Such an effect upon the heart, however, seems very rare among the published cases of poisoning by small or moderate doses of quinine. Wood[1] speaks of a case in which two grains administered by the mouth produced a furious general urticaria and cardiac depression of the most alarming character. Upshur[2] saw, in the case of a susceptible woman, thirty grains, administered in the course of sixteen hours, produce intense nausea, diarrhœa, abdominal pain, and a very feeble pulse; and saw, in the same individual, one year later, eight grains produce similar symptoms with a "thready pulse."

Husemann,[3] in 1888, collected four cases of fatal poisoning by quinine, but in all of them the amounts were relatively large. One was that of a French soldier who died after taking 12 grams (3 drachms) of quinine in the course of four hours. The other three cases occurred in children. A child of ten years died half an hour after taking between 5 and 10 grams (75 and 150 grains) of chinoidin; another child of three and a half years died in one and a half hours from less than three grams (45 grains) of quinine, and in a child of two years between 16 and 20 grains of quinine proved fatal in two and a half hours.

The most noteworthy case found is that reported by Micciché[4] in 1894: A girl of thirteen years, suffering from a severe form of malaria was given ½ gram (about 8 grains) of quinine hydrochlorate subcutaneously. Within fifteen minutes there developed severe abdominal pain and vomiting. Following this there were prostration, a small, frequent pulse, high fever, great nervous depression, and later stupor, jaundice, hæmaturia, and anuria, with death from uræmia on the seventh day. The autopsy showed marked swelling of the liver and spleen, swelling and fatty degeneration of the kidneys, and evidences of great destruction of red cells. The girl had previously shown great susceptibility to quinine, and each administration of it had been followed by vomiting, fever, and hæmaturia. The possibility that the symptoms and fatal ending in this case may have depended upon the malarial infection rather than the quinine is not discussed by the writer.

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REDUCTION OF INTUSSUSCEPTION.

By DAVID J. MINCHIN, M.B.,
BERLIN, ONTARIO.

The following method of reducing an intussusception has proved successful in my hands a short time ago, in a case occurring in a child of eight months. The child was seen within four or five hours after the occurrence of the trouble, and, the nature of the case being explained to the parents, they positively refused their consent to abdominal section. The child was then inverted and the colon filled with hot water by means of a rubber bulb syringe, resembling a Politzer inflation-bag, and having a capacity of about four ounces. It was found possible to do this by pressing the syringe firmly into the anus during the child's efforts to expel the water, and then refilling the bulb when the paroxysm of straining passed over. Then, while manipulating the tumor through the abdominal wall with the left hand, the bulb was alternately compressed and relaxed, in much the same way as a plumber uses his suction bulb in clearing out a stopped-up sink pipe, and, after a little gentle manipulation in this manner, the tumor was felt to disappear under the fingers. This was followed by immediate relief of the urgent symptoms, although occasional vomiting and some pain persisted for a few hours longer, but the vomited matter was no longer offensive in character. The advantages of this procedure over the application of hydrostatic pressure by means of a fountain syringe are, the greater control which the operator has over the amount of force applied, and the benefit of an intermittent, rather than a continuous, pressure.

44 Queen Street.

DEATH OF A FŒTUS FOLLOWING AN INJECTION OF DIPHTHERIA ANTITOXIN INTO THE MOTHER.

By E. R HOUGHTON, A.M., M.D.,
NEW YORK.

A question, to which as yet I have been unable to obtain an answer, has arisen in my practice. What is the effect of antitoxin on the child of a pregnant woman? My case was as follows: Mrs. A. engaged me for her confinement when she was eight months pregnant. I examined and measured her. It was to be her second child, and everything seemed normal. The fetal heartbeat was 165. In two weeks I examined her again, and found the child very vigorous and heart strong and the sound loud. A day or so later she visited a friend. While there, a doctor came in and informed my patient that there was diphtheria in the room and she must take antitoxin to render her immune. She objected and wished to consult her physician, but her objections were overruled and she submitted to the injection. At once she felt faint and very cold, but after a few moments rallied and went home. The outside air revived her. She noticed that afternoon and evening that there were no fetal movements. She sent for me. On examination, I found no fetal heart, no movements, and discovered that the child had changed from a head to a breech position. The child was freely movable, but did not respond in any way.

I saw the woman several times before satisfying myself that the child was dead. The woman was confined two weeks later, at term. The child was born dead, and showed that it had been dead some time, the skin being macerated and the placenta very friable. The confinement occurred two weeks after the injection of antitoxin. The woman did nothing to cause the calamity, and it seems improbable that there was any internal cause of death, as she had previously carried and given birth to a normal full-term child. The question is, did antitoxin affect the child or did the shock of the exposure, and the antitoxin injection cause a subplacental hemorrhage and subsequent death of the fœtus?

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THE SCIENTIFIC BASIS OF "CHANGE OF AIR."

WITH a view to rendering our ideas more precise, MM. Albert Robin and Maurice Binet present, in a pamphlet entitled "Variations des Échanges respiratoires" (Grenoble, 1902), some interesting and instructive facts bearing upon the complex condition generally designated "change of air." The influences on respiration of diminished barometric pressure, light, heat, and cold, are carefully studied.

In elevated regions the barometric depression immediately slows the respiratory changes, which, however, after a period of adaptation, return to, and even sometimes surpass, the normal rate; this return, in spite of the smaller proportion of O in the atmosphere being accompanied by a more active pulmonary ventilation and a more rapid mobilization of the red corpuscles. Through greater ozonization of the air, the gaseous changes are stimulated. The greater intensity of light increases these changes, the stimulation being relatively moderated by the prominence of the ultra-violet rays. The lowering of the temperature, and the sudden variations which it undergoes, are also elements which stimulate the respiratory changes. The overactivity of the digestive functions, and the greater globular richness of the blood, concur in bringing about more active cellular life. Mountain sickness results from a diminution in the O fixed by the blood, and from the rapid consumption of that O, but also from defect of adaptation of the organism, either from causes due to itself (less rapid mobilization and deficient increase of the red corpuscles, deficient increase in pulmonary ventilation, etc.); or by a less regular intervention of some of the accelerating atmospheric conditions (light, ozonization, etc.).

Respecting the effect of temperature, cold accelerates, heat moderates, the gaseous changes. Breathed, hot and dry air sometimes increases, sometimes diminishes, the respiratory combustion. Hot and moist air stimulates it. Cold air in the majority of cases restricts it. Chilling of the naked skin by air or by the cold bath, increases the respiratory changes if sufficiently prolonged, a duration of one minute being without effect. An elevated, humid temperature, operating during a half hour, moderates the changes. A sojourn of forty minutes in a dry hot room at 56° C. moderates the changes, while a sojourn of fifteen minutes at 78° C. augments them. The changes are more actively influenced by a succession of different temperatures than by a constant temperature of the same duration, and the effect produced is in the direction of the action of the agent which predominates. In repose, cold augments the changes, dry air up to 55° C. diminishes, but at 75° C. it accentuates them. Abrupt variations increase greatly the activity of temperature upon the gaseous changes.

From the therapeutic standpoint, a mountainous climate which is in general stimulant to the respiratory changes, suits all patients in whom those changes are diminished, *e.g.* arthritics, most dyspeptics, the group of chlorotics and anæmics, and most neurasthenics. Consequently, it is necessary to examine the respiratory chemism before deciding on mountain cure. As altitude does not always influence the respiratory changes in the same direction in different subjects, after a suitable sojourn in the mountains the actual changes in a given patient should be determined. In tuberculous patients the examination should be made after a week, so that those in which the changes have undergone acceleration can return home. Mountains agree with the tuberculous with normal or retarded changes, and with tuberculous arthritics. In the much more numerous phthisical, with accelerated changes, the excitant effects of altitude on the changes are compensated by the greater purity of the air, the better hygiene, increase of appetite, and improvement of digestion. The increase in the changes can be avoided by shunning cold, abrupt variations of temperature, too brilliant sunlight, wind, etc. Cold climates where the patient breathes cold air, suits the phthisical, provided the cutaneous surface is maintained at a good medium temperature and protected against chilling. Hot, moist climates augment the respiratory changes and should be forbidden to the phthisical. The action of hot, dry climates is irregular, sometimes increasing, sometimes diminishing, the respiratory changes; for which reason, before sending a phthisical patient to such a climate, he should be examined with reference to the effect upon him of breathing dry, hot air, and the journey forbidden if the changes are augmented. Climates subject to great variations of temperature should be interdicted to the phthisical. The only hydrotherapy warranted in phthisical subjects is cold douches at very short duration, or alternating douches with predominance of the hot jet. The complete Turkish bath, stimulating the respiratory changes, is indicated when needed, as in arthritics, but is contraindicated in the phthisical. Fever and advanced lesions in the phthisical absolutely contraindicate mountain climates.

A BRITISH SYMPOSIUM ON THE ALCOHOL QUESTION.

THE London *Practitioner* some time ago contained nine papers on this subject. Dr. James Edmunds, Consulting Physician to the United Kingdom Temperance and General Provident Institution, analyzes the results of insuring in separate sections, total abstainers and drinkers, during the period 1866–1901. Calculating the expectancy alike for both classes in the Temperance Section, out of an expectancy of 8,838 deaths, 6,300 (71.2%) occurred; while in the drinkers' section, out of an expectancy of 11,727 deaths, 11,241 (95.8%) oc-

curred. The London Grand Division, Sons of Temperance, had, during the period 1896–1900, 8,686 insured against sickness, and 10,350 against disease. With an expectancy of 49,052 weeks' sickness, one of 39,600 occurred, and out of an expectancy of 397 deaths, one of 220 occurred. Recently the Division had an actuarial surplus of £21,623, after ample provision for all liabilities. The mortality for occupied males in England and Wales, from 1890 to 1892, having been on a general average 953, and for those in selected healthy localities 679, that for clergymen was 533; for gardeners, 553; grocers, 664; malsters, 884; brewers, 1,427; innkeepers, etc., 1,642; and for inn and hotel servants, 1,725. For 19 years at the Temperance Hospital, Dr. Edmunds never prescribed alcohol, and the mortality was low, and in enteric fever very favorable. Of 129 consecutive in-door operations, only three patients died, 2 after large ovariotomies in malignant disease, 1 after gangrene to the knee with atheroma, heart disease, and chronic bronchitis. No operation was shirked.

Dr. J. J. Ridge quotes the official figures of expenditures in the United Kingdom for liquors yearly from 1801 to 1900, which show an increase from £36,095,444 (£2, 4 sh., 4½d. per head) to £160,191,718 (£3, 18 sh., 8d.) in 1900, but he thinks the real amount £25,000,000 to £30,000,000 more per year. The Collective Committee of the British Medical Association, in 1887, investigated the drinking habits of 4,222 men who had died between twenty-five and sixty-five, during the three years previous; 40% were said to have been "temperate," and 55% to have been more or less intemperate; and the latter were regarded as having reduced their longevity "roughly in proportion to their indulgence." The great improvement in the mortality of the young during the latter half of the nineteenth century, is not shared by men over 35. This is not due (for reasons given by the author) to the modern increased preservation of weaklings, but is attributed to the habits (especially the drinking habits) of men. Even in the eighteenth century a few physicians inculcated total abstinence; in 1839, a number of the most eminent physicians and surgeons signed a declaration favoring total abstinence; and in 1847 another was signed by some 2,000; in 1874 the London Temperance Hospital was opened; and following the Cantor Lectures of Sir B. W. Richardson, in 1876, the British Medical Temperance Association was formed with 30 to 40 members, but which now numbers 530 members, with nearly 500 abstinent affiliated students. At the Temperance Hospital, 19,209 patients have been treated; alcohol has been given to but 52 patients, 33 of whom died (evidently, however, because alcohol was given only in desperate cases). Dr. Francis Vacher shows from the Registrar-General's figures for England and Wales for 1881–1900, that 20,705 deaths occurred from chronic alcoholism, 8,250 from delirium tremens, and 72,260 from cirrhosis of the liver. The rate per million of the population has risen from, for chronic alcoholism, 33 to 95; for delirium tremens, 14 to 18; and for cirrhosis of the liver, 116 to 144; and for the total, 163 to 257. For males, the increase per million males living has been: for chronic alcoholism, 39 to 101; for delirium tremens, 25 to 31; and for cirrhosis of the liver, 134 to 162. For females, per million females living, the increase has been: for chronic alcoholism, 26 to 89; for delirium tremens, 3 to 6; from cirrhosis of the liver, 99 to 107; and the total, 128 to 222. The total deaths by ages are shown in the table:

UNDER	5	5	10	15	20	25	35	45	55	65	75	85
Chronic Alco'sm	..	..	...	31	398	4342	9009	8607	5150	1902	255	11
Delirium Trem's	..	..	...	8	192	2163	3100	1836	725	194	32	..
Cirrhosis of liver	56	89	113	95	236	3744	12568	20319	20124	12129	2580	107

A table is given showing that these diseases are markedly more prevalent in the suburban centers.

Sir W. H. Broadbent says that alcohol can render decided service in tuberculosis. In debility it should invariably be given with meals, and the measure of its value is the amount of increase of appetite. In fevers it should be withheld as long as possible; its indication is not muscular (much less subjective) weakness, but frequent pulse of low tension, with dicrotism or anacrotism, and under its use the pulse should become slower, more sustained, and less dicrotic. In pyrexia the vinous odor should disappear rapidly from the breath; if it persist, or the drinkers' foul after odor is present, alcohol should be withdrawn or reduced. Unless given too early or too rapidly pushed, 3 ounces per day will very rarely need to be exceeded, and even in pneumonia, 3 to 4 ounces is a very large amount.

Renal disease and gastric irritation contraindicate alcohol; in weaknesses of childhood it is valueless; in anæmia and chlorosis it is of very doubtful advantage; its most treacherous employment is for subjective weaknesses (even with weak pulse) and depressions.

Dr. Pierce Gould believes that in infections alcohol merely hastens exhaustion; in exhausting discharges it does harm; generally, too, in cancer; and in shock it is inferior to other remedies, but a single dose, well diluted and perhaps divided, is of use in tiding over an acute emergency. Dr. Samuel Wilks thinks alcohol a "most valuable remedy"; he has gotten practical value from classing it as a sedative rather than as a stimulant; some physicians still use it too indiscriminately, but he has never seen a habit result from its medicinal use. Sir Henry Thompson's personal experience has led him to total abstinence, six months' abstinence having resulted in the disappearance of stiffness and pains in the shoulders and back, and most of his intractable hemicrania, which later disappeared "after ceasing flesh diet, for which I substituted fish and birds;" a return to alcohol in old age was found "unquestionably injurious." Dr. G. Sims Woodhead asserts, among other things, that small amounts of alcohol destroy the healthy equilibrium of cells; it has so strong an affinity for oxygen as to postpone normal oxidation, set up abnormal metabolism, increase elimination of nitrogen, and cause fatty degeneration; it can act as an adjuvant to bacterial toxins, and to waste products, and hamper the elimination of the last; it decreases resistive power and causes diseases to run a severer course; and it is a powerful predisposer to phthisis. At college, abstainers are superiors in atletics.

Dr. J. Milne Bramwell has treated 76 dipsomaniacs and chronic alcoholics, mostly *dernier ressort* cases, hypnotically; 17 males and 11 females abstained totally to last report, 1 for 10 years, the average duration being 3 years; average age, 40; average treatments, 30. Twenty-six males and 10 females were improved, 1 abstaining 8 years, relapsing, and then abstaining 6 months; a considerable proportion improving markedly; several former habitual drunkards being now engaged in useful work and drinking rarely; average age, 39; average treatments, 32; average time since treatment, 3⅛ years. Treatment failed entirely in 10 males and 2 females; average age, 43; average treatments.

EDUCATIONAL UNIFICATION.

Until 1895 there were two distinct educational departments in New York State. The Department of Public Instruction consists of a Superintendent, elected by the Legislature every third year, two deputies, various examiners, field inspectors, a clerical force, and over one hundred commissioners superintending localities. The function of this department is to inspect and supervise all public schools known as grade schools (*i. e.* all schools under the grade of high schools). The Regents of the University of the State of New York are a constitutional body of twenty-three members (four of these are *ex-officio*, being State officers) who are elected to serve for life, by the State Legislature. Their function is to inspect and supervise the high schools, academies, and colleges of the State, control admission to professional schools, and regulate the practice of most of the learned callings. In 1895 a law was enacted which gave the Department of Public Instruction direct power to supervise high school courses in connection with the regulation of training-school classes. This unusual legislation, whereby access of a supervisory nature was made possible to the Department of Public Instruction in institutions where heretofore it was conceded that the Regents alone had advisory and corrective powers, seems to have whetted the appetite of the department officials; from year to year farther inroads have been attempted, and barely a legislative session has opened since 1895 which has not seen added attempts at encroachments on the Regents' domain. The last open attempt of this kind occurred early in the present legislative session in the guise of the "Merritt" bill, which was fathered by the Department of Public Instruction. This proposed law, based on the theory that a child residing in a school district in which there was no high school, and desirous of attending such an institution, should have his or her tuition paid by the State, and not as now by the parent, was concededly right in principle, but contained a proviso that these moneys, appropriated by the State, should be administered by the Department and *not* by the Regents.

These continuous attacks have finally roused the true friends of education to activity, and for the first time in their history the Regents have taken up the cudgel of aggression, and with an appeal to the public and to the Legislature, their part of the issue has been launched in the form of the Stevens bill. The latter is a simple yet comprehensive measure. It provides for the practical transfer of the Department of Public Instruction to Regents' control, the Regents to elect the Superintendent and to supervise the department in its entirety. Thus, all State education would be centralized, and under one responsible and constitutional head; one system would prevail from Kindergarten to University; dual inspection would cease; politics would play no part (as it necessarily must now) in the selection or retention of any educational official from Superintendent of a department to page boy in a library, and the superior standing held by the Regents in the educational world in all matters pertaining to secondary and professional education would, doubtless, be imparted to grade work, thus making the Empire State *facile princeps* in *every* department of education. The arguments against this consummation are trivial where they are not ridiculous. "The Regents, when elected, were not chosen for such added duties." Surely not! but being constitutional officials it is specifically stated that the Legislature may add to or subtract from their functions and prerogatives. "They are elected for life, and life officials are repugnant to our American ideas!" Not so! United States Supreme Court judges are elected for life, and who would alter this arrangement? "Being elected for life they are beholden to no one, and might wish to continue service when decrepit and useless." The power that created can unmake, but where is the likelihood of any Regent proving recreant when for over one hundred years none yet has violated his trust? "An Episcopalian bishop and a Catholic priest are on the Regents' Board—sects should not be represented lest the introduction of religion tend to differences. State and church should be separated!" Fudge! These men, as all other Regents, are responsible to the State for their official acts, and the first step in the direction of favoritism for any sect or antagonism against any creed would be met by such a storm of protest as to overwhelm them and stifle all attempts at repetition. If all these and other alleged arguments were to be merged and a composite made, it would be found to read "We politicians would be robbed of a portion of political pabulum, which we cannot well spare, therefore let things go as they are." The medical profession seems to be united in its attitude on this question, and is in favor of Regents' control. We realize the immense advantage which has been ours by reason of coöperation with and supervision by the Regents. Twelve years has worked a marvellously beneficent change in the status of medicine and allied professions in the State of New York, and by virtue of example elsewhere in the United States. The change dates from the law of 1890, which placed the profession of medicine as the charge of the Regents—and well have they cared for their child! Ever since its first issue, the Medical Record has stood for the best in medicine, and for the highest preliminary academic requirements for those embarking on professional careers. In keeping with that same spirit we now urge the New York State Legislature to pass the Stevens bill and thus forever divorce education and politics in the State.

Manhattan State Hospital.—Dr. L. Pierce Clark has been appointed Consulting Neurologist to the Manhattan State Hospital, Central Islip, by the New York State Commissioner in Lunacy.

Immunizing of Bacteria.

In the *Wiener klinische Wochenschrift* for January 29, 1903, Dr. Friedrich Wechsberg gives a preliminary note on his exceedingly interesting experiments upon immunizing of bacteria. Starting from the side-chain theory of Ehrlich, he reasoned that if antitoxins are, so to speak, interlocking molecules with toxins, and higher organisms are in presence of toxins capable of developing antitoxins, it is to be expected that in the presence of antitoxins bacteria might be able to develop, as a means of self-protection, an increased amount of toxin. So that whereas all previous investigations have concerned themselves with the ability of an organism to meet toxin with antitoxin, Wechsberg addressed himself to the reverse problem. Experiment showed that diphtheria bacilli from one and the same colony, bred upon pure bouillon, and upon bouillon plus a definite amount of diphtheria antitoxin, showed degrees of toxicity (as determined by the minimum fatal dose for guinea-pigs of equal weight) in the proportion of 1–10. A third culture from the same colony, upon bouillon plus normal horse serum, showed an intermediate degree of toxicity. Whence the writer infers that the formation of soluble poisons in culture media is a "vital" protective reaction of the bacteria against hurtful chemical products in their environment. This immunization of bacteria finds its analogue in the fact that normally the serum of animals often contains a considerable quantity of antitoxins, for the presence of which Ehrlich and his school consider the foodstuffs responsible. This view is supported by the fact that while a colony which had been cultivated for a long time upon Löffler's serum, gave, when bred upon bouillon and upon bouillon plus antitoxin, the above results, another colony which had been cultivated for a long time upon bouillon before being bred upon bouillon and bouillon plus antitoxin, gave, when so bred, a much smaller difference in the relative toxicities. Wechsberg's results may serve to explain the apparent contradiction that certain microorganisms (for example, the typhus bacillus) which must be assumed to generate toxins within the body, do not produce any in culture media, for in the latter it is probable that they do not encounter bodies present in the former, against which they react protectively by the secretions of toxins.

Maternal Emotions in the Fœtus.

In the *Comptes rendus des séances de la Société de Biologie* (Séance of January 17, 1903), Ch. Féré, remarking that sensory stimuli and emotions experienced by the mother during pregnancy can react upon the nutrition of the fœtus, causing various disturbances of development, most frequently in the nervous system, and that from the fourth or fifth month such stimuli and emotions can also have immediate effects in the way of movements of the fœtus, cites the following case: A woman, aged 34, of non-neurotic family and personal history, and whose husband was healthy and sober, first became pregnant at twenty-two, and then, after presenting, like her mother and sister, the peculiarity of menstruating till the seventh month, gave birth to a healthy and vigorous daughter. Seven years later, approaching the window, she came face to face with a man who cast himself over the balcony of the fifth floor into the street. She then felt a series of shocks in the abdomen, which she recognized as the so-called spontaneous movements of a child. She had menstruated several days before, and had experienced no symptom of pregnancy. During the previous six months she had taken on fat which had sufficed to her to explain the increased size of the abdomen. The result showed that, at the moment of the emotional shock which left no traces on her, she was six months pregnant. She was delivered of a boy, who was entirely normal at birth, but, beginning from the third month, he began to experience sudden pallors, sometimes with stiffness in the limbs; and at eight months he had two severe convulsive attacks. After an interval of eighteen months he suffered a relapse, with sudden pallors, abrupt general or partial tremblings, general convulsions, with loss of consciousness, and other epileptic phenomena. The author considers that the case shows that the fœtus really can be affected by the emotions of the mother, without doubt reacting to abrupt alterations in the uterine pressure. These shocks are probably accompanied by other phenomena of reaction, which leave traces, and can be responsible for post-natal troubles.

Child Labor Bills.

The Child Labor Committee has prepared bills for the restriction of child labor. The Senate bills, four in number, were introduced by Senator Hill of Buffalo; three Assembly bills were introduced by Mr. Finch of New York, and one by Mr. Agnew of New York. Their most important provisions are the following: (1) In order to secure a certificate allowing employment in factories and mercantile establishments the parent of a child must file with the Board of Health incontrovertible evidence that such child is actually fourteen years of age or upward. The forms of evidence specified in the bills are: A transcript of the child's birth certificate, or of its baptismal certificate, or some religious record or passport. In addition, the school record of the child, called for under the present law, must now include a statement of the child's age as entered on the school records. The only evidence of age called for under the present law is the affidavit of the parent. (2) The existing laws prohibiting the employment of children under fourteen years of age in mercantile establishments, and regulating the hours of employment of such children, between the ages of fourteen and sixteen, are extended to cover children employed in connection with telegraph, messenger, delivery or other offices, and hotels, restaurants, and places of public amusement. (3) The provision in the existing law is repealed which allows vacation work in factories to children fourteen to sixteen years of age, who have not had the full schooling required for securing employment throughout the entire year, and the corresponding provision is repealed which allows vacation work to children twelve to sixteen years of age in mercantile and other establishments named in Section 2. This latter repeal, however, applies only to cities of the first and second class. (4) The employment of children between fourteen and sixteen years of age more than nine hours in any one day is prohibited in factories, mercantile and other establishments named in Section 2. The existing laws place a ten-hour limit, but add as an exception that such children may be employed more than ten hours in any one day if this is done in order to make a shorter work day of the last day of the week—an exception which makes the law almost impossible of enforcement. (5) No child under ten years of age shall work as a newsboy, bootblack, or street peddler in cities of the first class, and no child ten to fourteen years of age shall so work later than nine o'clock in the evening.

The Medical Record has been active in advocating a revision of the laws regulating child labor.

The bills prepared by the Child Labor Committee seem to be drawn up in such a manner that if they become law will do away with most of the disgraceful features of the present system. It is well that New York should lead the way in inaugurating these much-needed reforms, an example which many other States should be quick to follow.

Filthy City Dogs.

So much favorable comment has been made upon our recent notice of the city dogs' extensive use of the pavements for purposes other than those of walking and running, that we are led back to the subject.

The facetious remark of a contemporary that perhaps we had put our editorial foot into it needs no answer. The first step having been taken, we shall once more urge the authorities to tender some relief. If all dogs were healthy the matter might not appear so bad, but for some unknown reason 75 per cent. of city dogs have been found to suffer from diarrhœal troubles. Magistrate Crane has become interested in the dog question in general, and in a recent decision drew tears from a young lady dog-fancier by his remarks upon the superiority of children over dogs in the household.

Dogs may be well enough as household pets in the country, where they can run at times and dig holes in the soil, but in the hard and stony paved city they prove a constant menace to the pedestrian by day and night. If any one thing ever brings about a war of the classes it may be the indifference shown toward the walking public by the rich dog owners who always ride, but use the pavements for their pets' unlawful and immodest purposes.

The Treatment of Gallstones by Cholagogues.

In the *Correspondenz-Blatt für Schweizer Aerzte*, for February 1, 1903, Dr. Rob. Glaser urges the cholagogue treatment of gallstones in preference to operation. He criticises the infection theory of the disease, reasoning that, as normal bile is sterile, infection must be secondary to some abnormal composition of the fluid, which abnormality he refers back to a derangement of the secretory nerves (vagus and sympathetic), and concludes "that cholelithiasis from first to last is a nervous and not an infectious disease." The keynote of treatment is to re-establish the normal proportions among the several constituents of the bile. He then discusses the various cholagogues. Oils, soaps, ether, and the like are of no value, as they do not appear in sufficient amount in the bile. Also the salts of the bile acids are of no value. After twelve years' experimentation, the author has settled down to different combinations of mercury with aromatic vegetable extracts of the purgative-cholagogue group (podophyllum), and of carminatives and antispasmodics and oils (melissa, camphor, caraway). The individual susceptibility is to be gauged, it being desirable to have one to two stools per day. The most obstinate constipation is often simultaneously relieved. An excellent palliative during the paroxysm is a flannel bandage saturated with ol. papav. and chloroform, āā, covered with a piece of batiste. He never uses morphine, but often gives tincture of belladonna, eight to ten drops. Treatment is to be followed for three to four months. Jaundice is a favorable symptom, as it indicates the descent of the stone into the ductus choledochus and the accessibility of bile to the gall-bladder. In addition to medicinal treatment, such measures as the greatest possible relaxation from the daily cares, abundant exercise in the open air with repeated deep breathing, careful regulation of the diet, warm baths, and, in the beginning with chronic cases, rest in bed, are indicated. He then analyzes briefly his first hundred cases, of which 78 per cent. were cured, having no further attacks and being able to work and to stand all articles of diet without difficulty. Of the remaining 22 per cent. 16 per cent. were improved, and 6 per cent. showed no definite result. There are no contraindications for this method of treatment.

Smallpox in Indiana.

In the *Indiana Medical Journal*, March, the widespread prevalence of smallpox in Indiana, and especially the situation as regards the epidemic in Indianapolis, is made the subject of editorial comment. Although smallpox has been present in Indianapolis for the past three years on a comparatively large scale, the disease has been of a mild type and the mortality has been correspondingly small. Since December, last, however, smallpox has exhibited much of its old-time virulence, 100 deaths out of 600 cases having occurred. The editorial in the *Indiana Medical Journal*, states that every form known in the clinical history of the disease has been observed—discrete, confluent, with death from sepsis, as well as the malignant and hemorrhagic varieties.

The most distressing feature of the existing epidemic in Indiana is, according to the *Indiana Medical Journal*, the indifference of the population of the State to the condition of affairs, the neglect of vaccination, and the constant errors in diagnosis. The editorial in question passes some scathing criticisms upon the State Legislature of Indiana, which negatived a Supreme Court decision, permitting compulsory vaccination in times of epidemic by attaching a proviso to the compulsory education law that "children in good mental and physical health, any rule or law to the contrary notwithstanding, shall not be kept from admission to the public schools."

It is a distressing fact that a very large number of persons are ignorant of the comparative immunity conferred by vaccination and revaccination. Distrust of and prejudice against the method has been aroused by anti-vaccination agitators, and perhaps a severe epidemic of smallpox is needed to open the eyes of the community to the danger which is now blindly disregarded. After all, it is experience that teaches. The lesson may be bitter, but it is generally effective.

International Congress against Alcoholism.—According to the *British Medical Journal*, March 14, the International Congress for the suppression of alcoholism will hold its ninth annual meeting at Bremen from April 14 to 19. Among the speakers during the six days' discussion will be Lady Henry Somerset, and Mr. von Diegardt of Majawola, who will deal especially with the question of public-house trusts and the reform of public houses in England and Germany, and Mr. Fitger of Gothenburg, who will speak on the subject of the Scandinavian system. Among other communications promised are: "Alcoholism and Tuberculosis," by Dr. Legrain of Paris; "Alcohol in the Life Process of the Race," by Dr. Plotz of Berlin; "Alcohol as a Food," by Drs. Fraenkel of Halle and Forel of Morges; and "Alcohol in the Budget of Civilized People," by Dr. Helenius of Basle. Full details as to the arrangements may be obtained from the Burgomaster, or from the Secretary, Dr. jur. H. Eggers, 30 Osterthor Strasse, Bremen.

News of the Week.

Fourteenth International Medical Congress and French Railroads.—The following information has just been received by cable from the Secretary-General of the Fourteenth International Medical Congress:

"The French railroads have made their rate reductions for the members of the International Medical Congress depend on a special certificate and on the use of the same route for going and returning. Any member of the Congress to whom this is of interest should, therefore, write immediately to the Secretary-General at Madrid, stating at what port he expects to land and what route he will take. The Secretary-General will send to him at the port named under the address *poste restante* the necessary certificate."

Pathological Society of Philadelphia.—At a stated meeting, held March 26, Dr. Jos. McFarland exhibited a specimen of spontaneous rupture of the heart. The organ exhibited merely a short linear laceration in the wall of the left ventricle, without other obvious lesion. The pericardium contained a moderate amount of clotted blood, which evidently had escaped in small jets and not in the form of a massive hemorrhage. Dr. McFarland exhibited also a specimen of aortic aneurysm with rupture into the left bronchus. The aneurysm was a large spindle-shaped dilatation of the descending portion of the arch and the thoracic aorta. Dr. McFarland exhibited a further specimen of aneurysm of the aorta perforating into the spinal canal. The patient presented during life symptoms of myelitis, which, in the presence of angular curvature of the spine, were attributed to spondylitis. Death occurred from rupture into the pleural cavity, and post-mortem examination disclosed a large sacculated aneurysm of the thoracic aorta, which had eroded the bodies of several dorsal vertebræ, and had caused compression of the spinal cord. Dr. Richard M. Pearce presented a communication entitled "The Development of the Islands of Langerhans in the Human Embryo," relating the results of a histologic study of the pancreas in fetuses from the age of seven weeks to that of seven months. He was able to follow the development of the islands from the acini of the gland through successive stages and up to their separation and isolation. Dr. Edward K. Dunham of New York presented by invitation a communication entitled "Some Observations Concerning the Physical Characteristics of Nutrient Gelatin, with Especial Reference to Their Influence upon Colonies of Bacteria," and he illustrated his subject with a series of lantern slides. His studies showed differences in colonies in accordance with the quality of the gelatin employed, the method of preparation, the temperature to which the gelatin was subjected, as well as the time of exposure, and, more particularly, its viscosity.

Philadelphia County Medical Society.—At a stated meeting, held March 25, a symposium was held on the subject of "Anæsthesia." Dr. G. G. Davis read a paper entitled "The Choice of an Anæsthetic," Dr. John G. Clark, one on "The Preliminary Preparation of the Patient"; Dr. Edward Martin, one on "Methods of Administration of Anæsthetics," and Dr. G. W. Spencer, one on "Treatment of Complications Arising During Anæsthesia."

Philadelphia Neurological Society.—At a stated meeting, held March 24, Dr. T. H. Weisenburg exhibited a case of progressive bulbar palsy. The symptoms were confined to the distribution of the bulbar nerves and were attributed to a lesion involving the bulbar nuclei. Drs. S. S. Kneass, W. F. Hendrickson, and Jos. Sailer reported a case of tuberculous meningitis with secondary Infection. The case was for a time considered one of typhoid fever, but the existence of leucocytosis, together with the presence of cerebral and spinal symptoms, and the results of lumbar puncture, led to a diagnosis of meningitis. Death resulting, the lesions of meningitis were found, and from these both the tubercle bacillus and the micrococcus tetragenus were obtained. Dr. Chas. W. Burr read a paper entitled "Hemiplegia without Gross Lesion in a Case of Plumbism and Nephritis." It could not be decided to which of the etiologic factors the hemiplegia was due, but it was thought that it might have resulted from the disease of the kidneys, which in turn could be attributed to the lead-poisoning. Dr. E. Lindon Mellus demonstrated a hitherto undescribed nucleus in the medulla. This consisted of a group of cells near the olivary fasciculus in the dog, and corresponding to a smaller group of cells in the medulla from a human being. The identity and the function of this nucleus have not yet been determined. Dr. G. M. Dorrance exhibited a case of complete brachial monoplegia. The patient was a colored man who had been struck on the shoulder by a bucket that had fallen from a great height. There was complete paralysis of the arm with wasting, complete reaction of degeneration, and anæsthesia. The patient had burned himself without being conscious of the fact at the time. The question was raised whether amputation of the useless member should be performed, but it was suggested that an examination of the brachial plexus first be made with the hope that some less radical procedure might be necessary.

Health Department, New York.—Dr. F. H. Dillingham, after a service of twenty-one years in the Health Department, for ten years of which he was assistant sanitary superintendent, has resigned with a view of devoting himself to private practice.

Accident to German Empress.—It is reported from Berlin that, on March 27, the Emperor, Empress, and suite started in the early morning for their usual ride. Soon after entering the Grünewald Wood, the horse on which the Empress was mounted stumbled, throwing her Majesty, who fell on her left arm, sustaining a simple fracture just above the wrist. Surgeons were telephoned for, Dr. Zuncker arriving first in an automobile, having made the journey from Berlin at the rate of forty miles an hour. The arm was set in plaster of Paris.

Hydrophobia among Horses.—In Wisconsin hydrophobia is stated to exist among cattle and horses in almost every part of the State. The situation is said to be so grave that State Veterinarian Roberts has refused to order any more animals to be killed, on account of the expense, as the owners of diseased cattle killed are indemnified for their loss.

Home for Nurses of the Presbyterian Hospital.—A home for nurses, at the cost of $300,000, is to be built as an annex to the New York Presbyterian Hospital. One of its features will be a large gymnasium at the top of the building.

An Act to Create the Office of Medical Inspector.—An amendment to the Insanity Law of New York State has been introduced into the Assembly, reported and referred to the Committee on Revision. The portion of the amendment that refers to the

medical inspectorship is as follows: The Commission in Lunacy may appoint a medical inspector who shall be a well-educated physician, a graduate of an incorporated medical college, and who shall have had actual experience in an institution for the care and treatment of the insane. Such inspector shall receive an annual salary of five thousand dollars and traveling expenses, and shall visit and inspect the State Hospitals and other institutions which are subject to the supervision of the Commission.

Control of New York State Hospitals.—The bill, introduced by Senator Ramsperger and Assemblyman Morgan for further centralizing the management of State Hospitals has been passed by the Senate. The bill provides for the appointment by the State Lunacy Commission of a treasurer for all the State Hospitals, thereby doing away with the supervision now exercised by local treasurers over the financial operations of the commissioners. It also provides for the purchase of staple supplies for which contracts are now made by the stewards "by an agent appointed by the Commission for that purpose."

Abolition of Coroner.—The Coroner Abolition Bill, as explained by the representatives of the County Medical Association, shows what a fifth coach-wheel the Coroner is. His investigation into the cause of death is properly the task of the Health Department, and his investigation into the criminal aspect of a death is properly the function of the District Attorney. The abolition of the Coroner will be true political reform.—*New York Sun.*

The Diplodocus Carnegiensis.—The story goes that when the King of England visited Andrew Carnegie at Skibo last year, he was much impressed with the picture of a huge fossil reptile, and asked his host what it represented. "That is a namesake of mine, "said Mr. Carnegie, "the Diplodocus Magnifissimus Carnegiensis." The King remarked that he would like to have a diplodocus, and it is reported that Professor Hatcher of the Section of Paleontology of the Pittsburg Carnegie Museum is putting together the fossilized bones of one excavated in Wyoming. It is further reported that this relic of the past will be a gift from Mr. Carnegie to the British Museum.

An Amendment to the Insurance Law of New York State.—This amendment provides that any corporation organized under the laws of this or any other State or country, and doing business under the regulations of the insurance law of this State, shall be permitted to conduct or provide under contract executed prior to the death or sickness of any person, and agreeing, upon the payment of any stated sum of money, either weekly, monthly, or at any other time, to provide burial in case of death, or medical attendance and medicine in case of sickness, of any such person. Such corporations to be subject to the supervision and control of the Superintendent of Insurance, and to all the provisions of the insurance law or any other statute relating to health and casualty insurance corporations.

Christian Science in North Carolina.—A bill drawn up at the request of the North Carolina State Superintendent of Health, to prevent the practice of faith-healing in the State has been defeated. The bill defined the practice of medicine and surgery to be the treatment for fee or reward of any cases of disease, "physical or mental, real or imaginary," with or without drugs, surgical operation, or by any other method whatsoever, and prescribing the usual qualifications of physicians as those necessary to obtain a license so to practise. The bill was defeated by the adoption as an amendment of a provision specifying that the act should not apply "to any person who ministers to or cures the sick by prayer to Almighty God without the use of drugs or material means."

An Act to Amend the State Charities Law.—An act to amend the State charities law, relating to the finances of the State charitable institutions, reports of managers or trustees, purchases and advertising for proposals, has been introduced into the Senate of New York State, read twice and ordered to be printed and committed to the Committee on the Judiciary. The alterations in the existing law are slight.

Mosquitos Expected Early This Year.—If the anticipations of Dr. Joseph H. Raymond of the Brooklyn Health Board be realized, mosquitos will be both earlier and more numerous than usual this year. It is predicted that if the warm weather continues there will be many mosquitos on the wing within two weeks.

Insurance of a Christian Scientist.—A Christian Scientist named Robb died a short time ago at Lansing, Mich. The widow claimed from the Foresters $1,000 on an insurance policy. The proofs sent, however, in support of this claim, showed that although he had been seriously ill for two weeks no physician attended him until the day before his death. The Foresters have refused to settle the claim, under the section of their Constitution which withdraws the benefits of insurance from any who neglect to procure or refuse to receive medical aid.

Warning the Poor against Pulmonary Cures.—In order to discourage poor persons who suffer from pulmonary complaints from patronizing concerns which profess to be able to cure consumption, the Tuberculosis Committee of the Charity Organization Society has issued a large number of circulars, which it has caused to be distributed among the poor. This is both a wise and humane proceeding on the part of the organization, as many of such concerns are brazen frauds, which by means of speciously worded advertisements, lead ignorant persons to suppose that they can really be cured of consumption by following the treatment and advice of those who manage these establishments.

New Hospital for Greenwich, Conn.—A meeting was held at Greenwich on March 27, called at the instance of the Greenwich Medical Society, and presided over by A. Foster Higgins of New York, for the purpose of starting a movement for the erection of a hospital in Greenwich. It was decided to raise $100,000, of which $30,000 has been already subscribed, before any work was started.

Rush of Immigrants.—"It looks," says the New York *Sun*, "as if immigration for April and May will be pretty close to the record at this port. Already the figures for last March, 54,000, have been eclipsed, 63,000 home-seekers having landed at Ellis Island in the last twenty-nine days. The liners *Graf Waldersee*, *Philadelphia*, *La Savoie*, and *Campania* brought in 4,569 on March 28, while during the week 22,000 immigrants are due, more than half of whom are from Italy.

Smallpox among Digger Indians.—An epidemic of smallpox is reported to be raging among the Digger Indians of Long Valley, Cal., which threatens to exterminate the tribe. The Indians are living in their native state, and rely on their medicine men for advice and treatment. Their custom is to dance in tightly closed mud huts until exhausted, and then plunge into a nearby river. This treat-

ment has had a decidedly disastrous effect, and the disease is said to be spreading widely. Up to the present all efforts to induce the Indians to submit to vaccination have failed.

Lunacy Spreading in London.—In a report presented to the London County Council on March 9 by its Asylum Committee, it was pointed out that the Council was responsible on January 1, 1903, for the accommodation of 16,961 lunatics. The number of beds now provided in the London asylums is 16,379, 1,400 of which being in temporary buildings. "There is, therefore," the report continued, "at the present moment considerable deficiency of accommodation. The average annual increase of lunatics in the county of London since 1890 is 527, but the average for the past five years is 576.

The Manhattan Eye and Ear Hospital has made a public appeal for contributions to a fund of $100,000, which must be raised before January 1, 1904, in order to receive a like amount, for the purpose of removing from its present building, at Forty-first street and Park avenue, to more modern and more spacious quarters.

Woman 132 Years Old.—An extraordinary case of longevity is reported in the *New York Herald*, March 24. Mrs. Mary Murphy of Kerrtown, Mercer County, is declared to have celebrated her 132d birthday anniversary on that date. She was born in Dublin, Ireland, and has been married three times. She has always drunk tea and coffee, and takes a drink of whiskey occasionally.

Street Peddlers to Be Abolished.—It is stated that a movement is on foot to do away with the numerous peddlers who infest the streets of New York. Dr. McGaw Woodbury, the Commissioner of Street Cleaning, is said to be extremely anxious to put an end to the pushcart industry, on the ground, especially, that it is a menace to the public health. There are 11,000 licensed pushcart peddlers in Manhattan and The Bronx.

Radium Throws Off Heat.—M. Curie, the eminent French physicist, has just made the communication to the French Academy of Sciences, that radium possesses the property of continuously emitting heat without combustion, without chemical change of any kind, and without any change in its molecular structure, which remains spectroscopically identical after many months of continuous emission of heat.

International Congress of the Medical Press.—This Congress will be held in Madrid, April 20 to 22, 1903, immediately preceding the International Medical Congress. The same reduced rates upon railroads will be extended to those attending the latter as to members of the former. The congress will be made up of members and associate members; those eligible to membership will be medical editors and their collaborators and also editors of pharmaceutical, odontological, and veterinary journals. Among associate members will be included editors' families, doctors, and students of medicine. The subscription for the former will be 25 pesetas; for the latter, 10 pesetas. Prominent among the subjects for discussion will be the formation of an International Medical Press Association, and the application of copyright to medical literature. All communications relating to the congress, as well as subscriptions, should be sent before April 15, 1903, to the Secretary General of the Committee on Organization, Dr. Larra y Cerezo, Leganitos, 17, Madrid.

Obituary Notes.—Dr. D. Gilbert Gordon, a well-known physician of Toronto, Canada, and brother of the Rev. Charles W. Gordon, known in literary circles under the "nom de plume" of "Ralph Connor," died on March 28, in Baltimore, of peritonitis. The late Dr. Gordon was forty-four years of age, graduated in arts from the University of Toronto in 1883 and in medicine from Trinity College in 1887. In 1888 he took post-graduate courses in Edinburgh and London.

Dr. John P. Wood of Coffeyville, Kan., died at Thomas, Okla., on March 28, at the home of his brother-in-law, David Garvin, at the age of 101 years and two months. Dr. Wood was a practising physician for seventy-five years and was the first Probate Judge of Douglas County, Kansas.

Dr. William Henry Crosse, who for nine years was medical officer of the Royal Niger Company and a recognized authority on tropical diseases—especially on blackwater fever—died in London, February 24, at the age of forty-five years.

M. Louis Leblanc, a member of the French Academy of Medicine, died suddenly on March 9, in Paris.

Dr. Jonathan Cilley, a well-known army surgeon during the civil war, died at his home, Forty-fourth Street and Twelfth Avenue, Borough Park, on March 18. Dr. Cilley was demonstrator of anatomy at the Ohio Medical College, when the body of John Scott Harrison was stolen from the graveyard in which it was interred and sold to Ohio College. The body was recovered and Dr. Cilley proved that it was sold to the College with several others.

Dr. Robert Safford Newton, the well-known alienist, died at his home, 19 East Forty-fourth street, on March 25. Dr. Newton was born in Cincinnati in 1857 and came to New York when a child. He was graduated at the College of Physicians and Surgeons, and also studied in Europe. The diseased physician gave expert evidence in several celebrated cases, including the trials of Roland Molineux, Marie Barberi, and David Hannagan.

Dr. Charles H. Jones died on March 27, at 410 Ninth Street, Brooklyn. He was graduated from the Long Island College Hospital in 1899. He served during the Spanish-American War as a Captain in the One Hundred and Fourteenth Regiment New York Volunteers.

Dr. Thaddeus Mead, one of the oldest dentists in Orange County, died suddenly on March 29, at his home in Port Jervis, at the age of sixty-two years. He served in the Civil War in the Seventy-first New York Regiment.

Dr. Russel P. Fay of Yonkers died at his home there on March 30. He was a leading homeopath, and was once President of the Westchester County Homeopathic Medical Society. The late Dr. Fay was a member of the American Institute of Homeopathy and of the New York Homeopathic Society.

Senator Enrico Bottini, one of the best known Italian surgeons, and for some time professor of operative surgery in the University of Pavia, died on March 11, at San Remo. He was born at Stradella in Piedmont in 1837. At the age of twenty-eight years he was appointed Obstetrician and Surgeon-in-Chief in the Ospedale Maggiore at Novara. The deceased was chiefly known for his studies in galvanocautery, and by the splendid results he obtained by this method, especially in angioma of the face. In 1887 he was elected as a deputy to the Italian Parliament by his fellow townsmen of Stradella, and in 1891 was made a Senator of the kingdom. Failing health necessitated his retirement from active duties for a considerable time before his death. He was buried in his native town of Stradella.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

ROYAL MEDICAL BENEVOLENT COLLEGE—SICK POOR, HOSPITALS AND NURSES—EXCRETION OF SODA IN RENAL DISEASE—RELATION OF URIC ACID TO LEUCOCYTOSIS—EHRLICH'S TESTS—MEDICAL PORTRAITS—BRITISH ASSOCIATION—ALBERT MEDAL—MEDICAL DINNER—SMALLPOX—THE LATE DR. CROSSE.

LONDON, March 13, 1903.

A GREAT effort is being made to put the Royal Medical Benevolent College on a better financial foundation. The Prince of Wales will preside at the dinner in June. The college provides pensions for aged medical men in reduced circumstances, and for needy widows. There is also a school, open, indeed, to all classes, but in which the sons of medical men are educated under special terms—fifty foundation scholars being educated, maintained, and clothed. The committee is appealing for £10,000 as a jubilee fund to pay off its liabilities and make a fresh start. They deserve to get it, and I hope they will; they ought to get as much yearly.

The annual financial statement of the Metropolitan Asylums Board shows that the gross expenditure approach two millions sterling—a sum to give pause to the ratepayers. Smallpox is credited with £596,000; from which, however, is to be deducted £166,000 for works in progress before the outbreak, but all of it for hospitals. The money borrowed equals £4,500,000. With all this, the Chairman of the Finance Committee declared that "no public body was more free from extravagance; they did not spend money to advertise themselves with ornate and highly decorated buildings; the work they undertook was always necessary." In this little speech you may see one source of the burdened ratepayer's groans. Buildings and other extravagances accumulate, and his patient shoulders have to bear it all; but there are ominous murmurings which may one day break out in unexpected rebellion against the injustice. This very Board was asked to undertake the care of consumptives. To do so might exceed its authority and the proposal was postponed.

The Parliamentary Secretary of the Poor Law Board opened a new infirmary for the sick poor on Saturday. It is equipped with all modern improvements and has cost the parish £100,000 which comes out at about £300 per bed. No one grudges the sick any comfort, but many ratepayers are asking whether there must not be extravagance when a building runs to such a sum. The Secretary boasted that the energy of his Board was always directed to improve the accommodation for the poor, and that they had increased the nurses by 44 per cent. He wanted the poor to regard the "work-houses" as their own "rest houses," and seemed to be unconscious that there are paupers who will not work—although quite able to do so. Many honest ratepayers object to see these dishonest loafers treated as well as the unfortunate deserving or sick poor. The subject bristles with difficulties. It was brought before the Poor Law Congress, which has been sitting in London this week, by Mr. Sidney Holland, who said every board of guardians should be compelled to employ only trained nurses, and condemned the plan of the Departmental Committee for setting up an inferior grade, to which I lately referred. Then he went on to insist on paying them well and giving them good increases of pay every five years and then pensions. All this is pleasant enough for nurses to hear, but ratepayers are not so pleased.

Mr. Holland is Chairman of the London Hospital Committee, on behalf of which he is now making an earnest appeal for a large sum of money. No one doubts the need of that hospital—the largest in the kingdom—but many think that there is need of reform in its administration. There is a very unsatisfactory state of the Out-patient Department. As I mentioned to you, some £70,000 has been spent on this in the past year, and hospital reformers think this uncalled for, and therefore extravagant. But the Department gives Mr. Holland figures for his sensational—not to say quackish—appeal. So many thousands of sick! Then he reckons how many miles they would make standing side by side, and how many tons of pills they have swallowed. It is rather nauseating and encourages the notion that the more patients who can be reported to have come, the greater will be the response of the charitable public. But the other side of the subject is disheartening. It is hospital abuse, say the reformers, and one governor of this hospital said to me that Mr. Holland's outcry was rather for "help to pauperize the East End."

The general feeling that the hospitals should be distributed over a wider area receives more attention since the proposal to remove St. Bartholomew's has been discussed. It is now the turn of St. George's to be talked about in this respect, and as this institution is also in want of money, some of its governors think it might be removed from its present valuable site. The plan, it is thought, should be considered now, as the space is very restricted and the managers think enlargement necessary. There is no certainty that a suitable site could be found in the West End on terms to make removal economical. This tendency to expansion among hospital managers should be checked, as it leads to debt and extravagance The hospital has done good work, and all the space it needs could be obtained by removing the school and nurses' homes to less expensive, but not distant quarters.

Dr. Herringham read a paper at the Pathological Society on the excretion of sodium and potassium in renal disease. He rejects Bouchard's explanation of the toxicity of urine. He is of opinion that uræmia is not connected with toxicity of urine—is not due to retention of any normal product, but rather to something abnormal. He anticipated that if any marked change occurred in the urine in nephritis it would be in the excretion of potassium, but he found, on the contrary, great variation in that of sodium. He made sixteen analyses in eleven cases of chronic interstitial nephritis, six of them fatal. In every one of the six excretion of sodium was very small or *nil.* But this was not so in the five non-fatal cases. He also made twenty analyses in nine cases of parenchymatous nephritis, of which two were fatal, and both of these showed complete absence of sodium on one or more days; in the other seven which recovered this was not the case.

Thinking the result might be due to diet, or that the sodium might be excreted in the fæces, he analyzed diet, urine, and fæces for a series of days, but found no sodium excreted. If these results should be confirmed, the absence of sodium would impart a fatal termination. The retention could not be due to inability to excrete sodium while potassium was freely passing. Dr. Herringham found the same symptoms in two cases of ascites which had been frequently tapped. It has been obtained by Salkowski in acute fevers.

Dr. Garratt thought sodium salts were retained in renal disease for osmotic purposes. He referred to Prout's observation that it was retained in persons about to die, and that after death from uræmia chloride of sodium was found in excess in the tissues. In fevers, he had never found complete absence; if citrate of sodium was given it was retained until the fall of temperature, probably to neutralize some acid condition.

Dr. Robert Hutchinson referred to the retention of chlorides in pneumonia. This had been attributed to the cloudy swelling of the renal epithelium, which was common in that disease, but he doubted the observation and made some investigations as to the excretion of chlorides in renal disease. In all the cases he examined, none of which were of advanced renal disease, he found a fair amount of chlorides. He thought the absence of sodium in Dr. Herringham's cases might be accounted for by the retention of serous fluid in the tissues, owing to imperfect secretion of water which might occur in the later stages, and Dr. Herringham agreed with this view, the sodium being probably retained as chloride

Besides Dr. Herringham's paper there were two others submitted to the Pathological Society. One was a rather elaborate account, by Mr. H. W. Armit, of Ehrlich's dimethyl (p) amido-benzaldehyde reaction. This gives a red color to urine, which, when light, has no significance, but when deep seems of prognostic importance. Mr. Armit thinks it indicates tissue waste, generally in toxæmic conditions, as in those in endocarditis and pneumonia. He also noticed it in infective diseases. Full reaction is of grave import, but not necessarily fatal. He did not think the reaction due to urobilin, as some writers had suggested, but to an unidentified body which could be detected in small quantity in other secretions and in cartilaginous tissue.

It was remarked that the reaction was present in the later stages of phthisis, but in such cases the prognosis was quite as obvious clinically.

The other paper was by Dr. Williamson on the relation between the excretion of uric acid and the destruction of leucocytes. Observations were made on eleven patients, most of them with phthisis. In most, a rise of phosphoric acid followed a fall of white corpuscles with a rise in uric acid. Confirmatory evidence of increased destruction was obtained from differential blood-counts.

Dr. Halliburton said it was pretty well proved that uric acid originated from nuclein—whether from the food or from tissue metabolism. He thought too much was often attributed to the leucocytes. If all the white corpuscles destroyed in a day could be collected they would not form a mass bigger than a marble and could not furnish the amount of the day's excretion of uric acid. The

blood was only a sample of tissues. The liver, lymphatics, and other tissues furnished most of the uric acid.

Keen interest is felt in two decisions of the Council of the British Association for the Advancement of Science, viz., to invite Mr. Balfour to preside next year, and to recommend the association to meet in South Africa in 1905. The latter proposal is not unprecedented, as the association met in Canada in 1884 and 1897. But Africa is farther, and the expense may deter some of the highest authorities from undertaking the voyage. The invitation to the society from South Africa was given in 1900 during the war, and renewed on the cessation of hostilities. A South-African association, on the lines of the British, was recently formed, which shows the interest of the colonies in scientific matters. Their governments have also agreed to provide a sum of £6,000 toward the cost of the passages of the officials of the British Association and other eminent scientists, in order to make the meeting in 1905 a success.

The cartoons published in *Vanity Fair* have reached the number of 1,800. They include thirty-six doctors, whose portraits are now offered by the publishers for £2 2s. Single portraits may also be purchased, the prices varying from 6d to 2s. 6d. Thus, Sir S. Wilks is priced at 2s. 6d, Sir F. Treves at 1 s., while Sir W. Broadbent may be had for 6d.

The Albert Medal has been conferred by the King on Captain Herbert C. French, R.A.M.C., for his brave effort to save a man from drowning. The captain dived a depth of thirty feet, from the deck of a vessel on which he was travelling, the steamer going at eighteen knots and the water abounding in sharks.

The Medical Society of London celebrated its 130th anniversary on Saturday by a dinner, to which nearly 200 persons sat down. Sir Wm. Church proposed the toast of the society, to which Mr. Gould, the president, responded. The Hon. R. P. Porter, U.S.A., responded for the guests, as also did the Lord Chancellor. It was a very successful gathering.

Smallpox continues in the provinces, particularly in the northern towns of England. Most of the outbreaks are traced to tramps. Some 300 cases are under treatment at Liverpool. Dublin also has been visited. Altogether over 2,000 cases have been notified in the last two months.

Dr. W. H. Crosse died on the 24th ult. From 1886 to 1995 he was medical officer of the Royal Niger Company, and you will certainly remember his contributions to *Tropical Medicine*, particularly on hæmoglobinuric fever. In 1895 he returned to England and began practice in London, but the Royal Niger Company still had his services as their London adviser. Unhappily, he brought home an enlarged spleen and other troubles from the West Coast, which after years of invalidism, have carried him off at the age of forty-five years.

OUR LETTER PROM THE PHILIPPINES.

(From Our Special Correspondent.)

FEBRUARY 15.

It having been found that the hides of animals dead of rinderpest have been shipped from the provinces to Manila, with the apparent result of spreading this disease, the importation of hides into the city has been prohibited by the health authorities, except when these hides are accompanied by certificates that the animals from which they were taken were in a healthy condition at the time of slaughter. This action will probably not meet with the approval of the little Filipino brother, who has no prejudices against using the hides of animals dead of disease, nor even in using their flesh as food. It has repeatedly been found by Army officers that when horses, mules, and other animals dead of such diseases as glanders and rinderpest had been buried, the carcasses were promptly exhumed and used for food by the natives, the flesh in some instances being offered for sale in the markets for that purpose. For this reason, the carcasses of such diseased animals were habitually burned when fuel could be obtained. In some instances carcasses were drenched with coal oil and set on fire, but the natives did not object to the oily taste of the partly-consumed body. When complete incineration was not practicable, the most satisfactory way for preventing a carcass from being used as food was to sprinkle it with crude carbolic acid, slitting up the hide so that the acid could permeate the interior tissues. A few weeks ago the native engineer in charge of the Government Crematory at Manila was convicted in the courts of selling the flesh of diseased animals brought to the crematory for destruction. His method of procedure was to place the carcasses in the furnace, but not to subsequently build a fire under them. At night he would cut them up and sell the meat to a numerous clientele. When detected he was found to be doing a large and lucrative business, and not by any means all of his customers were ignorant of the source from which the meat they were purchasing was derived. The offending crematory man was severely punished.

The filthy habits of the natives as regards food are undoubtedly a very potent factor in the occurrence and transmission of disease. Knives, forks, spoons, and individual plates are but little used by the lower classes, the whole family squatting around a kettle of rice, from which they eat in common, and into which they plunge their unwashed and frequently infected hands. The handful of rice taken out is squeezed into a bolus, which is crammed into the mouth with the fingers. This method of feeding has been responsible in no small degree for the communication of the cholera infection to the various members of a family, gang of laborers, or crew of a boat, during the present epidemic of this disease, and is very probably responsible to a considerable extent for the great prevalence of intestinal parasites among them.

Another insanitary habit is the universal custom of handling food in the markets. All articles are picked over, pinched, hefted, etc., by a dozen possible customers before the final purchaser comes along. A group of women will squat for hours around a tray of meat, fish, fruit, or vegetables, and some one of them is constantly pawing over the contents of the tray with her dirty fingers. If it is possible to infect persons with disease through the medium of food, the insanitary habits and methods of these people will certainly insure its accomplishment. During the cholera epidemic orders were issued prohibiting this indiscriminate handling of food, but these orders were resented as interfering with a custom and a privilege, were not obeyed, and could not be enforced. In carrying home their purchases of food the Filipinos have not the faintest ideas of cleanliness as we understand it in the United States, and it is a common sight to see a woman with a tray on her head, on which, exposed to the dust, sun, and flies, is a jumbled mass of raw meat, fish, vegetables, and bananas, with usually a live chicken or duck, and sometimes a live sucking-pig mixed in with the rest. Constant sanitary inspection of the Manila public markets keeps them in a reasonably cleanly condition, but in the provinces the native revels in the filth of the primitive savage. The Santa Cruz market is kept in a particularly good condition, and the erection of its building and its proper administration is one of the notable improvements brought about in Manila by the Americans. This market was formerly held in a collection of filthy native sheds on the river bank; but with the appearance of bubonic plague in Manila these were torn down and a large airy building, with concrete floor and corrugated iron roof, erected in their place. This building, which is very large, is filled with small stalls, at which the natives do their trading, for the meat market and vegetable store or green grocery, as it exists in the United States, is practically an unknown institution in the Philippine Islands. In addition to the Santa Cruz market, there are several other markets of less importance in other parts of the city. In the provincial towns the markets are almost always simply open pieces of ground set apart for the purpose, with no shelter of any kind against sun or rain. In the little country hamlets some large tree is usually resorted to by common consent, and buying and selling goes on in its shade. Usually this trading is more in the form of barter than sales.

In this hot climate food must be soon used to prevent spoiling, hence any large quantities or large assortment of foodstuffs is rarely seen. In the larger towns, the supply of perishable foods brought from the country suffices for a single day only, and any interference with communication produces immediate discomfort and distress. Rice is about the only article of native food which bears storage, and heavy rains, epidemic disease, or anything else hindering the free flow of foods to the towns practically throws the poorer class of natives upon a diet of rice alone. Lately, a little canned fish or meat has begun to find a sale among them. As there is no ice, meat must be promptly disposed of after slaughter, and is usually cooked before rigor mortis has disappeared. Small pigs, chickens, and ducks are invariably sold alive and taken home to be killed as required. The suffering that these creatures undergo, tied by the legs and slung over a pole during a long trip from the country, does not improve the character of the food they furnish. The natives are thoroughly calloused to suffering—as an instance of which it was lately discovered that in a certain Manila market large hogs were forced to jump to the hard pavement from the carts in which they were brought into the city, with the result that the legs of the unfortunate animals were frequently broken. In this condition they were allowed to remain for from a few hours to several days without slaughter. Among the lower-class natives of the country districts, dogs are not infrequently eaten, and among the Igorrotes of Luzon they are esteemed as a special tid-bit.

The method of the latter tribe for preparing the dog for the table consists in withholding food for about two days, during which time the wretched beast is constantly beaten with bamboo sticks until its flesh is a mass of bruises. It is then given rice and urged to eat all it can hold. After the digestive processes have set in the dog is knocked in the head and roasted, hair, entrails and all, over a fire. The Igorrotes believe that by this means the flesh of the animal is made more tender and palatable, and the rice forming the contents of the stomach and intestines is esteemed as a special delicacy. With such habits of diet it is no wonder that intestinal parasites, dysentery, typhoid fever, diarrhœas, and gastritis are rife among these people.

As a general thing, the preference for a special cut from the animal does not enter the mind of the Filipino, to whom all parts, intestines, lungs, etc., are alike. The food of the lower classes is cooked almost exclusively by boiling, and meat is used but little except in the form of stews and as a flavor for the inevitable rice. Sometimes a small part of the food is fried in cocoanut oil, but broiling, baking, or roasting is rarely resorted to.

The diet of the Filipino is badly balanced. But little food of any sort except rice is eaten, and that is so deficient in protein that to secure from such a diet a sufficient amount of nitrogen it is necessary to take an excess of carbohydrates beyond the needs of the system. Immoderate quantities of rice are thus eaten, which undergoes fermentation in the intestine and predisposes to diarrhœas and intestinal disorders. The prominent bellies of the natives, especially in the mango season, when this fruit is also largely eaten, give evidence of a bulky and innutritious diet. The addition of a small amount of some such food as barley, beans, or peas to the general dietary would undoubtedly be of advantage for the laboring classes, with a slight reduction in rice component. This would give a dietary of much the same calorific value, but containing a slightly higher proportion of tissue-forming foods.

In this connection, mention may be made of a highly interesting paper, on "some of the diseases observed in the prisoners of Bilibid Prison," which was recently read before the Manila Medical Society, by Dr. L. H. Fales, formerly attending surgeon to the prison and now connected with the Board of Health. Bilibid Prison is an institution which occupies the dual position of jail and penitentiary, and is located on a tract of about eight acres near the business part of Manila. During the past year the average number of prisoners was about 2,000, of which number about 5 per cent. were Americans. During the year 1902 there was much sickness among the prisoners, 7,090 cases coming on sick report and furnishing 325 deaths. Of these 7,090 cases, 5,446, or 77 per cent., were due to beriberi, 4½ per cent. to fevers and 3½ per cent. to dysentery. There were 32 cases of cholera with 26 deaths, and 29 cases of pulmonary tuberculosis with 19 deaths. Beriberi was, by far, the most important disease during the year. All patients presenting the slightest symptoms of this disease were placed in the beriberi hospital, since it was found that these cases usually made a rapid recovery when treated in the early stages of the disease. Hence the great majority of cases observed presented a rudimentary type. Few cases of the atrophic type were observed, but the dropsical form was present in about 15 per cent. of all instances. Although the pernicious type was present in less than 10 per cent. of all cases, it was the cause of over 90 per cent. of the deaths. This type was marked by dyspnœa, weak and irregular cardiac action, cyanosis, pain in the chest, subnormal temperature and death, the last often occurring in a few hours. Many of these cases developed very suddenly.

In determining the cause of the outbreak, Dr. Fales stated that in 1901 there was very little beriberi in the prison, and during September, October, and November of that year but two or three cases. Early in December the previous ration was cut down, rice imported from Siam was issued in place of native rice, cold storage meat for native meat, and small quantities of potatoes and onions for native vegetables. Shortly after this change, in the same month, beriberi began to appear. The disease increased until the latter part of February, remained stationary in March and April, showed a slight increase in May and June, and in the next four months went up by leaps and bounds. Everything possible was done to improve the general sanitary condition of the prison and reduce any overcrowding, but with no apparent result on the prevalence of beriberi. In the latter part of October the ration was changed. The quantity of hard bread was increased from 16 to 32 ounces and vegetables from 3 to 8 ounces, while the rice was cut down from 2½ lbs. to 1 lb. Beriberi began to diminish immediately after this change in the ration, and within sixty days the number of cases of beriberi had fallen from over one hundred to fourteen; and on January 15 there were only three or four cases. To show that the change of season with decrease of humidity played no special part in the appearance and cessation of this outbreak in Bilibid, Dr. Fales submitted a very interesting chart. The outbreak appeared to refer directly to the defective ration given, though the disease was more prevalent and developed more rapidly in the rainy than in the dry season, and there was a slight excess of cases developed in the more crowded buildings. At a time when the humidity was high, an improvement in the ration was followed by an immediate and marked decrease of the epidemic, which came to an end within ten weeks.

In the discussion which followed, Dr. Lemay stated that he had been told by the Superintendent of the prison at Singapore that beriberi was always present in that institution, in spite of every sanitary effort, including change of diet. Dr. Munson called attention to the cessation of the severe epidemic in 1902 at the prison at Lingayen, about 120 miles north of Manila, as a result of changing the diet from imported rice to native red rice, and also mentioned several historic instances when beriberi had been controlled, in Japan and Cochin China, by an improvement of the ration. He was inclined to believe that a nitrogen starvation played an essential part, either as an exciting or predisposing cause, in the occurrence of the disease. Dr. Banister stated that he had come to regard beriberi as a place disease rather than one of a dietetic character, and spoke of instances in which the affection had disappeared from organizations of native troops on their removal to more healthful stations.

The general opinion seemed to be that a rice diet had much to do with the appearance of beriberi, and particularly certain varieties of imported rice. Whether this diet, so deficient in protein, was directly responsible for the symptoms of beriberi or merely reduced the vital resistance to such an extent as to permit of the grafting of an infection upon a depraved organism, or whether certain varieties of rice were affected with a fungous growth producing a toxin, or whether the fermentation of large quantities of rice in the intestine resulted in the formation of a toxin, was not yet determined.

In connection with the food question in the Philippines, it may be mentioned that the Medical Department of the Army has recently given up control of the ice machines, in the Philippines, of which there are at present about twenty in the islands. These machines will hereafter be run for the benefit of the posts in general, and not especially for the benefit of the sick, although the surgeon of the post is to have first claim on any ice manufactured, to meet the needs of the hospital. Where possible, cold storage rooms will be operated by these machines, so that a supply of fresh meat may always be kept on hand for the troops. At present, distances are so great and transportation facilities are so poor that small garrisons in some of the outlying stations receive fresh meat and vegetables only infrequently, causing some complaint, on the part of the troops. Heretofore, fresh beef and vegetables have been sent out from Manila only, but with the projected establishment of a number of small supply stations the supply of the smaller and more isolated stations will be more readily accomplished. Any lack of fresh meat and vegetables is severely felt by the soldiers, as native beef is not only unpalatable but hard to get in proper quantities at the right time, and the use of native fruits and vegetables has been forbidden to troops, during the presence of cholera, by general orders.

With the great decrease of cholera in Manila, the civil health authorities have removed all restrictions on the sale of vegetables and fruits in the markets. This is no doubt much to the comfort of the natives, who do not use imported or canned vegetables to any extent, but is a rather hazardous procedure from the sanitary standpoint, as infected vegetables are liable, at any time, to be brought into the city from country districts in which the cholera infection may still exist. Of course the soldiers receive potatoes and onions from the United States, Japan, and Australia, and when these are properly supplied the prohibition of the use of native produce is on the side of safety and works no great hardship.

In view of the vile whiskey and "beno" selling dens which have sprung up around the army posts since the canteen was abolished, the military authorities here have asked the Commission to prohibit the sale of liquors within two miles of a military post, except in the case of a few stations located in large towns. The commission now has this request under consideration. The liquor-dealers are up in arms against the request, and it remains to be seen if the W. C. T. U. element, which is directly responsible for the springing up of many of these dives, will now do anything toward their abolition. In their

opposition to the canteen, the liquor-sellers and W. C. T. U. are perfectly harmonious.

Reports from the Pathological laboratory state that the carcasses of rats turned in by the municipal rat-catchers show no signs of the existence of bubonic plague among them, although a few cases of the disease continually occur from time to time among the natives and Chinese. At this time last year, post-mortem examination of the rats captured showed about 2 per cent. affected with plague. In view of the sporadic appearance of plague among the natives, however, the work of rat-catching is still prosecuted vigorously.

The difficulties in the way of carrying out proper measures of sanitation in the Philippines have just been emphasized by the imposition of the death penalty on three Filipinos, who, during the outbreak of cholera at Iloilo, slashed a sanitary inspector to death with bolos, at Molo, a barrio of that town, in September last. The remainder of the party of which the three men just sentenced were members will soon come up for trial, and it is the general belief that they will meet the same fate as the three men already tried. The attack on the inspector was totally unprovoked. Hundreds were dying of cholera at the time, and the sanitary laws were being met with indifference and opposition. The natives failed to comprehend the necessity of rigid sanitary measures and objected to being placed to the slight expense and trouble of cleaning up around their domiciles. The men in question had been ordered to clean up their premises, which they refused to do. The inspector then stated the law governing the matter, and explained the consequences if they persisted in their refusal. This enraged the natives, with the result that they attacked the inspector with bolos. The sanitary inspectors of the United States think they have a hard time when they run up against the sharp tongue or the vigorous broom of some housewife, but their lot is happy compared with the inspectors here, who take their lives in their hands when they attempt to run counter to existing gross superstitions, national sloth, and race hatred in their efforts in behalf of the public welfare.

Progress of Medical Science.

The Boston Medical and Surgical Journal, March 26, 1903.

Extensive Cavity Formation in the Central Nervous System, Presumably Due to Bacillus Aerogenes Capsulatus.—Emma W. Mooers reports the case of a man of forty-nine years who died after having suffered from general paralysis for many years. An autopsy of the brain presented the usual condition found in advanced general paralysis; that is, marked atrophy, especially in the frontal lobes, and thickening of the pia. After the brain had been six days in formalin, frontal sections were made, the appearance of which was very striking. The whole of the cut surface showed many cavities, which varied in size from 3.5 cm. to the smallest visible to the naked eye. On microscopical examination they were found to be without a lining membrane; the smaller cavities almost invariably contained many bacilli; bacilli were found free in the brain tissue in clumps and singly. Only one kind of bacterium appeared to be present, which was morphologically and in staining reaction identical with the Bacillus aerogenes capsulatus of Welch. In the absence of any other demonstrated cause of death and in view of rapid and extensive abdominal distension, with great rise of temperature, it seems possible that the invasion of the circulating blood by the bacillus was the cause of death by the production of a toxæmia.

Bacillus Shiga in an Epidemic of Diarrhœa.—Lawrence W. Strong reports a number of cases of diarrhœa in which Shiga's bacillus was found. The cases suggest the possibility of the presence of this bacillus in the normal intestine, and that through the irritative action of a simple diarrhœa from any slight cause, or of a fermental diarrhœa from infected food, it overgrows the ordinary intestinal flora and sets up the inflammatory lesions of dysentery. Shiga's organism appears to be a transition form between colon and typhoid, differing from them in its action on sugars, peptone, and milk. Recent work has shown that this organism is visible in the soil even longer than the typhoid bacillus, and this suggests the means of distribution and production of epidemics. From the fragmentary nature of the evidence furnished by the cases under consideration no definite conclusion is justified, but the facts suggest that there must have been a common cause for a certain proportion of the unusual number of diarrhœas encountered. The one positive bit of evidence afforded is that the bacillus Shiga was present in four cases of ileocolitis. If the clinical inference that some simple diarrhœas pass into infectious diarrhœas and that the infectious diarrhœas are either fermental or ileocolitis, according to the place of lodgment of the irritating matter, is correct, then the bacillus Shiga might be the common cause sought for.

Systemic Infection Due to Natural Teeth Conditions.—D. D. Smith holds that the real cause of general disease emanating from mouth and teeth is due neither to dental caries nor disability of mastication, but to constant and perpetual infection through septic matter in foods and drink and the inhalation of toxic emanations from the persistent and abiding infection in mouths containing natural teeth. From his investigations the author has come to the conclusion that caries of the teeth is a result of environmental conditions; the treatment which he now adopts is enforced, radical, and frequent change of environment for the teeth, and perfect sanitation of all mouth conditions. In detail, the process consists of most careful and complete removal of all concretions, all calcic deposits, semi-solids, bacterial plaques and inspissated secretions and excretions which gather on the surfaces of the teeth, between them, or at the gum margins, and this is to be followed by thorough polishing of all tooth surfaces by hand methods (power polishers should never be employed), using for the purpose orange wood points charged with finely ground pumice stone as a polishing material. Applied once a month this "prophylaxis treatment" has cured or improved conditions of malaise, nervousness, inflammatory conditions of the throat, nervous dyspepsia, long-standing tonsillitis, alveolar pyorrhea, etc. It is a matter to be recognized that relief from mouth infection is to be afforded through dentistry alone. Germicides will not and cannot accomplish it. There must be positive and frequent eradication of all septic conditions of the teeth and all environmental conditions favoring toxic stagnation and germ culture in the mouth, and the after maintenance of the most perfect state of asepsis of the entire oral cavity.

Journal of American Medical Association, March 28, 1903.

The Respiratory Quotient as Influenced by Tuberculosis.—By the term respiratory quotient T. M. Aderhold and W. S. Hall refer to the volume of exhaled carbon dioxide divided by the volume of oxygen consumed. Their views are thus summarized:

(1) Time of feeding causes the greatest fluctuation of the respiratory quotient. Under favorable physical conditions it may rise to nearly 100 after the consumption of food, and may fall to about 70 during periods of fasting. (2) The respiratory interchange of gases is very much greater per gram animal per hour for the very small animals than for the larger ones. (3) Tubercular animals consume relatively less oxygen and exhale relatively more carbon dioxide than do normal animals under similar circumstances. (4) The respiratory quotient is raised under the influence of tuberculosis.

The Administration of Calcium Salts in Nephrolithiasis Due to Uric-acid Calculi.—The views of A. C. Crofton are summarized in the following propositions: (1) The uric acid of the urine is held in solution by di-sodium phosphate and is precipitated (salted out) by mono-sodium phosphate. (2) For the prevention of uratic calculi the increase of di-phosphate and the decrease of mono-phosphate is, therefore, a desideratum. This object can be accomplished by either decreasing the phosphoric acid or by increasing the sodium of the urine. (3) Calcium salts produce the desired effect by decreasing the excretion of phosphoric acid through the kidneys (*a*) by binding the preformed phosphates of the food and preventing their absorption; (*b*) by binding the phosphates of the blood and causing their elimination through the bowel. (4) The administration of sodium salts that can also produce an increase of the di-phosphate and a corresponding decrease of the mono-phosphate is to be condemned, chiefly because sufficiently large doses render the urine permanently alkaline. And this deleterious effect is not produced by the exhibition of calcium salts. Crofton prefers to give the calcium carbonate in doses of fifteen to twenty grains three times daily. The addition of this dose to a large bulk of pure water is just as efficient as the use of natural waters. The diet should be so regulated as to lead to the smallest possible excretion of uric acid.

Cyclic Vomiting in Children.—T. C. Ely discusses the mechanism of vomiting and its causes. In cyclic vomiting the vomiting is excessive, severe, protracted, and nothing can be retained by the stomach. Thirst is likewise excessive and distressing. There is no connection in an attack with diet or indigestion. There is generally a fever of indefinite type. Abdominal symptoms are quite immaterial and varied. The abdomen is generally about normal in appearance. There may or may not be constipation. The urine seems the most distinctive

feature, being loaded with amorphous urates and uric-acid crystals entirely out of proportion to the fever and other phenomena. Closer study of the urine in all cases may reveal the true cause, possibly blood examinations assisting. The detailed clinical histories of three cases are given. The author would emphasize the following points: (1) The importance of being watchful, on one's guard for the vomiting of this gastric neurosis, distinguishing it particularly from bilious vomiting and the vomiting of kidney disease and reflex vomiting, as of brain disease. (2) In children of gouty and neurotic history the three cases reported point to a toxin allied to the uric-acid series as the possible blood irritant causing the vomiting. (3) The importance in severe cases of hypodermic injection of morphine and atropine in conjunction with elimination, by high saline enema; by gavage; and in extreme cases, hypodermoclysis and even intravenous injections of saline solutions.

The Intracellular Toxins of Some of the Pathogenic Bacteria.—By the use of large incubating tanks, V. C. Vaughan has been able to obtain both pathogenic and non-pathogenic bacteria in large amounts free from the constituents of the culture media on which the germs have been grown. Perhaps the most interesting portion of his work is that relating to the bacillus of anthrax. He has obtained the cell substance of this organism in large quantity and has found that the dead germ substance, when mixed with water and thoroughly sterilized and injected intraabdominally into guinea-pigs in amounts of from 200 to 300 mg., causes death, and that anthrax lesions are found. By heating the germ substance with 1 per cent., by weight, of sulphuric acid in the autoclave at 110 for 10 minutes,complete sterilization is secured and the acid splits off a substance which, after filtration, is precipitated by pouring the filtrate into three volumes of absolute alcohol. This precipitate when collected, thoroughly washed until every trace of acid has disappeared, dried in vacuo, and pulverized, forms a snow white powder, which is soluble in water rendered feebly alkaline with sodium bicarbonate. This powder, when thus dissolved and injected intraabdominally into guinea-pigs of from 200 to 300 grams weight, in amounts of 50 mgs. or more, causes death with lesions similar to, if not identical with those observed after death from typical anthrax. It seems to Vaughan that this must be considered the specific toxin of anthrax.

New York Medical Journal, March 28, 1903.

Streptococcus and Staphylococcus Bronchitis.—J. M. Patton notes the fact that these microorganisms affect the course, duration, and severity of ordinary bronchitis, and that bronchitis due to streptococcus infection presents features which distinguish it to some extent from other forms of the disease. These features are a persistent and rather high temperature; a more or less generalized bronchial involvement presenting marked physical signs of bronchitis; a persistent and troublesome cough; rather free expectoration of heavy mucopurulent sputum, occasionally tinged with blood; occasional night-sweats; moderate rapidity of the pulse; and, aside from the disturbance from cough, a freedom from subjective discomfort rather suggestive in relation to the continuous, and, at times, high temperature. When these symptoms are of moderate severity and continuous, the differentiation from tuberculosis may be difficult, and may rest largely on the sputum examination. This is particularly true of bronchitis from staphylococcus infection alone, as its type is more subacute and less distinctive.

Intestinal Resection and End-to-End Anastomosis with the O'Hara Forceps in a Case of Tuboovarian Abscess with Appendicitis; Recovery.—The history of the case is given by G. C. Ward, Jr., his patient being a woman of twenty-six years. The length of the bowel removed was seven inches. The author speaks with strong commendation of the O'Hara forceps, calling attention to the precaution that should always be taken before withdrawing the instrument from the bowel—namely, to pass the blades carefully above and below the line of suture to insure the patency of the canal and to discover any accidental penetration of the opposite surface by a suture. He enumerates the advantages of the forceps as follows: (1) One forceps only is required for any size of intestine, while different sizes of Murphy buttons, or La Place forceps, are needed. (2) It is not necessary to ligate or clamp the bowel as with the button or other methods, as the O'Hara forceps keeps the intestine closed at the site of the resection throughout the operation. (3) No manipulation or work inside the bowel is done, so that the advantage of cleanliness is one of the strongest points in its favor. This is an advantage not possessed by any other method. (4) Perfect control of the work, the slippery intestines being held with great ease and allowing accuracy of suturing. (5) Simplicity.

Opium in Surgery.—E. W. Lee finds various indications for the use of opium in surgery. In fractures morphine is especially indicated. It relieves the immediate pain, brings about muscular relaxation, and abates many distressing symptoms. In severe burns it is a blessing. It is the first remedy indicated in traumatic shock or surgical shock if accompanied by pain or hemorrhage. It should be given hypodermically before the administration of anæsthetics, especially if the patient be an alcoholic, or suffering from fever and nervousness. Lee does not believe it is dangerous in abdominal surgery, provided it is possible completely to clean out the intestinal tract and to relieve the liver, lungs, and kidneys of any existing congestion. It is the best internal hemostatic. When the bleeding is complicated by restlessness, morphine is absolutely indicated because of its quieting effect on both mind and body. Obstinate and exhausting vomiting after ether or chloroform is often relieved by a hypodermic of morphine. Under many conditions he still believes in the old teaching of Alonzo Clark in regard to the use of morphine in peritonitis. He considers that the patient demands mental, anatomical, and physiological rest. With surgical procedures he believes that rest can be promoted and carried out by hot applications, flaxseed poultices, or anything to maintain heat constantly, or, if desired, cold applications. But there should be some application made to the abdominal surface. Of course the free administration of cathartics is indicated to a certain extent; but after they have accomplished their purpose, he believes the parts should be put at rest and maintained in that condition by the judicious use of opium; and he believes the time is coming when this will be considered the proper treatment in peritonitis, and that more suffering will be relieved and more lives saved than by the active treatment with cathartics, which is generally prescribed to-day.

Medical News, March 28, 1903.

How Easily We Can Be Mistaken in the Diagnosis of Cancer of the Stomach.—Mark I. Knapp reports two cases in which there were noted what are alleged as being the "cardinal" symptoms of cancer. There were pain and chocolate-colored vomitus. But, in fact, the cases were both excellent examples of "gastrosia fungosa." In the writer's own case, the nature of the chocolate-colored stomach contents was due to the immense crop of the dark-red mold variety. The other case brought up bright-red blood. This undoubtedly came from somewhere between the stomach and the oral cavity. Hemorrhage from erosion—ulcer—of the œsophagus is not a rare occurrence in organacidia gastrica. The diagnosis in these cases should not be made on "What else could it be?" Diagnosis of cancer of the stomach must never be made unless a test meal examination is made (test breakfast). It must be remembered what an apparently grave clinical picture gastrosia fungosa may give. Chocolate-colored vomit does not necessarily mean blood. A tumor may be nothing more than a spastically contracted pylorus. The writer terms these spastic contractions "stenosis pylori ab irritatione."

Spinal Concussion, So Called.—Carl E. Black declares that in railway surgery, or under any circumstance of violent and sudden shock or jarring, there are added psychical elements which may far outweigh the true pathology. It is the duty of the surgeon to use every possible means to eliminate these psychical elements from the case, and to discover, if possible, the true extent of the pathological lesion. A given case may be entirely psychical and have no pathological lesion. The following classification of injuries produced by concussion of the spine is presented: Primary effects—(1) sprains; (2) contusion of the spinal cord; (3) minute hemorrhage into or around the cord. Secondary effects or complications—(1) shock or collapse; (2) acute hysteria; (3) neurasthenia; (4) chronic hysteria. In dealing with a case, the distinction, if possible, must be made between a sprain, a contusion and a minute or capillary hemorrhage. The understanding of these cases will be much more rational, and the treatment far more appropriate, if hemorrhage is accepted as the basic lesion. If it is positive that there has been no hemorrhage or sprain or contusion, then the case is purely psychical, and should be treated as such. It is the duty of every surgeon to protect himself, as well as the corporation he represents, and the best interests of his patient, by distinguishing, to the best of his ability, between the purely psychical, secondarily psychical, and the truly pathological condition, and to treat the case accordingly.

The Operative Treatment of Fracture of the Patella.—Russell S. Fowler says that there are a certain number of cases of fracture of the patella in which operative treatment is contraindicated. These cases are to be treated

by apparatus. They include those suffering from intercurrent disease of such a nature as to prohibit operative interference of any kind, and who prefer to pass the remainder of their lives partly disabled, rather than to risk an operation, the mortality of which, though small, still does exist. Longitudinal fractures do not require operation; in comminuted fractures operation is advisable, except in selected cases, when circumsuture may be employed; neither do transverse fractures in which rupture of the capsule has not occurred require operation. From a consideration of the final results of treatment by apparatus, as well as of the pathological conditions present in this affection, we can arrive at no conclusion other than the advisability of operative interference. The period between the receipt of the injury and the operation depends, to a great extent, upon the amount of coincident traumatism and synovitis. This period varies from five to fourteen days. If there is but slight injury to the surrounding structures, and their vitality be comparatively unimpaired, immediate interference may be instituted. If the traumatism and synovitis is marked, it is best to wait a few days. In cases in which the distention of the joint is extreme, or in which there does not appear to be any attempt on the part of nature to cause an absorption of the fluid, the joint may be aspirated. The writer then gives a detailed description of the technic of his operation. He uses two knives, one for the skin and the other for the deeper dissection; also two sets of retractors. Stick-sponges are used. He never allows any hand, however well disinfected, to touch the wound. So there is no medium by which infection can enter the wound except through the air, the skin of the patient, and the suture material.

Philadelphia Medical Journal, March 28, 1903.

Mouth Infection, Due to Natural Teeth.—D. D. Smith believes that mouth infection due to teeth begins with the eruption of the deciduous set, and continues with increasing gravity through the period of shedding the temporary and erupting of the permanent ones, and thence on, so long as the natural teeth remain in the mouth. The most critical time is that of childhood and early youth. The infection in sputum, letters, telephone receivers, on lips, in beards, etc., is largely due to septic conditions of the natural teeth, and to the stagnant toxins ever present in the oral cavity.

The Use of the Electrothermic Angiotribe in Lieu of the Employment of Ligatures in the Open Operation for the Relief of Varicocele.—Orville Horwitz states that the use of the electrothermic angiotribe in the open operation for varicocele would appear to be an ideal method of dealing with conditions of the kind, removing, as it does, the only objection that can be urged against the open operation—that is, the occasional infecting of the ligature. The advantages of this instrument over the simple angiotribe appear to be: (1) The substitution of a more scientific, less crude, and less dangerous method than that depending on violent traumatism, so as to produce hæmostasis. (2) There is less danger of secondary hemorrhage. (3) There is less danger from thrombus. (4) Operation is not followed by pain. (5) The use of the electrothermic instrument is not conducive to the production of orchitis, a condition commonly attending operations in the vicinity of the cord.

Additional Notes on Organacidia Gastrica.—Mark I. Knapp declares that organacidia gastrica is a disease *sui generis*, not a symptom, having for its cause pathologico-chemical conditions, which consist in the abnormal presence within the stomach of organic, volatile, acrid acids. The persistence of this condition causes after a time the pathological condition to advance to the degree of anatomatical evidence, both microscopical and macroscopical. This disease has distinct symptoms, and may be successfully treated. The cause is not abstract. This affection always means either absolute or relative hypochlorhydria. It may be due either to the ingestion of a large quantity of organic acids, found in various foods, as pickles, salads, sauces, or the acids may have formed in the stomach. In the latter case they owe their presence either to mold growth, or to budding, sporulating, multiplying yeast, yeast growth, zymosia gastrica, as the growth of both, molds and yeast, is accompanied with the development of organic acids. The most marked symptoms are: Pain or cramps in the stomach, and gnawing sensation in the stomach, heartburn, fulness, mostly sour eructation or vomiting, dryness in the throat, thirst, headache (frontal or supraorbital), pain, or rawness behind and along the sternum and between the shoulder blades.

American Medicine, March 28, 1903.

Tetanus Cured Apparently by Antitetanic Serum.—J. R. Care reports this case. The patient had stepped on a nail in the yard and it penetrated her foot. Tetanus developed. The wound was opened, cleaned, and packed. Antitetanic serum was then administered, and internal medication of potas. bromid., tinct. hyoscyamus, tinct. gelsemium and sarsaparilla was given. Several injections of the serum were given and she became completely cured. When the serum was omitted the symptoms became aggravated until sufficient serum had been given to neutralize the toxins in her system.

The Psychic Nature of Some Disturbances of the Acts of Urination and Defecation.—Charles J. Aldrich recounts a number of interesting cases of this nature. In one case he cites ingrained modesty as the origin of this not uncommon inability to harmonize the various complex reflexes associated in the act of normal micturition. In another, who was unable to use a public urinal, the idea that it was a fear of contamination which prevented a correlation of the reflexes sufficient to accomplish the act was proved to be correct. Other cases are markedly suggestive of those peculiar obsessional ideas and actions which at times possess the psychopath.

Postpartum Subinvolution.—James E. King says that the changes that are found in the uterus are those of enlargement. The size of the organ varies from a uterus that may be felt above the symphysis to one that can be discovered only by the sound. The condition is due to the failure of the individual muscle fibers to retract and become smaller. Inflammation is present only as a secondary process. The diagnosis is not specially difficult. Prophylaxis and treatment mean attention to the prevention and treatment of those conditions which act as causative factors. Of all causes local ones are the most frequent. Laceration of the cervix is doubtless a common cause. Retrodisplacement must be prevented. Improvement in the care of women during confinement has resulted in the decrease of a vast amount of suffering.

The Lancet, March 21, 1903.

Angina Pectoris: A Criticism and a Hypothesis.—E. H. Colbeck does not find in any of the theories of the causation of angina pectoris a logical explanation of the clinical aspects of the disease. He ascribes the pain of the seizures to localized distension and stretching of the ventricular wall. As long as the heart is acting quietly, the areas of degenerated muscular tissue are able, even with a relatively insufficient blood-supply, to take their share in resisting and overcoming the intracardiac pressure during systole. So soon, however, as the work of the heart is increased, as, for instance, by exertion, emotion, etc., the area or areas of degenerated muscular wall are at a double disadvantage, inasmuch as the diseased and partially occluded coronary vessels are unable to satisfy the increased demand for blood to the territories or patches of deteriorated muscular tissue. The areas of degenerated ventricular wall are thus unable to take their proper share in resisting the increased intracardiac pressure, and in consequence undergo more or less distension and stretching. Herein lies the explanation of the pain experienced during the anginal seizure, since the affected portions of the ventricular wall contain nervous tissue in an unduly impressionable and irritable condition, which must be subjected to a considerable degree of stretching and tension. In other words, the hypothesis ascribes the pain experienced in the anginal paroxysm to localized distension and stretching of the ventricular wall.

Conditions Modifying Exanthematous Eruptions.—J. Reid notes that there is often a temptation to diagnosticate a recrudescence of a previous attack, or even a fresh zymotic disease, on the appearance of a fresh eruption, while probably sight is lost of certain factors in connection with such cases—namely: (1) the fact that the skin has passed through an inflammatory stage and is on that account a *pars minoris resistentiæ;* (2) that the zymotic disease may have attacked a constitution weakened by rheumatism or gout, where rashes often appear; and (3) that some local mischief may favor, or rather tend to induce, eruptions. As illustrating the above facts, he narrates the histories of three cases: Case 1 was that of a girl of nine years, of a rheumatic diathesis; suffered from a burn on the leg; bronchial catarrh and herpes facialis, followed by varicella, the latter followed by lichen urticatus and general desquamation. Case 2, a boy of twelve years, passed a tapeworm; measles one week later, rheumatic diathesis present; rash disappeared on sixth day, but was followed by erythema morbilliforme. Case 3, a boy of eleven months, suffered from proctitis with rectal prolapse and left-sided bubonocele; later, pneumonia, then measles. The measles lasted for six days and then pneumonia returned in the left base. A speedy desquamation followed. An erythema of one day's duration came on, and finally herpes over the left groin and left buttock, as well as near the anus and on the anterior third of the

penis. The prepuce was inflamed and required treatment. Further symptoms were gastrointestinal catarrh with green clayey motions and protracted convalescence joined to slight bronchitis; although the child rapidly put on flesh and improved in every way.

The Height of the Diaphragm in Relation to the Position of Certain Abdominal Viscera.—Nine cases were studied by C. T. Andrew, who notes the great variation, especially in female subjects, in the height of the diaphragm. In seven women the height of the dome in the right mammary line varied from the fourth rib to the sixth interspace, whereas in the two males it did not extend lower down than the fifth rib. Secondly, it is remarkable that so many abnormalities in the position of the viscera should have existed in such a small number of subjects, and that these should have existed chiefly in females; for in the seven cases examined there were two distinct and two indistinct cases of Riedel's lobe of the liver, two cases of gallstones and two affections of the gall-bladder, and one abnormality of the stomach. Both cases of Riedel's lobe were accompanied by gallstones, and in one of the cases there was an abscess of the liver and gall-bladder, while in the other the gall-bladder was greatly dilated and lay partly in the iliac fossa. Again, the measurements of the recti muscles as an indication of the strength of the abdominal muscles are interesting, as in every case they are much smaller in the females than in the males. The thickness is especially diminished in the two cases in which a Riedel's lobe is present, the recti in these cases being so thin as to feel almost like a piece of brown paper. The distance of the great curvature of the stomach and the transverse colon below the xiphoid cartilage was also greater in the females than in the males. In the case in which the diaphragm reached the sixth interspace the great curvature was seven inches below the xiphoid cartilage and the transverse colon was two inches above the pubes.

Some Points in the Anatomy and Pathology of the Vermiform Appendix.—Among the points discussed by W. McAdam Eccles in the third Hunterian lecture is that of hernia of the appendix. In such cases the question which first arises is, how does the appendix come to enter a peritoneal pouch protruded beyond the abdominal wall? The normal appendix, some three or four inches in length, with a complete mesoappendix, is free to move within the abdomen within a certain range around its attachment to the cæcum, but it cannot be brought down to, much less forced or dragged through, either the right inguinal or right femoral ring. One of two conditions, then, is necessary for its descent. In the first place it may be considerably in excess of its usual length. This can be either the outcome of congenital elongation or of a stretching the result of adhesion. In the second place the cæcum may be abnormally free because of the presence of a long mesocæcum, with the result that the appendix may thus approach dangerously near to a hernial aperture. A further point comes up for investigation in the query whether the appendix alone can be the primary and the final contents of a hernial sac. It is undoubtedly possible for it to be extruded into the sac of a so-called congenital right inguinal hernia, for in such a case there is a naturally patent processus vaginalis into which any viscus lying near may be forced. It is certainly somewhat difficult to understand how such a small part of the alimentary tract, having so little of surface area, would be able of itself to form a sac by pressure. If we suppose that other of the abdominal contents besides the appendix have been the cause of the hernial sac, it is difficult to account for the very small pouches, and these often with narrow necks, which are found not infrequently as the coverings of prolapsed appendices. Doubtless this argument is open to the rejoinder that it is quite possible for the original multiform contents of the sac to have been reduced all but the appendix (which might alone have become adherent) and then for the mouth and neck of the sac to contract around the small structure passing through them, and beyond this it is perhaps feasible that strangulation, or, at least, some constriction of the appendix, may thereby occur. Or, again, the appendix might slip into a sac which had not previously contained it, but which had been occupied by some other viscera.

British Medical Journal, March 21, 1903.

Note on the Detection of Raw Milk and Formaldehdye.—J. E. Saul has observed a very striking reaction of raw milk, which may prove useful in the examination of sterilized or scalded milk. On treating milk with a solution of orthomethylaminophenol sulphate, and then adding hydrogen-peroxide solution, a very vivid deep-red color is produced. Milk that has been previously boiled and cooled remains uncolored, a faint pink only developing on standing. The red color is so strong and pronounced that so little as 1 per cent. of raw milk, if added to heated milk, may be detected with ease. To 9 or 10 c.cm. of milk, add 1 c.cm. of a recently prepared 1 per cent. aqueous solution of orthomethylaminophenol sulphate and then 1 drop of commercial hydrogen peroxide solution. The red color develops within 30 seconds if there is any raw milk present in the sample.

Congenital Goiter.—John T. Hewetson states that congenital goiters generally assume one of three great types: (1) Adenomatous, being perfectly encapsulated tumors, occurring in the substance of the thyroid gland, containing one or more cysts, and often masses of cartilage. (2) Parenchymatous, which is similar in all respects to the came variety seen in adults. (3) Vascular, which is probably the commonest variety, in which the acini of the tumor remains fetal in character, showing an entire absence of colloid matter. Large blood vessels and widely dilated blood sinuses are present in considerable numbers. In this type cyst formation does not appear to take place. Heredity plays a very improtant part in the etiology of congenital goiter. Many cases are born prematurely or are stillborn. Of those born living, a considerable number die soon after birth. Hitherto operative measures have met with little success.

The Goulstonian Lectures on Theories of Immunity and Their Clinical Application.—A. S. Grünbaum defines immunity as the power to resist infection. Immunity may be either congenital or acquired. The two chief theories of the present day are those of Metchnikoff and Ehrlich, respectively, while the former and his school believe that the white cells directly attack the invading bacteria. Ehrlich and his followers have laid more stress on the constituents of the body fluids. Infection may be due chiefly either to the microorganism or its products. Consequently there are the two classes—a bactericidal and an antitoxic immunity. Immunity is variable in duration. It may be slight or nearly absolute; it may be individual or racial. The real starting point of Ehrlich's side-chain theory was his laborious investigation for the standardization of diphtheria toxin. Ehrlich expanded his hypothesis and applied it to explain also the normal processes of food assimilation The formation of antidotes to normal foodstuffs is quite analogous to the formation of antitoxins to toxins, so that the generation of antitoxins "is only a reproduction of a process in normal cell-life." Ehrlich believes that the proteid molecule of a food becomes attached to one group of the cell reception while the other group is already occupied by a ferment (the complement) molecule to make the foodstuff assimilable.

Deutsche medicinische Wochenschrift, March 5, 1903.

Antitoxin Treatment of Tetanus.—v. Schuckmann reports a case which was unsuccessfully treated with Behring's antitoxin. The incubation period was 10 days and the serum was first administered within 30 hours from the commencement of the symptoms. Two hundred antitoxin units were given. Death took place within 48 hours from the first appearance of the symptoms. A review of the literature shows that antitoxin is entirely without avail in those cases which show a short incubative period, even if given a short time from the first appearance of the symptoms, as advised by Behring.

Behring's Antitoxin in Tetanus.—R. A. Frotscher reports its successful use. The incubative period was 13 days and the first symptoms were mild in character. The first dose of antitoxin was given four days after the first appearance of symptoms and was 100 units. After 24 hours a second 100 units were inoculated. No marked improvement followed the inoculation, but the case proceeded gradually toward recovery. From other reported cases it is evident that antitoxin is of greatest utility in those cases which show a long period of incubation and mild and slowly developing symptoms.

Bacillus of Tetanus in the Blood.—Otto Hohlbeck reports a case of tetanus in which the bacillus was found in the blood taken from the median vein. Only three similar cases have hitherto been reported. In this case the blood was taken five hours before death. Cultures were made in bouillon. Such cultures contained both bacilli and cocci. The bacilli corresponded morphologically with the tetanus bacillus. These cultures were inoculated into eleven mice. Five of these died of typical tetanus. The bacilli, however, were not isolated from the site of inoculation in these mice. In spite of all endeavors it was not found possible to obtain the bacilli in pure culture

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

Stated Meeting, Held March 17, 1903.

LEWIS A. CONNER, M.D., CHAIRMAN.

Cirrhosis of the Liver.—The evening was devoted to a symposium on this subject.

The Pathology.—Dr. JAMES EWING discussed this part of the subject with the aid of many lantern projections of microscopic specimens.

The Anatomy of Portal Anastomoses.—Dr. ROLFE FLOYD made some remarks on this subject, basing them upon work that had been done in the laboratory of the College of Physicians and Surgeons. A dissection of the liver of the fœtus at term was exhibited with the vessels injected. He said that although in the liver at term the intralobular capillaries were present, they did not separate the portal from the systemic veins. The umbilical vein passing in from the navel crossed along the lower edge of the falciform ligament and entered the umbilical fissure. As it did so it gave off two sets of branches, one going to the right to the quadrate lobe, the other going to the left lobe. It then passed on until it reached the left end of the transverse fissure of the liver, where it terminated by dividing into three branches: (1) A large right branch going to the right lobe; (2) a similar though smaller branch going to the left lobe, and (3) a branch continuing the course of the original vessel, and passing back to inosculate with the interior vena cava. This vessel formed a direct communication between the afferent and efferent hepatic vessels. All of the branches of this umbilical vein except for the ductus venosus broke up into the capillaries which penetrated the liver lobules. At this time the portal vein was a small vessel passing up to join the right branch of the umbilical vein in the transverse fissure of the liver. Just after birth the umbilical vein from the navel to the liver became obliterated by a proliferation of its endothelial wall and by the formation and organization in its contracted lumen of a thrombus. The portal and venous systems were also made distinct. With the establishment of digestion the portal vein became enormously enlarged, and new branches of the umbilical vein appeared and were spoken of as branches of the portal canals. The hepatic veins underwent no change at this time. The speaker said he had found no record of a case of persistence of the lumen of the ductus venosus. From a study of the literature it seemed probable that in some cases at least the old channel in the round ligament was reclaimed and served as a means of portal anastomosis. Between the muscular and mucous coats of the œsophagus there was a venous plexus, which, in the lower four inches, was drained by three sets of vessels, viz.: (1) The coronary vein of the stomach; (2) small veins passing to the diaphragmatic veins, and through them to the inferior vena cava, and (3) veins known as the inferior œsophageal veins, which passed to the azygos vein. There was a plexus also connected with the rectum, consisting of the upper rectal, the middle rectal, and the inferior rectal veins. The accessory portal veins of Sappey all lay between the layers of the suspensory ligament of the liver. They comprised a superior and an anterior set. The latter constituted one of the most important sets of veins in connection with the clinical study of portal anastomosis. Sappey had called attention to the fact that in case the superficial veins became dilated they often became varicose, whereas this was not the case with the deeper ones, a fact which he had endeavored to explain by the varying angles at which these vessels entered the main trunk. In an adult, the chief means of portal anastomosis were the œsophageal veins, the rectal veins, the veins of Sappey, and the retroperitoneal veins.

The Diagnosis.—Dr. WALTER B. JAMES said that cirrhosis of the liver in the autopsy room did much to shatter one's blind faith in many of the time-honored rules of diagnosis. Only a certain proportion of the cases gave rise to pronounced symptoms of the condition. The physical signs of the disease might also be in the highest degree atypical. Enlargement of the superficial abdominal veins had always been regularly counted among the valuable indications of the disease. Often it seemed to him that too little attention had been paid clinically to the relative value of these different sets of veins. Much stress had been laid upon the presence of a set of enlarged venules around the umbilicus—the so-called caput medusæ—as a sign of hepatic cirrhosis, and while no doubt it was an important sign it had not been very often present according to his experience. Enlargement of the abdominal veins was often observed in distention of the abdomen from any cause. Ascites of the liver presented no special peculiarity, although a systematic study of the fluid might sometimes prove of assistance. A comparatively low specific gravity, a small quantity of albumin, and a paucity of cellular elements were the characteristic features of the fluid in hepatic ascites. The difficulty of palpating the moderately enlarged spleen in a person having ascites was obvious; hence this sign was not of any particular value. The accentuation of the umbilical notch was a feature of many livers which he believed was not generally appreciated. This deepening of the notch apparently occurred in many cases from a dragging upon the falciform ligament. In cases of moderate enlargement of the liver he believed that the best information regarding the size of this organ was obtained from deep percussion at the back. It should be borne in mind in making the differential diagnosis that cirrhosis of the liver was apt to be mistaken for adherent pericardium, particularly in young persons. Theoretically, cirrhosis of the liver and cancer of the liver should not be confounded, but practically this was not the case, at least in the early stages. There was a group of cases, often of long duration, in which there was anæmia of the type of simple anæmia, associated with a tendency to profuse bleeding from the stomach and marked enlargement of the spleen, with more or less ascites. In the final stage there was apt to be ascites and general anasarca. The differentiation of these cases of splenic anæmia from cirrhosis of the liver was difficult, if not impossible. In his experience biliary cirrhosis was a rare disease, which was met with usually in young persons and had no history of alcoholism. The liver was apt to be persistently enlarged, and splenic enlargement and ascites, if present at all, were generally not very prominent. Periods of fever occurred. The common clinical forms of hepatic cirrhosis met with here were the ordinary atrophic form, the fatty form, and syphilitic cirrhosis. The last-named condition he believed to be a great deal more frequent in New York City than had been supposed. In atrophic cirrhosis there were enlargement of the spleen, extensive and rapidly recurring ascites, wasting, absence of fever and jaundice, and often a history of alcoholism. In the fatty and cirrhotic form there was less marked emaciation and relatively frequent fever and jaundice. In syphilitic cirrhosis there was a history of syphilis and a very marked irregularity in the shape and surface of the liver. It occurred commonly at an earlier age than hepatic cirrhosis of the ordinary form. Cirrhosis of the liver, therefore, was to be recognized generally not by new points in diagnosis, but by the study of every possible feature of the case, and by a critical estimate of all data so obtained.

Dr. GEORGE L. PEABODY said there was still a good deal of erroneous teaching in good textbooks regarding the changes in size which the liver underwent in cirrhosis. He believed there were very few clinicians who had seen a liver which was at first enlarged grow small. It was also wrong to assert that one could usually make out the nodules on the surface of the liver in that form famil-

iarly spoken of as "hob-nail liver." He did not believe there was any way of absolutely making the diagnosis early in the disease, and there were many cases in which it was difficult to do this, even in the late stages. Ascites was, of course, a great help, but one must eliminate peritonitis of tuberculous and cancerous origin, and yet no disease perhaps more predisposed to tuberculosis than cirrhosis of the liver. A right-sided pleural effusion was sometimes a diagnostic help. The fact that hæmatemesis could occur very early in hepatic cirrhosis had been impressed upon him in his own experience, yet hæmatemesis might result from gastric ulcer or some other cause. He had met with one case of early and profuse hæmatemesis occurring without ascites or symptoms pointing to hepatic cirrhosis, and yet so severe as to terminate fatally. The differential diagnosis between hepatic cirrhosis and nutmeg liver could often be made only by close observation for some time and a full consideration of the history. He had also found hepatic cirrhosis frequent at autopsy in cases which had been carefully observed by others as well as himself without a suspicion of the existence of this condition.

Morrison's Operation.—Dr. George Woolsey said that the operation known as Morrison's was, of course, a comparatively new one, not being more than five years old. It had been suggested by the fact that advance cirrhosis was almost uniformly fatal under medical treatment, and that the portal anastomosis referred to involved chiefly the liver, the spleen, and the omentum. Some had doubted if the good effect of this operation was really due to the influence of the anastomosis upon the portal circulation. He had been in the habit of scraping the surface of the liver, spleen, and overlying peritoneum with a piece of dry gauze with the object of securing an anastomosis, but it was found that this was not always accomplished by such means. It was known that fluid effusion interfered with the formation of such anastomoses, and it was often desirable, in the presence of ascites, to strap the chest from the ensiform cartilage to the umbilicus, and to have the patient maintain the sitting posture so that the fluid would drain naturally into the lower part of the abdomen. In even the most successful cases tapping was usually required one or more times. The results of this operation had not been particularly satisfactory. Dr. Brewer had collected a number of cases about one year ago with a mortality of 33 per cent. He had himself operated upon six cases. One of these patients was living and entirely well, but four were known to have died. The other case had been lost sight of after some time. In the four fatal cases death resulted from general debility and toxæmia; there had been no death from peritonitis or sepsis. The operation could be said to be a safe one. Most of the cases first operated upon by this method had been advanced ones, which probably explained some of the bad results.

Dr. C. N. B. Camac exhibited a photograph of a typical case of Hanot's cirrhosis. The patient was thirty-six years of age, and exhibited marked jaundice and prostration, with considerable gastrointestinal disturbance. There was a complete absence of an alcoholic history. The case had been seen at the Cornell Medical School.

Dr. Andrew H. Smith spoke of the aid in differentiating the dulness of two contiguous organs, the one from the other, as, for example, the liver and spleen. This was auscultatory percussion. It would often prove very valuable, and would give a decided change in the note when passing from one organ to the other, even though no such change could be detected by ordinary percussion.

A Cholera Infantum Serum.—It is stated that the New York City Health Board officials have been preparing a serum for use in the summer diarrhœa of infants, the cause being assumed to be the Shiga bacillus.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, Held March 9, 1903.

Robert T. Morris M.D., Chairman.

Racemose Arterial Angioma of Frontal Region.—Dr. Carl Beck presented several cases. The first was a man twenty-eight years of age, who seventeen years ago had been struck by a stone in the middle of the forehead. Ever since then there had been some elevation of this part, but the swelling had increased gradually until a pulsating mass of vessels was spread over the nose and forehead. When first seen by him a few weeks ago he had endeavored to control the pulsation by digital pressure, but this accomplished nothing. Six weeks ago he had attempted to control the pulsation by ligation of the temporal, frontal, and angular arteries, but as this proved of no avail he proceeded four days later to the extirpation of the tumor, using the interrupted prophylactic suture. Although the operation was rapidly done, and every effort made to control the hemorrhage, the latter was enormous, and the man was nearly pulseless at the completion of the operation. He revived under saline injections. There was no pulsation at present. Microscopical examination of the vessels threw no light upon the case.

Extensive Syphilitic Destruction of the Nose; Treatment with Paraffin Oil.—The second case was one of syphilitic destruction of the nose occurring in a woman of thirty-eight years. There was a history of the ulceration having begun three years ago. The whole nasal support and a part of the frontal bone and hard palate had been destroyed. Mixed treatment and inunctions were first used, and then the frontal sinus was exposed and drained. After a few months an osteoplastic operation was done, but was uusuccessful. By means of injections of paraffin oil her condition had been somewhat improved.

Osteosarcoma of Orbit Treated Successfully by the Röntgen Rays.—The third case was one of osteosarcoma of the frontal bone and orbit treated first by operation, and afterward by the *x*-ray. The patient was a woman of forty-two years, and the first signs of osteosarcoma of the orbit had been noticed fifteen months ago. The eye was enucleated in a neighboring town, but a very speedy recurrence ensued. When first seen by Dr. Beck there was an enormous tumor extending over the whole frontal bone. Formerly it would not have been wise to take out a part of an osteosarcoma, but with the aid of the *x*-ray this method could be adopted with advantage. The *x*-ray treatment had been timidly pursued for a time, but as there was evidence of recurrence the treatment was pushed with stronger currents, and this had resulted in decided improvement.

Congenital Nævus Formation of Oral Cavity.—Dr. Frederic Griffith presented a young woman having a congenital nævus formation on the right side of the oral cavity. When the mouth was open the tumor lay between the teeth, but was never caught in them. Numerous silk sutures were passed through the base of the growth under cocaine anæsthesia, and the tumor was extirpated. Bleeding was free, but was readily controlled by tying the sutures consecutively. According to the literature, such growths on the mucous membrane were uncommon.

Gangrene Following Operation on X-Ray Cases.—Dr. Samuel Lloyd said with regard to the case of osteosarcoma that we should now revise some of the claims made a year ago concerning the *x*-ray treatment. Even the most enthusiastic *x*-ray workers had now recognized that such treatment did not seem to influence favorably the deeper growths He had seen two cases of epithelioma in which the proliferation had gone on very much more rapidly since beginning the *x*-ray treatment, although the latter had been thoroughly carried out by experts. He had recently operated upon two cases that had been subjected to *x*-ray treatment for a considerable

time. In one there had been no *x*-ray treatment for some weeks prior to operation; in the other case the *x*-ray treatment had been continued up to the time of operation. In the latter case, although the parts were brought together without tension, a gangrenous patch developed,and nearly covered the whole area that had been exposed to the *x*-ray. At the time he had not attached very much importance to this, believing that it was due to some fault in the technique, but when he had subsequently observed a second case of the kind he had been led to ponder over the significance of the observation. The case was one of carcinoma of the breast, and while he obtained easily an abundant flap there developed subsequently a gangrenous patch covering the whole side of the chest. He was inclined to think that in both instances the *x*-ray had produced an unfavorable change in the nutrition of the tissues. If further experience proved this to be true, it would suggest the advisability of avoiding *x*-ray treatment until after operation. He was willing to admit that wonderful results sometimes followed the use of the *x*-ray in superficial eptiheliomata too far advanced for the usual operative treatment. In cases in which there were superficial recurrences of carcinoma of the breast the *x*-ray treatment was also beneficial.

Dr. E. M. Foote said that he had operated upon a case of recurrent carcinoma of the breast that had been exposed to the *x*-ray eighteen times. There was a superficial burn along the line of the original scar. The burn was neither very large nor deep. The whole burned area was removed at the operation, and the skin was sutured without very much tension, yet, a few days after the operation, although there was no gaping of the suture line, a patch of superficial necrosis developed, and extended apparently as far as the *x*-ray had gone.

The Lesion in a Severe X-Ray Burn.—Dr. James P. Tuttle referred to a case in which he had been compelled to amputate the thigh because of the results of an *x*-ray burn. That was the only case in which a careful pathological and microscopical study of an *x*-ray burn had been made After the amputation a very close study of the parts around this burn had been made by the late Dr. William Vissman. His conclusion was that the *x*-ray burn was the result of the production of an endarteritis and a periarteritis. The alteration in the capillary supply about the burn seemed to explain the failure to secure healing. This observation might explain the gangrene referred to by the previous speakers In his own case the endarteritis had extended three or four inches outside of the actual burn or slough, showing that the effect upon the arteries was not confined to the part which sloughed as a result of the burn.

Epithelioma Engrafted on X-Ray Burn.—Dr. Lloyd said that at one time he had worked in Edison's laboratory with the *x*-ray. The tube-maker there received very severe burns on his hands and head. Finally he lost all of the skin on his hands. He was skin-grafted in two or three hospitals, and finally returned to New York with an epithelioma developed on the *x*-ray burn of the right hand. This epithelioma grew rapidly while he was under *x*-ray treatment, and eventually Dr. Lloyd had been compelled to perform amputation.

Sarcoma of the Antrum of Highmore; Operation.—Dr. Charles A. Elsberg presented a boy of eleven years, who had come to him at the Mount Sinai Hospital with a slowly growing tumor in the region of the right superior maxilla. The tumor had gradually appeared on the cheek, had caused bulging of the orbit, and had grown into the nasal fossa and mouth. There were some enlarged glands in the neck on that side. A portion of the tumor was removed from the mouth for examination, and the pathologist reported it to be a myxosarcoma. Dr. Elsberg tried the external carotid artery prophylactically to control hemorrhage, and removed half a dozen small glands of the neck on that side. He then exposed the tumor by the Dieffenback incision as modified by Kocher, and the tumor was found to have originated in the antrum of Highmore. A very extensive operation was required for the removal of the growth. The case was presented partly because there was no drooping of the eye. This was because a slip of the temporal muscle had been thrown underneath the eyeball so as to form a sling upon which the eyeball might rest. Another reason for showing the case was the extensive new formation of bone. There was only a slight sinking in of the malar region, and this would be rectified by paraffin injections.

Removal of Sternum and Reproduction of Bone—Dr. Elsberg also presented a man, twenty-seven years of age, upon whom he had operated about a year ago for extensive tuberculosis of the ribs. He had previously been operated upon by others a number of times, and there were several sinuses leading down to bare bone in all directions. There were signs of slight tuberculous disease in the lungs. The entire sternum and four ribs were completely removed about two inches from the sternum. As the periosteum was largely sacrificed it had been a question how much reproduction of bone would take place. For some time after the operation the heart could be felt beating under the finger applied to the front of the chest in the sternal region. The case was presented because there had been reproduction of bone all over the area operated upon.

Dr. Lloyd said he had just seen a patient with diabetic gangrene of the foot upon whom he had operated for sarcoma of the sternum nearly fifteen years ago. All of the sternum except a small portion at the sternoclavicular articulation had been removed, yet at the present time it was completely filled up with new bone.

Dr. Beck opposed the plan of subjecting cases to *x*-ray treatment before operation; such treatment should be reserved for after-operation, or that part which could not be done with the scalpel There could be no question about the potency of the *x*-ray, but we must learn how to control this new therapeutic agent. It was probable that the destruction of the blood vessels would vary with different growths.

Office Treatment of Diseases of the Rectum.—Dr. Samuel G. Gant read this paper. He found it difficult to understand why so many of these cases were treated in hospital which could be effectively treated with less sacrifice and discomfort in the physician's office. On the morning of the day preceding treatment or operation three ounces of carabana, or other laxative water, should be taken, and three hours before coming to the office the bowel should be washed out, and as a final preparation a small glycerin and water enema should be taken. Much unnecessary pain could often be avoided by the use of the injection of a three-per-cent. solution of beta eucaine or a four-per-cent. solution of cocaine. His own preference was for the former.

Hemorrhoids.—In the operative treatment of external hemorrhoids the tumors should be injected with a three-per cent. eucaine solution, transfixed with a bistoury, laid open and packed with a narrow strip of gauze for twenty-four hours. External cutaneous hemorrhoids should be excised with the scissors or by means of an elliptical incision, the wound being allowed to heal by granulation. The parts should be cleansed with warm water daily. Small, flat internal capillary hemorrhoids, which bled freely, should be treated by applying the galvanocautery or carbolic acid. The intervals between the cauterizations should be at least a week. Non-protruding internal venous hemorrhoids could often be cured by the injection of a solution containing carbolic acid. To obtain the best results from this method and avoid its dangers, it was essential to observe asepsis, inject the solution into the tumor and not into the deeper structures, and place the finger over the puncture to prevent the escape of the solution into the bowel. He had long used with satisfaction an injection fluid composed of one drachm each of carbolic acid, glycerin, and distilled water prepared freshly for each

treatment. From five to fifteen drops were injected into small, and ten to thirty drops into large piles. Should the inflammation become intense or sloughing occur, hot or cold applications would be required, and suppositories of opium or belladonna to relieve the pain. Two ounces of carabana water should be taken each morning.

Polypi.—For polypi or mild cases of prolapse it was very easy to apply the little clamps which he had devised, and which were left on until they produced pressure necrosis and came away with the fæces.

Ischiorectal Abscess.—Ischiorectal abscess must be treated radically to prevent the formation of a fistula. If the skin were tense over the abscess, anæsthetization could be effected by freezing, but for deeper accumulations of pus eucain injections were required. These abscesses must always be opened by a free incision.

Fistula in Ano.—Cases of fistula in ano could be treated painlessly by the injection of eucaine solution into the skin over the sinus and into the muscle. Complete division should be effected on a grooved director, and a suppository containing one-fourth of a grain each of morphine and cocaine inserted into the bowel. The ligature operation for fistula was occasionally justifiable in depleted subjects because it avoided loss of blood. An elastic ligature should be carried up through the sinus and down through the anus by means of a probe, and the ligature secured with shot. The ligature would cut through in about ten days after the treatment, with the same result as after complete division. The injection method was only serviceable in very recent fistulæ. The latter should be irrigated and then injected with a strong solution of zinc, ergotin, ichthyol, carbolic acid, or iodine. This injection should be repeated at intervals of two or three days.

Fissure of the Anus.—A recent fissure of the anus could frequently be cured by daily cleansing of the ulcer and by the application of ichthyol, nitrate of silver, or balsam of Peru. Complete division of the sphincter was the most certain method of relieving fissure. The operation could be quickly performed in the office. After the muscle and skin had been anæsthetized by a eucaine injection, a probe-pointed bistoury was guided into the rectum and directed backward, and the muscle then divided. Healing took place rapidly under balsam of Peru dressings, and the patient could continue at his business. Extensive ulcerations high up in the rectum or in the sigmoid flexure should be treated by spraying the bowel with weak astringent solutions, or by irrigation with a weak solution of nitrate of silver.

Catarrhal Inflammation.—Catarrhal inflammations of the colon and rectum could usually be satisfactorily treated in the office. In acute inflammation the patient should rest as much as possible, abstain from cold carbonated or alcoholic drinks, and use only light liquid nourishment. In chronic proctitis the local applications should be stronger. On alternate days the colon should be irrigated with a solution of nitrate of silver of the strength of thirty grains to the pint, and followed by normal saline solution. On the intervening days an emulsion of bismuth, one drachm, with some iodoform and four ounces of olive oil should be injected and retained. It would be found very soothing.

Constipation.—He believed that nearly all cases of constipation could be materially relieved or cured by office treatment. When necessary, the sphincter could be divided or divulsed. In some cases division of the rectal valves was necessary. The regulation of the patient's habits of life was, of course, very important.

Dr. James P. Tuttle said that the advisability of employing office treatment for rectal diseases was an open question, and the physician who would be successful in such work must be a good judge of the character of his patient. The patients desiring this slow treatment were almost always men. The author of the paper well knew that the quickest and most satisfactory method of curing hemorrhoids was by etherizing the patient and doing a thorough operation. The injection treatment of hemorrhoids was not absolutely reliable and radical, and it was apt to be followed by recurrence. The advertising specialists who treated fistula "without operation" really made a slight incision under cocaine at each sitting, and eventually succeeded in curing the fistula. The great danger from the office treatment of these cases was hemorrhage. The eucaine or cocaine contracted the blood vessels, and there was very little oozing during the operation, but by the time the patient had reached home the dressing was disarranged, and the effect of the cocaine having passed off, the bleeding was apt to be profuse. He did not think it was either necessary or expedient to take such chances. All the desired anæsthetization could be obtained from a one per cent., a half per cent., or even a quarter per cent., solution of cocaine injected hypodermically. However, the absorption of the drug when injected free into the bowel was often so great and rapid as to lead to disastrous consequences. When a fissure of the anus was situated in the anterior or posterior commissure it was very slightly influenced by incision or divulsion of the sphincter. In such cases a V-shaped incision should be made on either side, not over half an inch deep, and then the fissure scraped or any fibrous tissue dissected out. He was utterly opposed to the local application of nitrate of silver to fissures of the rectum, because it always produced a deposit of fibrous material, thus forming a hard cicatrix which was often more painful than the original fissure. He had frequently had to dissect out these deposits. The use of ichthyol was far more beneficial.

Ichthyol for Anal Fissure.—Dr. A. Ernest Gallant said that some years ago he had experimented with the use of pure ichthyol in the vagina and in fissures of the anus, and it had acted so rapidly that he saw no reason for using weaker solutions. It rarely required more than three applications of the pure ichthyol to effect a cure, and if very painful some relief would be afforded by the application of cocaine. The ichthyol was not nearly so effective when mixed with glycerin. He had always opposed the use of nitrate of silver because of the induration it produced.

Injection Treatment of Hemorrhoids a Failure.—Dr. Joseph Wiener said that he felt sure that many of those who employed the injection treatment of hemorrhoids did not know the ultimate results of such treatment, or else it would be less freely employed. There was a field for the injection treatment, but it was an extremely limited one. As a rule, surgeons did not see cases of hemorrhoids which could be *cured* by the injection treatment. Mention was made of a case of hemorrhoids which had received an injection and, two or three days later, as a result of sloughing, developed a hemorrhage which very nearly proved fatal. Other cases were cited to show that most patients did not return to the one who had given the injection treatment, and that those employing this treatment were consequently led to believe that they had effected cures when this was far from the truth.

Dr. Robert T. Morris remarked that he had seen two cases of gangrene of the lung which had developed after the injection treatment of hemorrhoids.

Dr. Gant closed the discussion. He said that he had not earnestly advocated the injection treatment of hemorrhoids, and, indeed, he thought there were few rectal specialists who used it less than he. He would not think of injecting a strangulated hemorrhoid, or one which was very œdematous or highly inflamed, nor would he inject an external hemorrhoid. If, however, a patient would not consent to a better operation he would inject small hemorrhoids which bled freely and which, as a rule, remained above the sphincter, although perhaps coming down occasionally. He made it a point not to claim that the injection would *cure* hemorrhoids, and he was careful to explain this to his patients. However, it did not follow that the injection method was the only one which was followed by a return of the hemorrhoid, for,

he had seen this occur after a Whitehead operation done by a competent surgeon. It was perfectly possible to thoroughly anæsthetize the hemorrhoid by the injection of cocaine or eucaine; then make a shallow incision around the hemorrhoid and ligate the latter without causing the patient pain. Before injecting the pile finally with cocaine or eucaine a suppository containing a quarter of a grain each of cocaine and morphine should be introduced into the rectum, and this would save the patient from severe pain that would recur as soon as the effect of the cocaine or eucaine had passed off. It was very important not to overlook this point. It was true that there was some danger of hemorrhage, but a good deal of annoyance could be avoided by packing with adrenalin chloride. A good deal depended also upon the use of a proper T-bandage, one having a belt at least six inches wide and broad tails. He had been interested in the point made by Dr. Tuttle regarding fissures situated in the anterior or posterior commissures, but his experience had taught him that the fibers of the sphincter ani crossed over as well as simply decussated laterally. He had never failed to cure a fissure by division. The simple cutting of the sphincter was not sufficient, because it did not give drainage; but with a free incision of the skin also, and proper packing, a cure would result. In the treatment of rectal diseases the most essential point was drainage. He had used a three-per-cent. solution of eucaine very freely in rectal surgery, and had never seen any ill effect from it, whereas he had observed many bad symptoms from the use of cocaine. According to his experience, the mild solutions of nitrate of silver did not give rise to the indurated conditions referred to in the discussion. He thought the milder solutions of ichthyol accomplished as much as the pure ichthyol, and he preferred them because they caused less pain. It was quite important not only to make the application to the fissure, but to leave the cotton pledget *in situ*.

A Preliminary Report on Some Experiments with the McGraw Elastic Ligature.—Dr. M. S. Kakels presented this paper. He exhibited one of these ligatures which he had recovered, and commented upon its insignificant size as compared with the Murphy button. The chief advantages claimed for the operation by McGraw were: (1) It was the simplest of all known methods; (2) it was the quickest of all operations for intestinal anastomosis; (3) there was uniform coaptation of the peritoneal surface of the entire circumference of the proximal ends; (4) there was no incision of the bowel and no blood was lost; (5) there was no escape of fæces and no exposure to infection from the bowel contents; (6) the operation was followed by a minimum of shock; (7) the anastomosis was secured by first intention; (8) very few lesions were made, and (9) the bowel did not slough under the ligature. Dr. Kakels said he had made a number of experiments upon dogs, and had subsequently killed the animals at varying intervals by the administration of cyanide of potash. His conclusions from these experiments bore out in the main the claims made for the operation by its originator. He found the operation fully as simple as the one with the Murphy button. Of the eight experimental cases in only two was there partial cutting through of the ligature. This was probably to be explained by the peculiar anatomical conditions found in the bowel of the dog. The larger ligatures cut through more quickly because more tension could be applied to them than to the smaller ligatures. The specimens from these dogs were exhibited.

Dr. S. Lloyd said that he had done the McGraw operation seven times without a death, all but one of the cases being cancer. He had found it the quickest of all the operations devised for this purpose. What appeared to be a weak point in McGraw's technique was the tying of the ligature. The latter could be held just as firmly by using a stronger silk ligature and tying the ends of the latter down upon the rubber ligature. He had also found that there was no harm from beginning to feed the patients as early as forty-eight hours after the operation. One of his patients had died about three months later after a secondary operation, done in Montreal, and the autopsy had shown the opening present but strictured by a recurrence of the carcinoma.

Dr. Elsberg said that he had done two gastroenterostomies with the McGraw ligature, and had been greatly impressed with the simplicity and rapidity of the operation. He had noted the great prominence of the knot when the McGraw technique was adopted, and had, in his second operation, adopted the method of fastening described by Dr. Lloyd. Very much depended upon the tension placed upon the ligature, for, unless the two loops were approximated very closely and sufficient tension were made the time of cutting through would be lengthened.

Dr. Arnold Sturmdorf said he had assisted Dr. Kakels in his experimental work, and he thought Dr. Kakels was entitled to much credit for the pains taken to throw light upon this operation. The speaker said he had done one of the gastroenterostomies on the dog, and wished to say that in attempting to tie the ligature it had slipped from his hands and had cut an opening of considerable size in the bowel. This was an accident which might happen to any one, and should be borne in mind when operating upon the human being. McGraw was right in his contention that the ultimate anastomosis was established by absorption and not by the cutting through of the ligature. Again, it should be noted that the ultimate openings were not as large as had been expected by those who had been present at the operations.

Dr. Fred Kammerer said that for the past six or eight years he had done exclusively the posterior gastroenterostomy with the Murphy button. He thought if the incision were made into the stomach and the intestine, the two halves of the button introduced, and then, without a purse-string suture, they were brought together after closing the superfluous opening with one or two sutures, an excellent approximation of the peritoneal surfaces would be obtained. This could not be obtained if the purse-string suture were used. In no instance had he failed to do a rapid and a successful operation. He had had no personal experience with the McGraw ligature.

Dr. Kakels thought the knot used by McGraw was an advantage, as it held the parts in better apposition than if the ligature were tied with silk. There was no harm in the knot; it made a very small foreign body afterward, as was shown by the McGraw ligature which had been recovered in one case.

The "Giornale Medico Del Regio Esercito" celebrates the fiftieth anniversary of its existence. It was founded in 1851, but was obliged to suspend publication for a year and a half at the time of the Crimean war. It was at first issued as the *Journal of Military Medicine of the Sanitary Commission of the Sardinian Army*, but the word Italian was substituted for Sardinian in 1861. In 1885 the title became *Medical Journal of the Royal Army and Navy*. Up to that time the Sanitary Commission of the Army and Navy had been one, so that the journal was in truth the organ of both branches of the service, but after the separation of the Commission into two bodies, the magazine gradually lost this position. With the object of resuming it, the new title was taken. In 1895 so great had been the growth of the Navy that it was deemed best to start another journal devoted to its interests, and thus was born the *Annali di Medicina Navale*, which is so excellent a publication that the editors of the *Giornale del Regio Esercito* congratulate themselves on having been, in a sense, its originators. As to their own journal they hope that in fifty years more it will be able to record even greater usefulness than in the past.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, Held March 23, 1903.

CHARLES N. DOWD, M.D., PRESIDENT.

Immediate Perineorrhaphy.—Dr. J. MILTON MABBOTT presented this paper. He said that when the laceration was chiefly in the vagina the temptation was very strong in private practice to allow it to pass unnoticed. The method of bandaging the limbs together, though shiftless and inefficient, yielded results that compared favorably with those frequently obtained by suturing when done by careless or inexperienced hands. The perineum should be repaired whenever possible immediately after delivery, but equally good results might be obtained any time within the first twenty-four hours. Continuous and buried sutures did not appeal to him, and strange and ingenious methods of suturing had always been reserved for the secondary operation. His plan was to make use of deeply inserted interrupted sutures placed about half an inch apart. A finger in the rectum would prevent that viscus from being injured. It was usually better to introduce the highest suture in the vagina first, and work from above downward, tying the sutures in the same order. Sterile catgut was the best material for use within the vagina, as it did not require removal, and as firm union was expected in a week the larger sizes of catgut, No. 2 or No. 3, would answer for this purpose. When necessary, instead of introducing the suture with a single sweep, the needle could be brought out at the deepest part of the wound and reinserted. To secure proper coaptation each suture should be so introduced as to be elliptical, with its long axis transverse. The more deeply the needle was carried toward the sides of the pelvis in a circular sweep the more tissue would be included and the better would be the coaptation. Such a suture could be easily inserted by means of a strong straight needle, one inch and a half to two inches long, having a very slight curve near the point, and held in a strong needle-holder. Inexperienced operators were fond of the full-curved needle, yet he considered this an abomination, the straight needle yielding far better results. The sutures should not be drawn too tightly, although some allowance must be made for swelling. Technical knowledge of the finer points of anatomy were not required for the successful performance of the immediate operation of perineorrhaphy. Where assistants were scarce, the knees could be tied up by means of a sheet passed around the neck and shoulders of the patient. He did not like to give chloroform after labor, because of the danger of hemorrhage, and the administration of ether was troublesome. The bowels should be evacuated on the second or third day, and the patient could be allowed out of bed on the tenth or thirteenth day, as in cases in which no such operation had been done. Except in cases of complete rupture the perineum should give no anxiety after the operation had been done as just described.

Application of Hospital Methods for the Prevention and Treatment of Puerperal Sepsis to Private Practice.—Dr. WILLIAM S. STONE read a paper with this title. He said that the statistics of the New York City Health Department for the past two years showed that during this period there had been 178,139 births, including stillbirths, and that 1,290 women had died from the complications of childbirth. Of this number 494 were reported to have died of puerperal infection. The purpose of this paper was to emphasize the fact that the essential parts of obstetric practice were based upon a few bacteriological examinations and a few methods of procedure, which were as completely applicable to the humblest home as to the well-equipped modern lying-in hospital. Asepsis instead of antisepsis was the underlying principle. No antepartum douches should be used, except when there was a mucopurulent discharge, and then to protect the baby's eyes. The patient's external genitals, the attendants' hands, and the dressings should be carefully sterilized. No postpartum antiseptic douches should be used unless for special indications. As few examinations should be made as possible, and in each instance the hands and the patient's genitals should be thoroughly sterilized. The patient should be delivered on the side. Freshly-laundered towels, especially if wrung out of bichloride solution, would serve as good substitutes for sterilized towels. It was doubtful if the application of antiseptic solutions to the genitals really fulfilled the theoretical indications, because of the brief period of contact. The author said he had used rubber gloves in his obstetric practice for the past two years, and the improvement in the temperature records seemed to point to the value of such gloves. It seemed to him that they were especially applicable to those engaged in general practice, and consequently exposed to many sources of infection. It should be borne in mind that, in the overwhelming majority of cases, fever during the puerperium pointed to sepsis. The majority of the cases showing fever at the end of the first week, or later, were examples of septic intoxication, and in these cases recovery almost always occurred. From 70 to 80 per cent. of true septicæmia or pyæmia would recover; the most fatal cases were those in which the symptoms began very soon after labor. The fever was by no means such a good indication of the severity of the infection as was the pulse, and recovery often took place after very high elevations of temperature. As soon as fever appeared, the breasts and constipation should be excluded. This having been done, the patient should be transferred to a table and placed in the lithotomy position. After sterilization of the hands and external genitals a systematic examination should be made, beginning at the perineum. A very common error in the treatment of a patient presumably septic was to give an intrauterine douche without a previous examination of the perineum, vagina, and cervix. In this way a transference of the septic matter from the lower part of the birth canal to the uterus often resulted. A grayish slough was a sure sign of infection. It was often unnecessary to go further than the cervix to discover the cause of the fever. If the uterus appeared to be the offending part, internal palpation should be made with one or two sterile fingers, aided by firm pressure from above. If the uterus appeared to be the source of the sepsis, it was a good plan to have a bacteriological examination made of the secretions taken from the interior of the uterus. The normally roughened placental site was apt to be mistaken by the inexperienced exploring finger for retention of the products of conception. The author protested against the use of antiseptic douches, either continual or at frequent intervals, in this class of cases. Ergot administered at rather frequent intervals was a much more certain aid in maintaining good uterine contraction. If pelvic cellulitis or peritonitis were present, an ice-bag should be applied over the abdomen. A rapidly spreading peritonitis might possibly indicate such radical measures as hysterectomy, but the difficulties of making an accurate differentiation of the class of cases in which this was demanded were obviously very great. Finally, it should be noted that there was no good ground for the belief that any specific medication was efficient in the treatment of puerperal sepsis.

The Management of Posterior-occipital Positions.—Dr. JAMES D. VOORHES was the author of this paper. He said that those who examined only in the second stage of labor would find a much smaller number of posterior positions than those who examined at the beginning of labor. The records of the Sloane Maternity Hospital showed that, of 1,000 vertex cases, 194, or about 20 per cent., were primarily occipito-posterior positions. He was

positive that left occipital posterior positions were much more frequent than was generally supposed. In his private practice the first 100 cases yielded 27 per cent. of cases in which the position was right occipital posterior and 7 per cent. in which it was left occipital posterior. Of prophylactic measures for the management of occipitoposterior positions, postural treatment or external manipulations at the beginning of labor could be tried, though it was doubtful as to how much success would attend these efforts. Small doses of quinine and strychnine, used for two or three weeks before labor, he believed to be of value in preventing such positions. It should be remembered that a rather large proportion of the posterior cases rotated anteriorly before delivery. One of the most important factors in securing this rotation was the presence of powerful uterine contractions. When the pelvis was normal one should endeavor to secure as full dilatation of the cervix as possible; then, under anæsthesia, carry the hand into the uterus and rotate the child anteriorly. Then, with the head held in position by the hand inside of the uterus, and aided by an assistant's making strong pressure on the fundus, the forceps should be applied to the sides of the head. Rotation of the head by means of the forceps above the brim, using force, was fraught with great danger to the mother, and often resulted in failure. If the head did not descend under moderate traction, version would be found better. The most trying cases were those of dry labor, with contraction of the uterus about the child. Here, the blades did not fit the head and the hold was insecure. It was necessary to make strong compression, and this often resulted in intracranial injury. In another group of cases the head was engaged at the superior strait. Sometimes manipulation which would increase the flexion would allow of descent and would favor rotation. Sometimes in cases suitable for the forceps, if both blades of the forceps were introduced posteriorly, the head would rise above the brim, and then would rotate with the blades. In a third class the head was at the pelvic outlet and the occiput posterior. This was the largest class, and in many of these cases the occiput rotated spontaneously. Out of 104 persistent occipitoposterior positions at the Sloane Maternity Hospital, 55 were allowed to be born with the occiput behind, and only in 4 was the perineum slightly torn. Nine of these were primiparæ. Of 44 cases 27 were treated successfully by manual rotation. In a few cases in which the head was wedged in the pelvis, and other methods failed, the blades should be introduced in the usual manner and applied to the sides of the child's head. Then the handles of the forceps should be carried to the left thigh of the mother. By this manœuvre flexion was increased. Then, with very little force, the handles should be swung downward, describing the arc of a circle. After partial rotation the forceps could be applied for a few pains with the pelvic curve reversed. After being sure that the occiput would stay in front the blades should be removed. The force must never be great. The solid-bladed forceps was the best for this class of cases. This last method was, however, not often required.

Dr. Franklin A. Norman said he had found a distinctive advantage in using a *slightly* curved, instead of a perfectly straight, needle for perineorrhaphy. It seemed to him very important to make use of anæsthesia for perineorrhaphy, for many women suffered so keenly from the introduction of the sutures that they retained a very vivid recollection and dread of the operation. Of course, this did not apply to cases in which all of the suturing was done within the vagina. With regard to the prophylaxis of sepsis, it seemed that there was a disadvantage in the side position, because of the fact that the anus was in the immediate field of operation. For this reason he thought it was better to make use of the dorsal position, provided a firm, level bed-surface could be secured. If inspection showed a septic cervix, it should be remembered that this was generally an indication of a very septic endometrium. The endometrium and the cervix were too closely connected for the conditions to be separate. With regard to the rotation of the head by the introduction of one blade of the forceps, he thought if the blade were rotated laterally to the sides of the pelvis, while opposing pressure was made with the hand upon the child's forehead, it would often be possible to bring the head around, and then it could be held in position by the application of the left blade. This assistance rendered by the hand was of importance.

Dr. Russell Bellamy spoke in favor of the use of rubber gloves in obstetric work. With reference to intrauterine douching, he said that while on the house staff at Bellevue Hospital many cases of criminal and other abortions were brought in. The practice then was to place the woman on a table, give an intrauterine douche, and curette the uterus. After curettage the uterus was thoroughly douched with a 1 to 5,000 solution of bichloride of mercury, followed by sterile water. Dr. Bellamy exhibited a double return flow intrauterine douche tube that he had devised and used with much satisfaction.

Dr. Joseph B. Cooke, in discussing Dr. Stone's paper, said that, while the subject had been covered in a most interesting and comprehensive manner, he did not believe that the matter of the prevention of puerperal sepsis in private practice could be reached from this point of attack. The proper management of maternity cases in private practice had been treated in detail at one time or another by nearly every contributor to obstetric literature, and the technique of one individual differed from that of another in minor details only. The modern textbooks of obstetrics, without exception, contained detailed instructions for the proper conduct of cases at the homes of the patients, and every physician who practised medicine to-day was or should be thoroughly familiar with some proper technique. The contagiousness of puerperal fever had been known for sixty years, ever since Semmelweiss had instituted the practice of disinfection of the hands with chlorine water in the maternity wards of the Vienna General Hospital in 1843, and our own Oliver Wendell Holmes had published his classical essay on this subject in 1842; and yet the results in private practice to-day were practically the same as they had been sixty years ago. The very fact of the existence of this marked difference between the results of the general practitioner, as taken from life-insurance reports, which showed that puerperal sepsis was nearly, if not quite, as prevalent as ever, and those of maternity hospitals, in which child-bed fever was practically unknown, brought the whole question down to a point, not of scientific knowledge of means and methods but of the conscientious application of perfectly well-known methods in practice.

In the hospital the surgeon worked in the glare of the lime-light, and his every act was open to comment and criticism; in private practice the physician had only his conscience to consider, and until some greater restraint was placed over him there would be no marked improvement in his results. This restraint could come only through education of the public, not in questions of a technical character, which concerned the profession alone, but in a more general understanding of the importance of maternity cases; of the necessity for careful preparation for their proper management, and of the danger, not only of the sepsis that killed, but also of the milder forms of infection which caused permanent impairment of health. When these matters were thoroughly understood by women in general, and they realized fully that a properly conducted obstetric case required careful preparation and minute attention to a great number of details, an improvement in results would show itself at once. The careless, unscrupulous, and criminally negligent practitioner would slowly but surely be forced out of the profession; the man who was "too busy" to examine the urine of his

pregnant patients and otherwise attend to the details of his cases would be accorded the same treatment as was meted out to the captain who was so busy selling tickets (and incidentally making money) that he overloaded his boat and precipitated a disaster by reason of his cupidity; and the famous "little black bag" would disappear from the face of the earth.

The problem of educating the public along these lines was not an easy one, owing to the inherent nature of the subject, but much could be done through the great body of trained nurses by impressing them during their training with the importance of the matter, and urging them to disseminate this knowledge as widely as possible in the private practice of their profession. Also, books by authors of standing and repute, written in a popular style and free from sensationalism and technicalities, would be of value, and it was possible that short lecture courses could be arranged to advantage in connection with the various clubs, societies, and other organizations of women throughout the country. It was needless to say that instruction of this kind should consist only of such matters as were accepted without question or cavil by every well-informed physician, and that all reference to questions under discussion or to methods properly subject to variations of opinion or of personal preference, should be entirely omitted.

Papers, such as the most excellent one now under discussion, no matter how comprehensive, how instructive, or how interesting, were in the nature of "carrying coals to Newcastle," for, the physicians who must be reached were the renegades of the profession, who attended no society meetings, read no medical journals, cared only for the number of patients on their books and the fees that they could demand, and feared nothing but loss of practice and the search-light of public opinion. These men were deserving of no consideration whatever, and the sooner they were held up to scorn the better for womankind and for the profession under whose flag they marched, with whose protecting cloak they were wont to shield themselves when danger threatened, and whose best traditions and practice they were constantly bringing to shame.

Dr. Eben V. Delphey said that the cause of septic infection of the puerperal woman depended upon a number of factors. The first was shock, which predisposed the patient to septic infection by so lowering the vitality of the tissues that they were unable to resist bacterial invasion or destroy the germs after they had passed the outer line of defence. Shock depended very largely upon the personal equation of the patient. There were some patients who were very susceptible to shock and were, therefore, very liable to infection, while other patients, subjected to an equally trying ordeal, escaped. A severe and prolonged labor produced shock, whether the delivery were natural or operative (instrumental or manual). When it was evident that the patient would not be able to deliver herself, it was the duty of the obstetrician to institute operative interference as soon as possible, provided, of course, that the parts were in proper condition for such procedure. The second cause of puerperal septic infection was immediate perineorrhapy. It must be remembered that a torn perineum was not a clean-cut, incised wound but a bruised and lacerated one. When these surfaces were brought together there was bound to be some death of tissue, and this formed the very best culture medium, and at the proper temperature for rapid propagation. Sutures produced coaptation only, and when the laceration was of the first or second degree, the same result could frequently be accomplished by binding the patient's hips and thighs tightly together. By this latter method, if the parts did not unite, there was nothing to prevent free drainage of the wound, as there was when sutures were employed. Moreover, when the patient did become septic, after an immediate perineorrhaphy, usually the first thing to do was to open up the perineal wound, and when we found a pocket of pus we were sure of the cause of the general septic infection. As a result of this free drainage, the temperature commonly dropped in from twenty-four to forty-eight hours. He had done immediate perineorrhaphy in a number of cases, and while his results had been fair they had not been perfect; on the other hand, in secondary perineorrhaphies there had as yet never been other than complete union by first intention. Therefore he had come to the following conclusions: If the laceration was into the rectum some operative endeavor should be made toward its immediate repair; if it was only down to the sphincter it should be a matter of judgment with the obstetrician what was best to do; if the laceration was only through the mucous membrane it should be left decidedly and entirely alone.

He had had three cases of puerperal septicæmia, during the last twelve years, in the five hundred deliveries in which he had himself been the obstetrician. The first case was one in which the last speaker had been associated with him. The woman was a II-para with an anteroposteriorly flattened pelvis, non-engagement of the head at the brim, and prolapsed cord, with a history of a previous extremely difficult labor. After ineffectual attempts with the forceps she was delivered by bimanual version. She suffered severely from shock, and, about two hours later, from postpartum hemorrhage. At the end of the second day the temperature rose, and the diagnosis of puerperal septicæmia was very clear. The second case was one in which the infection did not show itself until the eleventh day of the puerperium, when the infant also had ophthalmia neonatorum due to the gonococcus. The third case was one in which the family would not permit him to use forceps until the patient was in such a state that he refused to continue in attendance unless it was done. The delivery was extremely difficult, and the combined shock was such that she contracted septicæmia, but she, as well as the others, made a good recovery.

One of the best drugs, for the prevention and treatment of puerperal septicæmia, was the old-fashioned infusion of digitalis, because it slowed and strengthened the heart-action and at the same time contracted the muscular fibers of the uterus. As the septic uterus was usually a flabby uterus, allowing septic material to pass through into the general circulation, this contraction prevented such passage. and the drug was therefore doubly effective.

His antiseptic precautions consisted in carefully washing the patient's external genitals with soap and water, and thoroughly scrubbing his hands and forearms with a *new* stiff brush, which he never took away from the patient's home after using. He believed the best antisepsis consisted in using soap and hot water and—first, scrub; second, scrub; and third, *scrub*. After the hands had been thoroughly scrubbed in running water there were not enough germs left on them to do any harm, provided all the other precautions as to the patient had been observed. The lochial discharge was known to be an excellent germicide, and if the patient had not suffered too much from shock, or had not been grossly infected, she was not liable to suffer from septicæmia if the lochia were kept free, because the "bugs" could not swim against the stream.

Dr. A. Ernest Gallant said that he favored immediate perineorrhaphy in all cases except those in which the laceration extended into the rectum. In the latter he preferred to repair the perineum by a secondary operation. If every one would approach a case of labor as the surgeon did an operation there would be very little difficulty in the practice of obstetrics. The proximity of the anus practically made the whole vulva an infected region, and hence it was essential to clip the hair and make free use of the scrubbing brush and soap. He believed, with Williams, that curettage was very seldom necessary, and he was inclined to think that better results would follow from the use of any suitable means for securing good drainage from the uterus. He had devised

a simple instrument for keeping open the cervix for this purpose.

Dr. David P. Austin said that he was accustomed to confine a woman on a cot or bed away from the bed upon which she was to remain after delivery. This seemed to him an important factor in preventing puerperal sepsis. With regard to immediate perincorrhaphy, he said that he regarded this operation as an effective measure for the prevention of sepsis. He favored the use of a curved needle and the deep introduction of the sutures, and deplored the present tendency to employ catgut rather than silver wire.

Dr. Stone said that while he personally preferred to deliver a woman on the back the side position was of value because the field of operation was farther away from the dirty sheets.

Dr. Voorhees said that the point was well taken with regard to the value of the hand in connection with the use of one blade of the forceps as a vectis for securing rotation of the head.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending March 28, 1903:

	Cases.	Deaths.
Measles	314	12
Diphtheria and croup	441	61
Scarlet fever	282	13
Smallpox	1	..
Varicella	131	..
Tuberculosis	345	169
Typhoid fever	46	12
Cerebrospinal meningitis	..	..

Chief Causes of Death: U. S., 1900.—According to the vital statistics of the census of 1900, diseases of the respiratory system still stand among the chief causes of death; the death rate in the United States being 279.5 in every 100,000 population. The death rate in England and Wales is 324.1 per 100,000 population. In the cities of the United States the death rate for this class of diseases is 335.1; in the rural portion, 199. By States, the highest rate is in New York, 323.5; the lowest in Michigan, 172.7. By nationality, the rate for those born of Italian mothers is highest, 705.5 per 100,000; second, of Irish mothers, 365.3. Mothers, German, 245.7; English or Welsh, 228.7; Scotch, 221.1; United States, 211.6; Scandinavian, 209.8; Canadian, 209.4; French, 208.6, the lowest rate.

By age: deaths in the first year, children of Italian mothers, 7,049.4, in 100,000; population of French, 3,872.4; United States, 2,225.6; Polish, 2,219; Bohemian, 2,202.2, lowest. By sections: Middle Atlantic, 188.4, in 1,000 deaths; Southern Mississippi River belt, 178.1; South Central Appalachian belt, 169.5, for the three highest rates; South Atlantic coast, 122.2; Pacific coast, 117.6; Gulf coast, 115.9; for the three lowest rates. By months, March and April, highest death rate; July and August, lowest. Diseases of the circulatory system, United States, death rate for the census year, 150.1; for 1890, 134.2. The three highest by nationality of mother were: of Irish mothers, 205.5 per 100,000; of French, 176.7; Scotch, 171.8; three lowest: born of Scandinavian mothers, 68.8; of Hungarian and Bohemian, 66.4; of Russian and Polish, 55.4. Of English and Welsh mothers, 165.7; of German, 144.9; of United States, 126.5 (largely of children under 5 years); of Canadian, 90.4; of Italian, 76.4.

Fifty thousand seven hundred and sixty-six persons died in the United States during the census year of apoplexy and paralysis. The highest rate was in the rural districts, 127.5, in 100,000 population; the rate in cities was 98. The rate by sex was, for males, 111.6; females, 108.6. These rates are an increase upon those of 1890, and the highest rate by age is from 65 years upward. By nationality at 65 up the highest rate was for those born of Russian mothers, 1,402.7, in 100,000; of English and Welsh mothers, 1,215.6; of French, 1,211. For all ages, highest, of Irish mothers, 133.2. Next of French, 132.7; of Scotch, 131.9; English and Welsh, 127.6; of German, 95.3; of United States, 95. Lowest, of Russian and Polish, 21.7; of Italian, 27.9; Scandinavian, 34.4; Canadian, 48.6.

Diseases of the nervous system—death rate: persons born of Irish mothers, 227.1; of French, 221.7; of English and Welsh, 221.3; of United States, 207.6; of German, 178.8; of Hungarian and Bohemian, 141.2; of Scandinavian, 114.5; of Russian and Polish, 114.3, per 100,000 population.

Diarrhœal diseases—death rate: cities, 156.6; rural districts, 97.2; death rate for colored, 205.8; white, 129.5. There is a great decrease in the rate in all sections and all classes since 1890.

Typhoid fever—death rate: from Scandinavian mothers, 41.9; other foreign, 37.9. Three lowest from Russian and Polish mothers, 17.3; Scotch, 19.8; Italian, 20.9. By sections, highest rate south of Mason and Dixon's line, westward to western Texas and Kansas.

Death rate from cancer: from French mothers, 97.8; Scotch, 89.7; German, 84.4; Irish, 83.9; English and Welsh, 78.3; United States, 53; Hungarian and Bohemian, 34; Russian and Polish, 28.6; Italian, 24.7. By States: Vermont, 90.2; Maine, 88.5; lowest, New Jersey, 56.4; Michigan, 63.2.

If we single out consumption from other diseases of the respiratory systems, the death rate by sections is, for the Pacific coast, 153; Central plain, 138; South central, Appalachian region, 132.4; Central Appalachian, 81.4; North West, 86.5; South West central, 92.6, in 100,000 population. A general decrease in the past ten years: ratio, 122.3 to 109.9.

Health Report.—The following cases of smallpox have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending March 28, 1903:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
Alabama, Mobile	Mar.	14–21	2	..
California, Berkeley	Mar.	4–11	1	..
Los Angeles	Mar.	7–14	4	..
San Francisco	Mar.	8–15	6	..
Colorado, Denver	Mar.	7–14	22	..
Delaware, Wilmington	Mar.	14–21	..	1
Florida, Jacksonville	Mar.	14–21	3	..
Illinois, Chicago	Mar.	14–21	12	..
Indiana, Elwood	Jan.	15–22	7	..
Indianapolis	Mar.	7–21	29	..
Iowa, Davenport	Mar.	14–21	3	..
Dubuque	Mar.	14–21	1	..
Kansas, Wichita	Mar.	14–21	3	..
Kentucky, Newport	Mar.	14–21	1	..
Louisiana, New Orleans	Mar.	14–21	4	(imported)
Maryland, Baltimore	Mar.	14–21	2	..
New Jersey, Camden	Mar.	14–21	2	..
New York, New York	Mar.	14–21	1	..
Ohio, Cincinnati	Mar.	13–20	17	..
Cleveland	Mar.	14–21	1	..
Hamilton	Mar.	14–21	1	..
Pennsylvania, Altoona	Mar.	14–21	2	..
Erie	Mar.	14–21	2	..
Johnstown	Mar.	14–21	1	1 (imported)
McKeesport	Mar.	14–21	1	..
Philadelphia	Mar.	14–21	26	1
Pittsburg	Mar.	14–21	29	4 (Imported, 3 cases)
South Carolina, Charleston	Mar.	14–21	5	1
Tennessee, Memphis	Mar.	14–21	1	..
Nashville	Mar.	14–21	1	..
Texas, San Antonio	Jan.	1–31	4	..
San Antonio	Feb.	1–28	1	..
Utah, Salt Lake City	Mar.	7–21	53	..
Washington, Tacoma	Mar.	1–16	4	..
Wisconsin, Green Bay	Mar.	15–22	6	..
Milwaukee	Mar.	14–21	2	..

SMALLPOX—FOREIGN.

Belgium, Antwerp	Feb.	14–21	2	1
Brazil, Rio de Janeiro	Feb.	20–27	..	5
France, Lyons	Feb.	21–28	..	1
Paris	Feb.	28–Mar. 7	..	1
Great Britain, Dublin	Feb.	28–Mar. 7	5	1
London	Feb.	28–Mar. 7	2	..
Manchester	Feb.	28–Mar. 7	19	..
Sunderland	Feb.	28–Mar. 7	1	..
India, Bombay	Feb.	17–24	..	74
Calcutta	Feb.	14–21	..	6
Mexico, City of Mexico	Mar.	1–8	9	5

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Original Articles.

THE TECHNIC OF NEPHROPEXY, WITH SPECIAL REFERENCE TO A METHOD OF ATTACHING THE KIDNEY AS NEARLY AS POSSIBLE IN ITS NORMAL POSITION.*

By RAMÓN GUITÉRAS, M.D.,
NEW YORK.

THE best method of treating a movable kidney is a subject which has interested surgeons since the time of Franciscus de Pedemontium, who, in his work, "De Dislocatione Renum et Vesicæ," written in the beginning of the Fourteenth Century, was the first to describe this condition.

For many years the only treatment of movable kidney consisted of palliative measures, such as rest and the application of a variety of belts, supports, and trusses, some of which are still in the market and are used with varying success.

In 1874 Greenville Dowell of Galveston, Tex.[1] passed a large curved needle with a seton through the abdominal wall and through the kidney, and allowed it to remain *in situ* for three months, so as to promote adhesions and prevent the mobility of the tumor. The kidney was subsequently removed, but some authors claim this to have been the first nephropexy ever performed.

In April, 1881, E. Hahn of Berlin performed the first operation for the attachment of a movable kidney.[2]

The description of his operation, for which Le Dentu later suggested the name of *nephropexy*, was as follows: The patient was anæsthetized, placed in the lateral position, and the kidney was exposed by a vertical incision from the twelfth rib along the outer edge of the erector spinæ to the iliac crest. The kidney was then brought out into the wound and sewed to the edges of the incision by means of from six to eight catgut sutures which passed only through the fatty capsule. The wound was then packed with carbolized gauze and allowed to heal by granulation.

In the state of surgery prevailing in 1881, Hahn's operation was considered extremely hazardous by a number of authorities. It was said that the fixation of a movable kidney was an impossible task; one that was apt to cause permanent injury to the kidney; possibly uncontrollable hemorrhage, if the parenchyma had been pierced; and one that would in the end terminate with redetachment of the organ. In spite of this opposition, Hahn and a number of other surgeons in Germany, Italy, and America continued to practise nephropexy, and to observe the results obtained therewith. It is only within the past ten or twelve years, however, that enough material has accumulated to show that excellent results as regards fixation and relief from symptoms may be obtained by the operation first attempted by Hahn.

Almost every surgeon has attacked the mechanical and surgical problems presented by nephropexy in a different manner. The variations presented depend upon the operator's conception of the object to be attained, and of the best mode of attaining it in kidney fixation. In this way the ingenuity expended upon modifications of the technics of nephropexy since Hahn has been astonishing and the array of methods bewildering.

It seems to me that the best method of discussing the technics of the various operations introduced within the past fifteen years is to classify them under headings corresponding to the main features characterizing each operation.

Nephropexies vary in their technic in the following cardinal points: (1) As to the mode of approach to the kidney, *i. e.* as to the incision; (2) as to the part of the kidney utilized in the fixation; (3) as to the material used in the fixation; (4) as to the portion of the parietes to which the kidney is attached.

1. The Incision.—The two chief varieties of incisions used are the abdominal and the lumbar.

The *abdominal incision* is still used by a few surgeons. It was first employed by Rosenberger,[3] who made an opening in the peritoneum and attached the kidney half intraperitoneally and half extraperitoneally after passing one half of it through the peritoneal slit. This operation has not found any followers.

Abdominal incisions have also been used by Kendall Franks[4] and by R. H. Reed.[5] Neither of these operations have gained popularity, as the advantages of the lumbar method are now generally recognized. Reed's operation involves the passage of sutures through the whole kidney and the entire thickness of the lumbar wall from the abdominal side.

A combined lumbar and abdominal incision was used by MacArthur,[6] who makes a pocket for the kidney under the lumbar fascia and inserts the organ into this pouch, drawing the edges of the latter with a few stitches. F. C. Ferguson[7] uses both a lumbar and an abdominal incision, and sutures a fold of peritoneum pushed from in front into the lumbar cut, thus securing a pocket supporting the kidney.

The *lumbar incision* is preferred by nearly all modern surgeons. There are three main types of incision employed in lumbar nephropexy: (1) The vertical; (2) the vertical, combined with an oblique prolongation; (3) the oblique, following the edge of the ribs.

The vertical incision begins below the twelfth rib, at the point of junction of this rib with the outer border of the erector spinæ muscle, and runs along this border down toward the crest of the ilium. When more room is needed on account of the narrowness of the iliocostal space, the incision may be prolonged by curving it outward and downward in the direction of the anterior superior spine of the ilium. These incisions are the types generally used at present. Some surgeons, however, prefer to cut obliquely along the lower border of the

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twelfth rib, *i. e.* Küster,[8] Lobstein,[9] and Championniere,[10] and several other operators. In each instance this incision is favored by these authorities because it adapts itself to the further steps of the operations employed by them.

11. The Part of the Kidney Used in the Fixation.—In this respect nephropexies present the greatest possible varieties of types, each operator often not only having his own modification, but from time to time, as experience teaches him, modifying his own technic. It would be useless to describe separately in detail all the methods of preparing the kidney for fixation which have been employed since Hahn's first operation, and I shall, therefore, confine myself to a brief consideration of the "type-forms," *i. e.* the more striking variations.

The parts of the kidney used for fixation by different operators have been as follows: (1) The fatty capsule; (2) the fibrous capsule; (3) the parenchyma; (4) a combination of two or more of the preceding with or without decapsulating the kidney.

In the early operations, Hahn fixed the kidney by means of the *fatty capsule alone*, but it was found that this method gave only temporary relief, and that kidneys thus treated became detached in a short time. Hahn himself set about to improve his own technic from the start. His first modification was to split the adipose capsule and to separate a part of it from the posterior surface of the kidney, and then to introduce and suture this portion into the wound. He also suggested that the sutures be continued further down below the kidney, giving the organ a better support below than his original operation. The original operation of Hahn, suturing the capsule to the lumbar wall, was soon abandoned, even by Hahn himself, and to-day it has been universally rejected for more secure methods of fixation.

The first operation, in which the sutures included *the fibrous capsule in addition to the fatty capsule*, was performed by Hahn at the suggestion of Bassini[11] in 1882, while the first operation in which the needle was passed through a portion of *renal parenchyma* is credited to Delhaes.[12] Newman[13] of Glasgow employed a similar technic, but passed his sutures through the fatty capsule, the fibrous capsule, and the parenchyma, and since then a number of operators have followed his example. Gradually, however, the fatty capsule was relied upon less and less as a means of fixation, and within the last twelve years but few operators have included it in their sutures. Angerer,[14] in 1891, and Bazy still employed this technic. Bazy[15] passed his three catgut sutures through the capsule and superficially through the parenchyma, and attached them to the eleventh intercostal space, massing the adipose capsule under the lower pole of the kidney. This massing of the fatty capsule as a means of support from below has been since then emphasized as useful by Noble.[16]

The *fibrous capsule*, with or without the parenchyma, next came in for the greater part of attention as a point of attachment for the fixation-sutures. But few surgeons pass their sutures through and under the unopened fibrous capsule alone, without first incising or reflecting it, and without going through the parenchyma, Kellog's method being one of the few instances of such a practice. Most operators who pass sutures through the unopened fibrous capsule also pass them through a portion of the parenchyma. The operators who follow this last-mentioned type of technic are too numerous to mention, and for some years have constituted the majority of surgeons who have performed nephropexy. Among the prominent operators who used this method in some form were Duret, Guyon, Albarran, Henry Morris, Treves, Küster, and Keen, each surgeon modifying the exact disposition of the sutures and their depth of penetration to suit his own conception of the mechanism of kidney support. In order to secure better adhesions, some surgeons who follow this method scarify or cauterize the fibrous capsule in the area that comes into contact with the lumbar wall. Bruce Clarke[17] scrapes the surface of the kidney before drawing the sutures, while Zatti[18] cauterizes the fibrous capsule with the solid stick of silver nitrate.

The realization of the fact that sutures alone cannot be relied upon for the permanent fixation of the kidney in the lumbar fossa was evolved from the gradually accumulating experience of various operators, and within recent years a number of methods of nephropexy have been introduced in which, in addition to sutures, *adhesions were formed artificially between the kidney parenchyma and the muscles of the lumbar wall.* This was accomplished by the introduction of a maneuver known as decortication or stripping of the fibrous capsule from a portion of the kidney, especially from that portion which comes into contact with the parietes.

Jordan Lloyd,[19] an English surgeon, was the first to practise the procedure of decortication in nephropexy. He "purposely stripped off a portion of the capsule over an area one inch in diameter, and then secured the kidney to the lumbar tissues" by two catgut sutures introduced through the fibrous capsule and parenchyma close to the edge of incision.

Gradually, the denudation of larger areas was attempted, at first in animals by Tuffier,[20] who found that the harm resulting to the kidney from such a procedure was not appreciable, while the adhesions which form between the denuded parenchyma and the lumbar wall were firmer, more vascular, and more permanent than those which form between the fibrous capsules of undenuded kidneys and the loin tissues. Tuffier's experiments showed that the fibrous capsule interferes with the formation of adhesions, and that when it was removed the kidney grew so firmly glued to the parietes that it ruptured before the adhesions were torn. While decortication since then has been adopted as an essential feature of fixation by a large number of surgeons, there are still some authorities[21] of the first rank who consider such procedure useless.

The methods of decortication are numerous, but they may all be divided into two main groups: (1) Those involving the passage of sutures through the capsule and also through a portion of the parenchyma. (2) Those involving the passage of suture through and beneath the capsule alone.

The list of surgeons who, through their writings, show that they fix the kidney by passing sutures through the fibrous capsule and the parenchyma after decorticating a variable portion of the organ includes the names of Lloyd[22], Tuffier,[23] Rose,[24] quoted by Wolff; Hahn,[25] quoted by Frank; Jonnesco,[26] Courvoisier,[27] Terrillon,[28] Tricomi,[29] Schiassi,[30] and Von Torõk [31]

The principal modifications of the fixation methods that involve passing sutures through and beneath the fibrous capsule alone after decorticating a portion thereof, are those of Newman,[32] quoted by Morris,[33] Jacobson,[34] quoted by H. Morris; Lane,[35] Law,[36] quoted by Morris;[21] Edebohls,[37] Selmi,[38] A. B. Johnson,[39] quoted by Edebohls; Baldwin,[40] Montgomery,[41] and R. T. Morris.[42]

The variety of operations which come under this particular heading is very great, simply because there is an almost infinite variation possible in the size, shape, and position of the fibrocapsular flaps

and in the method of introducing sutures into the reflected portion; the unreflected portion, or into the edge of reflection of the capsula propria. Some surgeons, *i. e.* Rose, denude the entire kidney, while others, *i. e.* Newman, decorticate a strip along the outer border of the organ not wider than a third of an inch. A variety of geometric figures has been employed in planning the areas denuded. An example is the operation of Arbuthnot Lane,[35] who makes radiating incisions and raises ten triangles on the posterior surface of the kidney and sutures them in a complex manner to the lumbar incision. A number of surgeons, *i. e.* Jacobson, Edebohls, etc., usually strip one-half of the anterior and posterior surfaces, reflecting their flaps from a longitudinal incision along the outer edge of the kidney.

The position of the sutures and their direction have undergone so many variations that it is impossible to give even the chief ones.

III—The Material Used in the Fixation.—(*a*) Sutures: (1) Catgut: (2) chromicized catgut; (3) kangaroo tendon; (4) silk; (5) silver wire.

(*b*) Other material: (1) Muscle tendon (quadratus lumborum (Sottocasa); erector spinæ (Veuillet); (2) gauze strips and packing (Senn, Deaver, Myles, Riedel); (3) periosteum of a rib (Derocque); (4) drainage tubes (Fischer, Beyea).

This list shows at a glance that almost every conceivable material has been employed in the fixation of the kidney. Chromicized catgut, lasting forty days, is now used by most surgeons in these operations, especially by those who decorticate and do not pass sutures through the renal substance. Silver wire is used by Küster[43] and by a few other surgeons. Catterina[44] probably outclasses all other operators for the oddity of his method of nephropexy. He "found it convenient and effective to imprison the kidney in a net or cage of silver wire, which he suspended from the twelfth rib," and claimed that no injury results to the kidney or the surrounding tissues from this procedure. Witzel[45] fastens the kidney by means of silver wire sutures to a net of the same material placed in the superficial fascia of the loin.

Operations without the use of sutures have been advised by a considerable number of surgeons, but are not looked upon with favor by most men doing renal surgery. Deaver[46] of Philadelphia exposes the kidney, deprives it of its fatty capsule, scarifies the fibrous capsule, and passes two bands of gauze in front of the poles of the organ; replaces the kidney and packs the wound with gauze, tying the ends of the bands over the packing. He renews the dressing in eight days, and healing usually takes place by granulation in five weeks. Deaver's operation was a modification of the method published by Senn[47] in 1897. A combination of the suture operation and the method that employs gauze tampons is that of Riedel[48], which does not find many followers on account of its complexity and the long convalescence following it. A similar combined operation is that of Jaboulay[49], and Myles[50] uses simple denudation and tamponade.

Muscle tendons have been employed in fixation by two operators, Veuillet,[51] suggested the use of a thin strip of the erector spinæ, and Sottocasa[52] a portion of the quadratus lumborum for this purpose, sewing this bundle into a furrow made in the convex border of the kidney by cutting through the fibrous capsule.

The periosteum of the twelfth rib has been made the means of suture by Derocque[53] after having resected the rib, but this procedure involves the danger of injuring the pleural sac or the lung.

Finally, bone drainage tubes have been inserted and sewn into place in such a way by Fisher[54] as to support the kidney, and rubber tubes were looped around the poles of the kidney by Beyea[54] for the same purpose.

IV—The Part of the Parietes Used in the Fixation.—In this respect nephropexies vary as follows: The sutures may be fixed to: (1) the lumbar wall in its entire thickness; (2) the lumbar muscles without the skin and superficial fascia; (3) the twelfth rib; (4) the eleventh intercostal space.

The early operators, and many of the later ones, passed their sutures through the entire thickness of the lumbar wound. Of late years a number of surgeons began to bury their sutures under the skin and fasciæ, tying them over the muscles of the lumbar wall.

The twelfth rib and the eleventh intercostal space have also been made the point of attachment of renal suspension sutures, for the first time by Ceccherelli[55] and later by De Paoli.[56] Ceccherelli passed four catgut sutures through the upper poles of the kidney and looped them over the twelfth rib. De Paoli cut through the last rib, thus gaining space upward, and attached the kidney by means of a number of sutures passing through the adipose capsule to the last intercostal space.

The Author's Technic.—The technic used by the author at present was spoken of by him for the first time before the Alumni Association of the City Hospital, November, 1901, in the course of a discussion on movable kidney; again at the April meeting of the same association. It was demonstrated at the October, 1902, meeting of the Harvard Medical Society of New York and at the November, 1902, meeting of the American Urological Association, on which occasions the subject was presented with illustrative cases.

In working out the technic which I am about to describe, I have been guided by the following principles, which experience and the study of the literature of the subject have taught me to regard as the rational basis of an efficient and safe nephropexy.

Principles of Nephropexy.—(1) The kidney should be fixed in as nearly its normal position as possible. (2) It should be fixed in such a manner that it subsequently does not (*a*) sink in the vertical plane, (*b*) rotate on the vertical axis. (3) The kidney may, however, be allowed to turn to a certain extent on its horizontal axis, such a rotation being normal with each respiratory act, according to Küster.[57] (4) The permanence of the fixation should not be made dependent on sutures, no matter what suture material be employed, but upon firm adhesions between the kidney parenchyma and the lumbar wall. (5) The material used for suture should be one that holds long enough to allow adhesions to form and yet is ultimately absorbed without injury to the parts. (Chromicized gut is the only material that corresponds to these requirements.) (6) The operation should be as simple as possible; should include as few stitches as possible, and should take the least possible amount of time.

Comparatively little progress has been made, with all the modifications of nephropexy, in securing the kidney in its normal position. Some operators who have contributed to the literature of the subject declare frankly that they anchor the kidney in preference in a position that appears convenient to them, believing that the functional result is just as good in the end as when the kidney is fixed in its original place. These operators fix the kidney in the iliocostal space, midway between the last rib and the iliac crest. They make no attempt to secure the organ in its normal position, with the twelfth rib

and the eleventh intercostal space overlapping its upper third.

The advantages accruing from the fixation of the kidney in its normal position are, in my opinion, so great that it is worth while taking pains to

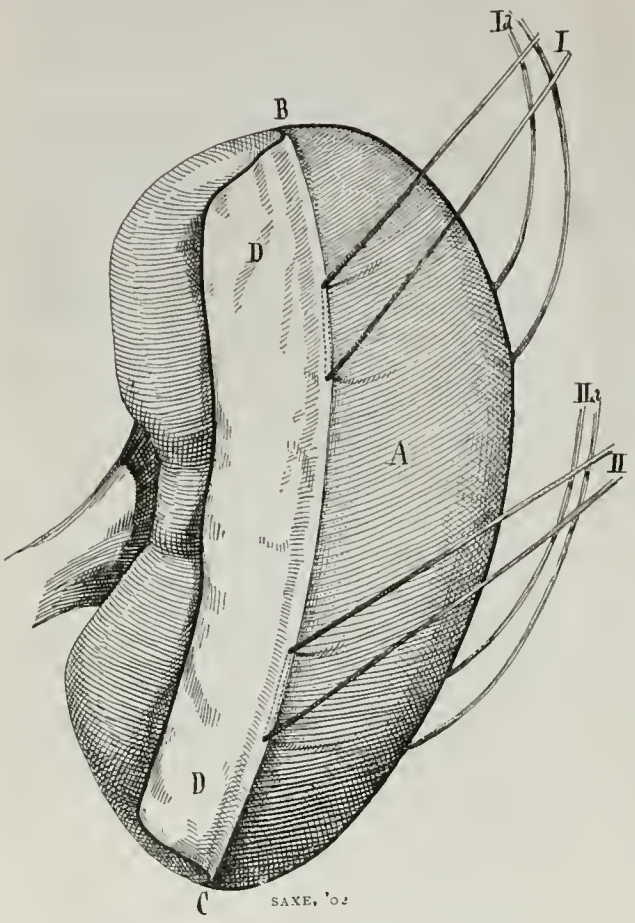

Fig. I.—Shows the posterior aspect of the right kidney, the outer half of whose posterior surface (A) has been denuded of its capsule up to a line (B C) where the capsule has been reflected inward like the lapel of a coat (D D). The posterior retention sutures I and II are inserted into the reflected edge, as described in the text; running through both layers of the capsule, under and parallel to this edge along the dotted lines. The anterior retention sutures Ia and IIa appear in the next plate.

secure this object as nearly as possible in planning the technic of the operation.

In many of the modern methods two errors are, to my mind, made as regards the normal position of the kidney: (1) That they fix the organ below the renal fossa. (2) That they attach it to the parietes with its convex border pointing almost backward instead of outward and slightly backward, as this border normally points. Both these errors I have endeavored to avoid in the operation which I have been performing of late and which I am about to describe below.

A consideration of the normal position of the kidney will at once bring out the differences between this position and that assumed by the kidney after fixation by the methods in vogue with many surgeons at present.

The kidneys are situated in the loins between the transversalis fascia and the peritoneum, and are separated from the spine by the psoas. Their poles correspond in the average case to the level of the lower border of the eleventh dorsal vertebra and of the upper border of the third lumbar respectively, the right kidney being often, though not always, slightly lower than the left. The upper poles approach each other slightly more than the lower. The horizontal axes of the kidneys form an angle with the sagittal plane of about 60°, opening backward, the apex of this angle being in front of the center of the first lumbar vertebra. Certain variations, though not extensive ones, occur normally in this angle.

The extent to which the eleventh and twelfth ribs cover the upper part of the kidneys varies with the obliquity of the ribs and the angle of approachment of the upper poles. According to Luschka,[58] two-thirds of the kidney are covered by the eleventh and twelfth ribs, while Pausch, quoted by Küster,[59] says that the kidney is divided into two equal parts by the twelfth rib.

A kidney which is fixed in the manner adopted by the operators referred to is, therefore, very far from being in its normal position.

The principal feature of the technic employed by me is the decortication of one-quarter of the circumference of the kidney, the quarter selected being that nearest to the convex border on its posterior surface. The kidney is so sutured then to the parietes, that it not only remains quite near its normal level, but also is attached at a normal angle in its vertical axis, *i. e.* with the convex border pointing outward and slightly backward.

Description of the Technic.—The ordinary posterior vertical incision already described is made. The kidney is freed from its fatty capsule, the redundant part of which is trimmed away especially at the posterior surface of the kidney, and the organ is brought out of the lumbar wound. An incision is now made through the fibrous capsule, from the upper to the lower pole, over the convexity of the kidney. The fibrous capsule is separated from the parenchyma on the posterior surface of the kidney beginning at the convex border until one-

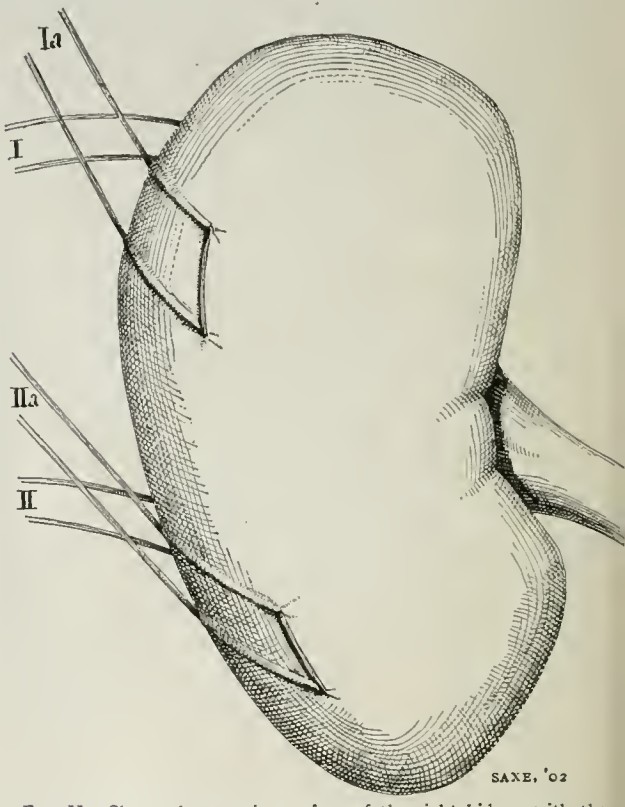

Fig. II.—Shows the anterior surface of the right kidney, with the anterior retention sutures Ia and IIa passing underneath and over the capsule at a distance of three-fourths of an inch from the cut edge, thus obtaining a firm hold on the fibrous coat. I and II are the posterior anchoring sutures shown in Plate I.

half of that surface is bare. The anterior surface is left covered with fibrous capsule. The posterior abdominal wall for about an inch on either side of the wound is now rubbed with "adhesion-promoters," gauze, or brush to allow the denuded portion to come into contact with a part of the wall that will easily adhere.

Two retention sutures of chromicized catgut are now passed through the peeled-back capsule at the point of reflection, the upper suture at the junction of the upper and middle thirds of the kidney; the lower at the junction of the lower and middle thirds of the organ. In passing these posterior

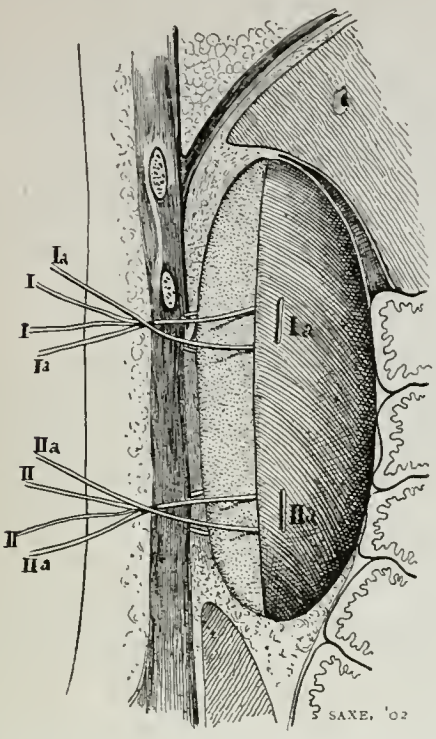

FIG. III.—Shows a vertical section of the body at a point just outside the convexity of the kidney with the anchoring sutures lying loose. It is easy to see how the posterior surface will be pulled into place when the sutures are drawn up. I and II are the posterior, Ia and IIa the anterior sutures.

sutures the needle is inserted near the edge of reflection, including *both layers* of the capsule at that point, passing under the layer still adherent to the parenchyma, *i. e.* between the kidney substance

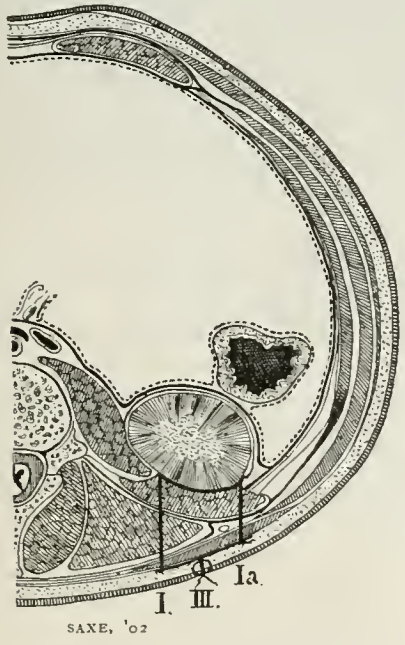

FIG. IV.—Transverse section. Kidney held in place by anchoring sutures tied under skin. I and Ia anchoring sutures, and III skin suture.

and the capsule, for three-quarters of an inch, and emerges through the outer reflected layer, carrying its strand of chromicized catgut (Fig. I). In this way both layers contribute to the support of the sutures, securing them doubly against tearing out. The ends of these sutures are held apart in pairs by means of clamps outside the wound.

The two anterior retention sutures are next inserted at levels corresponding to those of the posterior set, as shown in Fig. II. The suture is threaded to a blunt needle, which is passed under the edge of the cut capsule to a point situated three-quarters of an inch from this edge on the

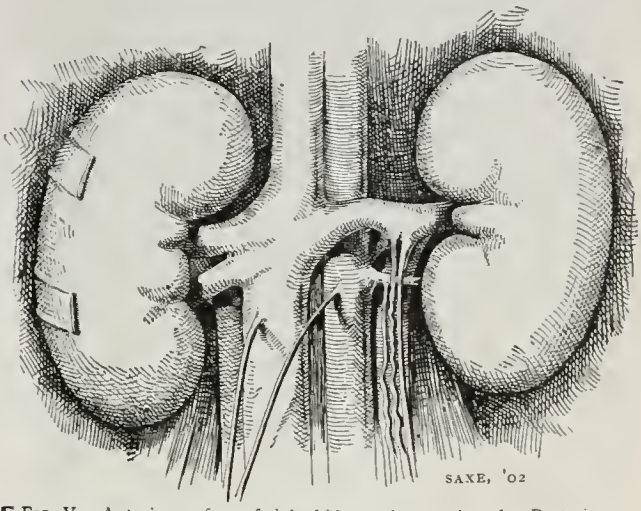

FIG. V.—Anterior surface of right kidney when anchored. Posterior layer of parietal peritoneum and other viscera have been removed.

the anterior surface. There it pieces the capsule, and then passes *over* the capsule for the space of three-quarters of an inch, vertically; then again pierces the capsule from without inward, and running *under* it emerges at the free edge of the fibrous coat, at the convexity of the organ.

The upper posterior and anterior sutures are then passed through the muscles and fasciæ of the loin, the former three-quarters of an inch to the inner side of the incision, just below the twelfth rib, and the anterior in a corresponding position on the outer side. The lower sutures are now passed through the muscles and fasciæ in the same manner

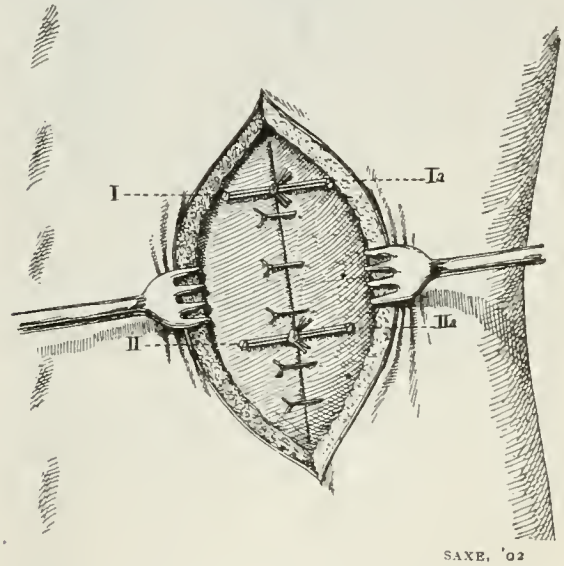

FIG. VI.—Shows the gaping skin incision in the right loin, with the superficial fascia and muscular planes beneath united by fine interrupted sutures. I and II are the knotted ends of the posterior anchoring sutures, which have been drawn and tied tightly over the muscles. Ia and IIa are the knotted ends of the anterior sutures which have not been drawn so tightly as the posterior ones. The ends of the upper set and those of the lower set of sutures are tied together over the muscular wound.

as the upper, occupying positions corresponding to those in which they were placed in the kidney capsule. The muscular edges of the abdominal wall are then brought together by means of the requisite number of interrupted sutures, to insure good approximation. The upper and lower posterior retention sutures

are next tied over the muscular wall, thus bringing the middle vertical part of the back of the kidney firmly against the parietes. The upper and lower anterior sutures, are tied over the muscles with just enough traction to support the kidney at the outer part of the decapsulated area. The loose ends of the upper anterior and upper posterior sutures are now tied together over the muscular incision (Fig. VI), and the ends of the lower sutures are tied in the same way. Finally, the skin layer of the incision is closed with three or more interrupted sutures, and the usual dressing is applied (Fig. VII).

The chief point in the last stages of the operation is to keep the kidney snugly against the lumbar wall, as shown in Fig. IV, by means of the upper and lower posterior sutures, which must be knotted over the muscles more tightly than the anterior ones. In Fig. III we see a vertical section through the body, just outside of the convex border of the kidney. In this sketch the sutures are slack, because they have not yet been tied. It will be readily seen that when they are pulled taut the kidney will be very nearly brought into its normal position against the muscles, with its convex border pointing out-

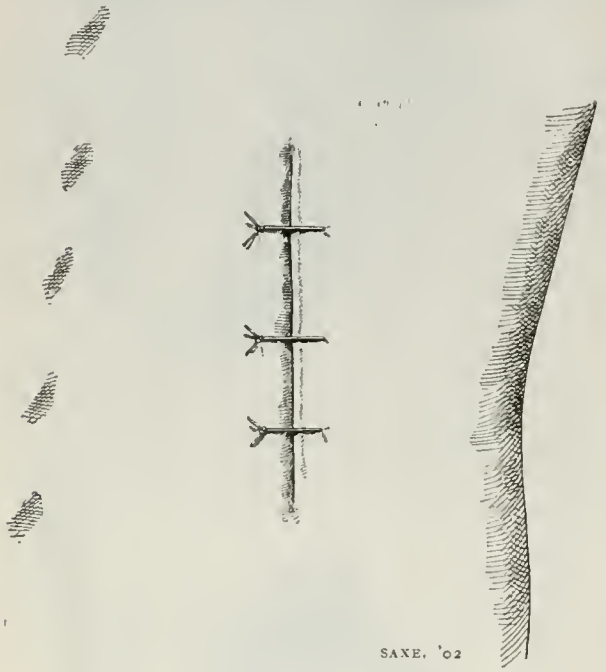

FIG. VII.—Skin incision brought together by sutures.

ward and slightly backward. Fig. V shows the anterior aspect of the same kidney with the anterior sutures running under and over the capsule as described above.

Summary.—I have outlined in detail the various types of operation employed since Hahn in the fixation of the kidney, classifying them according to certain leading features, and have endeavored to show how a kidney can be fixed in as nearly its normal position as possible.

I denude but one-half of the posterior surface of the kidney, that nearest the convexity, leaving the anterior surface intact. I pass my sutures in such a manner through and under the reflected capsule that they hold the organ securely during the formation of adhesions that goes on after the operation, and I tie my sutures over the muscles and fasciæ in such a way as to bring the kidney into close apposition with the parietes, as nearly as possible at the normal level, and in its normal horizontal angle, with the convex border pointing outward and slightly backward.

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INTRANASAL OBSTRUCTION AND ITS TREATMENT.

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This subject is one of great interest to the general practitioner of medicine and the specialist who has to do with the treatment of the diseases of the throat, nose, and ear.

The nose until recent years has been regarded as a comparatively insignificant organ and one that had little connection with the vital functions of the human mechanism. In times gone by if one had a deformed nose it was considered regrettable from a purely æsthetic point of view by both the possessor and his medical adviser, and little thought was given to the possible injury it might cause to the general health of the owner. Happily, to-day, the necessity of nasal breathing is recognized as being of the very first importance in childhood and early youth, not only in promoting the general health, but in developing and preserving the special senses of hearing, smelling, and tasting.

Nasal obstruction implies mouth-breathing, and it is to the latter evil that one can trace many of the ills of childhood, and much of the unhappiness of adult life, as witnessed in a subject with a poorly-developed physique, who has numerous petty ailments, and whose special senses have been dulled or lost. Mouth-breathing, in the opinion of the speaker, does more to retard the proper physical development of the children of this country than any one other assignable cause.

It seems to be of little use to surround an infant with the luxuries of the times, such as well-ventilated apartments, good food, and proper clothing, if the child is to be allowed to continue breathing through the mouth, for it is being denied a most important thing to its welfare, properly inspired air.

The functions of the nose with its mucous membranes are several, and should always be borne in mind when the organ is under consideration. Foremost of these is to provide a space for the passage of a sufficient quantity of air to distend the lungs. As the volume of air passes through the nasal chambers it comes in contact with the wet membranes and is relieved of many impurities, and at the same time it gathers moisture and heat. Within the nose, in the upper third, are found the delicate terminals of the olfactory nerves, so essential to the keen enjoyment of many of the good things of life. The nose also plays an important rôle in tone production by giving additional resonance to the voice.

A function of the nose second only in importance to that of the passage of air, is that of providing a channel for the drainage of its accessory cavities. Any marked interference with the flow of mucus from these air spaces causes serious, and at times fatal, trouble. It should be remembered that the mucous membranes of the nose and accessory sinuses secrete, under normal conditions, about one pint of fluid each twenty-four hours.

The amount of obstruction found in the nasal chambers varies from a slight one that merely prevents a thorough clearing of the nostrils by the act of blowing, to that of a complete stenosis of both nares. The symptoms arising from an obstruction of the nasal chambers depend upon the extent of the pathological changes of the tissues or the amount of deformity of the nasal septum. In mild cases the principle complaint made by the patient, if an adult, is the accumulation of mucus in the nasal chambers and nasopharynx, in order to dislodge which requires the violent blowing of the nose and the special effort known as hawking. This is a disgusting and offensive habit, and often, in itself, causes the sufferer to seek relief. Such a condition, if left alone, may progress until the habit of mouth-breathing has been established, when the quantity of the secretions is increased and their character changed; frontal and occipital headaches become more or less constant; the oropharynx is dry and irritable, producing a cough, and a chronic catarrhal inflammation of the Eustachian tubes and larynx results.

If the accessory sinuses are involved in the general catarrhal inflammation, and their secretions are retained long enough to cause pus formation, extensive cutting operations will be necessary before the patient obtains relief from prolonged misery and suffering.

In infants and children the usual train of symptoms is that of a discharge from the nostrils, mouth-breathing, snoring and restlessness at night; the complexion becomes white and pasty in appearance; the facial bones remain undeveloped from the lack of internal air pressure, and if the child is old enough to attend school, is very likely to be backward in its studies, and thought to be generally dull and stupid.

The causes of nasal obstruction are many, and it will be the purpose of the speaker to enumerate them and to suggest methods of treatment, surgical or otherwise, that have been found most useful to him in correcting the different forms of this most common condition.

Acute and Passive Hyperæmia.—The simplest form of nasal obstruction is that accompanying an acute rhinitis, which is only transitory and yields to the ordinary treatment of a cold in the head. Repeated attacks of acute rhinitis, however, produce an engorgement of the erectile tissues of the turbinated bodies that may last indefinitely. This condition should be treated by palliative methods; rest should be given to the inflamed membranes by applying soothing and protective oily sprays in the form of liquid albolene, until the relaxed tissues have had an opportunity to return to their normal condition. Usually after a few days' treatment this form of obstruction will disappear and not return until the patient is again exposed to cold or some other irritating cause.

Foreign Bodies.—Two simple forms of nasal obstruction, not requiring surgical interference, may be mentioned briefly, one of which is produced by the accumulation of crusts and changed secretions in the nasal chambers of children who have not been taught to blow their noses, and the second is caused by the presence of other foreign matter. In the former condition, spraying the nasal cavities with a mild alkaline solution two or three times a day, and afterward with an oil, will correct the

trouble. Obviously the treatment for the second form of obstruction is the removal of the foreign body, which usually consists of a shoe button, small pebble, dried bean, or a rhinolith. This is most easily accomplished by spraying into the stenosed side a four-per-cent. solution of cocaine hydrochlorate, allowing it five minutes in which to anæsthetize and shrink the mucous membrane, and then, by means of a strong, angular, toothed nasal-forceps, remove the offending article.

Rhinitis Hypertrophica.—After a long period of passive hyperæmia of the nasal mucous membranes, there is produced a true hypertrophy of these and the underlying structures. This condition, known as rhinitis hypertrophica, is most easily determined by the use of a blunt pointed probe, which is pressed firmly against the suspected tissue; if the indentation made by pressure fills up rapidly as soon as the probe is removed, the tissues are not hypertrophied but simply engorged. If the tissue under inspection offers a considerable resistance to the pressure of the probe, and afterward sluggishly resumes its former contour, we undoubtedly have to deal with a true hypertrophy. Should any doubt exist as to the character of the swollen tissues, an application of cocaine will be found of great diagnostic value, as it will not materially reduce in size a true hyperplastic deposit.

The inferior turbinated bodies are more frequently affected by hypertrophic changes than any of the other parts of the nasal chambers, although the anterior ends of the middle turbinates occasionally become enlarged in the same way.

In the mind of the speaker there is nothing in the way of treatment equal to the judicious application of the electrocautery, for the destruction of this new deposit of tissue. Much has been written of late decrying the use of the cautery in the reduction of hyperplastic tissue in the nasal cavities, but after an experience of many years we know of no method so satisfactory. One can limit its action with certainty, do all that is required to be done and with less inflammatory reaction than by the use of any of the caustic acids so much praised by some writers.

The method of preparing for an operation in the nose with the electrocautery, as pursued by the speaker, is as follows: The nasal chambers are sprayed thoroughly with an alkaline solution, to insure a clean surface upon which to make an application of cocaine; the patient is then requested to blow the nose gently, so that all excessive moisture will be removed; this is followed by a scant spray of a ten-per-cent. solution of cocaine hydrochlorate, into the nostril to be operated upon. As soon as this act is completed, the patient's head is tipped forward to prevent the cocaine from flowing into the nasopharynx and, by paralyzing the velum palati, causing uncomfortable gagging and nausea. The next step is to place in contact with the surface to be cauterized a pledget of cotton that has been dipped in a solution of cocaine of the same strength as was used with the spray, and this is allowed to remain *in situ* for five minutes. After the cotton has been removed the operator will find that the anæsthesia is complete, and a much increased space in which to work has been provided by the depletion of the tissues of their blood supply.

The method of local anæsthesia just described is the usual one for all operations in the nose that do not require a general anæsthetic.

In order to secure a bloodless operation, the cautery point should be brought to a bright cherry heat only, and the electrode should be kept in constant motion all of the time that it is in apposition with the tissues. If the electrode is permitted to become stationary, it will bury itself in the eschar and detach the latter when an attempt is made to release it. This not only causes a hemorrhage, but deprives the wound of a thoroughly aseptic covering.

In cautery operations care should be taken not to touch other and opposing surfaces than those intended to be destroyed, and this can be avoided by not turning on the electric current until the tip of the electrode is in the proper position.

In the use of the cautery for the reduction of these deposits of connective tissue as little of the surface of the membrane as possible should be destroyed, and this can best be done by making parallel lineal incisions in an anteroposterior direction through the soft tissues, down to the underlying periosteum of the turbinates. Make the depth of the incision compensate for the narrowness of the wound. If this method is not observed a considerable area of the mucous glands is obliterated, and the result will be an unduly wide cicatrix upon which crusts will form, much to the discomfort of the patient.

Occasionally other points of hypertrophy than those on the inferior turbinates will demand attention in the nose. If these are isolated spots on the nasal septum, or floors of the nasal fossæ, they may be destroyed by lightly touching with the cautery. Under no circumstances should hypertrophy of the middle turbinated bodies be treated with the cautery, as by extension through the ethmoidal cells, fatal inflammation of the brain may ensue. An hypertrophy in this location, if of sufficient importance to require interference with, is best removed by means of the cold-wire snare.

If the routine described is intelligently carried out, the results will be satisfactory to the patient and surgeon, inasmuch as there will be no pain inflicted and no bleeding.

Beyond spraying a one-per-cent. solution of oil of eucalyptus, in liquid albolene, into the nostril that has been operated upon, the speaker does not believe in post-operative dressings in the nose. Many surgeons plug the site of operation with cotton or gauze; this seems to be an unnecessary and pernicious habit, as it prevents drainage from the wound, is uncomfortable for the patient and whenever the packing is removed it is likely to start bleeding.

The patient is cautioned not to blow the nose violently for several days after the operation, to prevent a possible disturbance to the protecting eschar.

The wound caused by the application of the cautery is painless and heals readily in from two to three weeks; the patient should be seen every other day and sprayed with an alkaline solution for the sake of cleanliness, and should be supplied with a hand-atomizer, containing a one-per-cent. solution of eucalyptus in liquid albolene, with instructions to use it at least four times a day.

The eschar produced by the cauterization should not be disturbed until sloughing of the injured tissues has ceased; this process is usually completed in from five to seven days.

Ecchondrosis and Exostosis of the Nasal Septum.—The cutting operation most frequently performed by the nasal surgeon, is the one for the removal of a spur on the septum. A spur in this location may be a cartilaginous outgrowth from the anterior half of the nasal partition, in which case it is known as an ecchondrosis, or it may be an abnormal growth of bone springing from its posterior half, when it is described as an exostosis.

Spurs of the nasal septum are generally due to a chronic catarrhal inflammation of the mucous mem-

branes and their underlying structures, but they may be the result of a reparative process when a fracture of the bone or cartilage has occurred.

To the speaker's way of thinking the most important thing to be considered in connection with the subject of nasal spurs is: When should they be removed?

That anyone who can illuminate the nasal fossæ can also, as a rule, detect irregularities of the septum, explains in a measure the great number of unnecessary operations that have been done in the nose, to the past discredit of rhinology.

For the guidance of those who, through inexperience, are in doubt as to when they should operate, the following rules are laid down:

1. When a septal spur seriously impairs the respiratory function of a nasal fossa, it should be removed.

2. When a septal spur impedes the drainage from an accessory sinus or a nasal fossa, it should be removed.

3. When a septal spur is in contact with opposing structures, it should be removed.

If one limits one's surgical interference to the conditions just described, one will not be open to criticism, and will probably feel the satisfaction of having relieved the symptoms for which the operation was performed.

Septal spurs, whether composed of cartilage or of bone, are best removed by means of the nasal saw. There are many patterns of this instrument in use, such as angular saws, straight ones, those that are detachable from the handles, and saws that cut only on the forward stroke, while others cut both ways.

The speaker, in selecting a nasal saw, gives the preference to one that is made in a single piece and is straight, has a moderately stiff blade and a double row of coarse teeth on the under side, set to cut on both the forward and backward strokes of the instrument.

After cocainizing the site of operation, and assuring oneself that the saw is absolutely aseptic, there are no preparations to make beyond wrapping half a dozen carriers with small pledgets of cotton, to be used in wiping away blood-clots that form during the progress of the work.

In engaging the saw with the spur to be removed, it is advisable to cut from above downward, when practicable, as in this way more power can be exerted and the tissues severed more rapidly. It is important to complete the operation as quickly as possible and without removing the saw, for with the blood flowing freely the patient is likely to become somewhat demoralized and to retard the progress of the operator.

When the growth has been cut through it will be found lying in the bottom of the nasal fossa, and sometimes attached by a shred of membrane, from which it may be freed by the use of a pair of nasal forceps.

After the bleeding has stopped the nose is gently sprayed with eucalyptus and albolene, and a piece of cotton is tucked loosely into the vestibule of the nostril to prevent the dripping of blood while the patient is returning home.

The operation may be made a bloodless one for the time being by the use of a two-per cent. solution of the suprarenal extract, or of a solution of adrenalin chloride, 1-1 000. This method may be of advantage to the inexperienced operator, as it permits him to see the progress of his labor, but the hemorrhage, when it does come, a few hours later, is likely to be much more profuse than as if ischæmia had not been induced.

The preference of the speaker is to deal with the hemorrhage at the time of the operation at his office rather than at the patient's home, perhaps in the middle of the night. There is no doubt but that secondary or delayed hemorrhages are more frequent in nasal surgery since the introduction of suprarenal preparations than ever before. In operations on the nose when these extracts are not used the bleeding occurs at the time, but ceases spontaneously in a short while, and beyond a slight oozing of blood until the patient retires that night, no difficulty is experienced.

If hemorrhage should persist after the operation, it can be controlled by throwing into the nose, with a syringe, a small quantity of hydrogen peroxide, or by tamponing the nostril with strips of gauze.

Deflections of the Cartilaginous Septum.—As causes of intranasal obstruction next in frequency to those already mentioned, the deflections of the cartilaginous septum are conspicuous.

Deflections of the septum are so common that it is the exception to find a nose that is not so deformed. When one considers the number of knocks and bumps that this prominent and yielding portion of the face receives in youth, it is not surprising that a straight and symmetrical one is rarely observed. According to many authorities, another explanation of these deflections is found in subjects who have a high palatine arch, which prevents, by space limitation, the proper expansion of the cartilaginous septum in its superio-inferior directions, thereby forcing it to bend to one side or the other.

There can be no doubt as to the great amount of injury to the general health and special senses that may be wrought by a much-deflected cartilaginous septum, and for this reason the deformity should be corrected as speedily as possible if sufficient room cannot be gained by the reduction of the soft tissues. The symptoms accompanying this condition are the usual ones of nasal obstruction, to which may be added the reflex phenomena of asthma, chorea, and spasmodic stricture of the œsophagus, and also the manifestations of rhinitis vasomotoria periodica (hay fever).

In classifying deflections of the cartilaginous septum for the purposes of operation, we are accustomed to divide them into two general groups. When the septum is curved to one side only and its surface in the obstructed nostril is smooth and rounded, it is regarded as a simple deflection. When the deflection is marked by a sharp angle at its apex, with a large hyperplastic deposit overlying it, or there is a combination of both the rounded and angular deformities, it is termed a complex deflection.

The same three rules as were laid down for the guidance of the operator in dealing with spurs on the nasal septum are applicable here, when the question of surgical interference arises.

The speaker does not believe that because a septum is slightly deflected, or is not symmetrical, that it must be operated upon. When, however, it has been decided that an operation is advisable, the method suggested by Asch, in 1890, will be found highly gratifying in its results. It has been tried in several hundred cases in the Manhattan Eye and Ear Hospital since 1891. These cases included all the varieties of deflections of the cartilaginous septum, and when the technique of the operation has been properly carried out, there have been no failures.

The following is a description of the Asch operation in detail, quoted from an article by the speaker in the Annual Report of the Manhattan Eye and Ear Hospital, 1896:

"The patient, lying on his back, having been

etherized to a point bordering on complete anæsthesia, his head is brought well over the end of the operating table, so as to be slightly dependent. This position of the head is necessary to facilitate the escape of blood from the nose and pharynx by gravitation, and to decrease the liability of its entrance into the larynx and trachea. The ether cone being removed, the head of the patient is held firmly between the hands of the anæsthetizer, and the operator introduces a little finger into the stenosed naris to determine the point of greatest convexity of the cartilaginous septum. If this is found impossible on account of existing adhesions between the septum and the lateral wall of the nasal fossa, a curved gouge is used to sever the obstructing bands of tissue. Having located the point of greatest deflection, the operator carries into the stenosed naris the non-cutting blade of the Asch angular scissors, and the other and wider blade into the opposite nostril. The incision is then made through the septum by approximating the handles of the instrument, and is accompanied by a snapping sound that is characteristic of the completion of the act. On the proper performance of this first incision is dependent, to a great extent, the result of the operation. It should be made parallel with the plane of the floor of the nose and through the point of greatest convexity of the septum. The hemorrhage is decidedly brisk from now on, but, as the patient is by this time only in the primary stage of anæsthesia, with a restoration of the reflexes, no danger of asphyxiation from inspired blood need be feared. The second incision is now made with the straight pair of scissors at right angles to the previous one and intersecting it as nearly as possible at its center. The patient is now turned over on his side and the accumulated clots of blood are allowed to flow from his pharynx and nasal fossæ; a little more ether is given, and after a return of the patient to his former position an Adams' septal forceps is introduced, one blade in either nostril, and each one of the four fragments of cartilage is seized in turn, separately, and subjected to a twisting motion sufficient to loosen its articulation. In this way all resiliency of the cartilage is overcome, and on passing a finger into the previously stenosed naris it will be found that all resistance has disappeared and the finger can be easily carried through into the posterior naris. If it is not perfectly free, the Adams' forceps should be re-introduced, and the refractory fragment subjected to the same process as before. If the resiliency of the cartilage is not thoroughly destroyed the object of the operation will be defeated.

"The amount of traumatism capable of being borne by the septal cartilage of the nose without untoward effect is simply astonishing, and for that reason one need not be timid about attacking it with vigor.

"When the previous step of the operation has been satisfactorily completed, one of the patterns of vulcanite perforated nasal tubes devised by Asch is then inserted in the formerly obstructed naris. Care should be used, in choosing a tube, to see that it is sufficiently large to hold the septum in the position desired, and, at the same time, it should not be of such proportions as to cause painful and uncalled-for pressure. A tube so large that it requires any considerable amount of force to place in position will surely cause an intolerable degree of pain to the patient when consciousness is regained, whereas one of a proper size will be worn without the slightest discomfort.

"After the introduction of the tube hemorrhage ceases, and the patient is put to bed for thirty-six or forty-eight hours. Twelve hours having elapsed since operation, the nasal chambers are irrigated with a warm borated solution at intervals of two hours; the temperature is taken three times daily, and a rise of from one-half to one degree is sometimes observed on the first and second days. The tube is removed at the end of the third day, the nasal fossæ are sprayed with a ten-per-cent. solution of cocaine to shrink the soft parts, and a thorough cleansing is given with a gentle alkaline spray.

"Usually there is considerable swelling of the intranasal tissues, but the tube is readily reintroduced, and the patient allowed to go about his usual pursuits; he should be seen every other day for some time, and after the first week be instructed to remove the tube himself, morning and night, for cleansing purposes. The tube should be worn for at least six weeks to give an opportunity for the thorough union of the parts.

"Inspection of the intranasal conditions for the first week after operation is apt to be somewhat disheartening to the operator, from the fact that there is a good deal of inflammatory reaction of the soft parts, and the overlapping of the segments of cartilage causes a decided impairment of the caliber of the naris. However, an occasional cleansing and spraying of the membranes with a solution of oil of eucalyptus in fluid albolene, and the mild pressure exerted by the nasal tube, soon induce an absorption of the redundant tissues.

"If there is an enormous ecchondrosis over the apex of the convexity, it may be advisable to saw it off either before or at the time the septum is fractured under ether; thickening to a moderate degree at this point will not require an operation for removal, but will be dissipated by the presence of the tube.

"The special instruments devised by Dr. Asch are an undoubted aid to the proper performance of the operation, not only allowing a quicker and neater execution of it, but a much more accurate placing of the incisions.

"Still, if one has not the instruments at hand, it may be done with a bistoury (using a finger in the patent nostril as a guide to the length of the incisions) and an Adams' septal forceps. In selecting an Adams' forceps, one with blades not more than an inch and a quarter in length, and that do not tend to converge at their distal ends, will be found most useful in grasping the fragments of cartilage."

Irregularities of the Bony Septum.—It rarely happens that the portion of the nasal septum composed of bone and formed by the vomer posteriorly and the perpendicular plate of the ethmoid superiorly, participates in the marked deflections that occur in the cartilaginous one with which it articulates anteriorly.

Deflections and deformities of the bony septum are generally congenital or the result of inflammatory processes, and are rarely due to traumatism. Fractures of the perpendicular plate of the ethmoid bone do happen as the result of severe blows on the nose, but the vomer mostly escapes the force of the concussion, as its anterior margin does not extend so far forward as do the other bones of the face.

Irregularities of the vomer can usually be overcome by the use of the saw, but if there is complete bony occlusion of the posterior nares it may be removed by tunnelling with the electro-trephine. The electro-trephine is a dangerous instrument in the hands of any one who is not an experienced operator in the nasal regions; it has great penetrative powers and works so rapidly in destroying tissue that unless one knows the anatomy of the parts thoroughly, one may do irreparable injury. In using the trephine its sphere of action should be

limited to the lower half of the vomer, and the cutting edge should always be directed backward and slightly downward, otherwise the cavity of the skull may be perforated.

Operations on the bony septum should be confined to that which can be done with the nasal saw or the electro-trephine. Fracturing the vomer with powerful forceps has led to fatal results by fissuring the walls of adjacent sinuses and causing uncontrollable hemorrhage at remote points from that at which the force was applied.

Abscess of the Septum.—One other condition of the septum, that of abscess, causing a temporary occlusion of the nose, should be mentioned, as it is capable of producing a very great and life-long deformity of the external nose. Abscess of the septum is usually the result of a direct injury to the nose (creating an extravasation of blood in the tissues lying between the cartilage and the mucous membranes), but it may appear as a late manifestation of syphilis.

There is no other affection likely to be mistaken for an abscess of the septum, for the patient gives, as a rule, a distinct history of traumatism, and when the nasal fossæ are inspected they are found to be occupied by a smooth, rounded, fluctuating, and painful tumor, springing from the fore part of the cartilaginous septum. The dorsum of the nose is likely to be reddened and swollen, and the patient complains of much localized pain of a throbbing character.

The ordinary treatment of an abscess, early incision and drainage, will prevent, in most cases, a great destruction of the cartilage and a consequent falling in of the nose. If the abscess is of syphilitic origin, constitutional medication is begun as soon as the pus has been evacuated.

Nasal Myxomata.—Nasal myxomata, or polypi, are in the majority of cases not true tumors, but hyperplasias resulting from inflammatory processes of the mucous membranes and the surrounding tissues.

There is perhaps no form of nasal stenosis so complete as that occasioned by the unrestrained growth of polypi in an old case in which both chambers are involved. In about 50 per cent. of all cases of polypi the growths are bilateral, and from their gelatinous composition and because they have their origin mostly from the upper part of the nasal fossæ (springing from the middle turbinated bodies and the middle meati) they will, if unmolested, truly fill the nose to overflowing.

From the fact that they can so entirely obliterate the breathing and drainage spaces, nasal polypi are capable of producing more serious damage to the immediate structures of the nose than any other benign pathological condition found in this region. As a result of the complete plugging up of the nose, we may have a purulent inflammation of the frontal, maxillary, sphenoidal and ethmoidal sinuses with destruction of their walls by necrosis.

Other symptoms of polypi than those ordinarily following an incomplete nasal stenosis are excessive sneezing, bronchial asthma, facial neuralgia, deafness, and a peculiar deadness of tone in the speaking voice that is pathognomonic of the disease, all of which conditions are aggravated during wet weather, on account of the hygroscopic peculiarities of these growths.

Nasal myxoma, although usually multiple in number, may manifest itself as a pendulous enlargement of the anterior end of the middle turbinated body, or most rarely from the septum or inferior turbinated body, in which case the symptoms are slight, and beyond a feeling of stuffiness and the sensation of a valve clicking in the nose on inspiration or expiration, the patient has little cause for complaint. In the majority of cases which we observe, however, the conditions are exaggerated even to the point where polypi are seen to be protruding from the anterior and posterior nares.

So far as the treatment of nasal polypi is concerned, it matters little how many there may be, except in regard to the time necessary for their removal. Most operators rely on the use of the cold-wire snare for the ablation of these growths, having discarded the idea of trying to shrink them up by the use of astringents or of destroying them with caustics. Another method that has rightly been relegated to the past is the removal of polypi by the indiscriminate use of cutting or tearing forceps, as it is an unscientific and inaccurate procedure, and often results in permanent injury to the nasal fossæ by causing extensive cicatricial adhesions.

Of the many patterns of cold-wire snare for use in the nose, the speaker prefers the one designed by Sajous, which is a modification of the well-known Jarvis instrument. This snare is very light in construction, easily handled, and is armed with a wire loop about three inches in length, which is sufficiently large to meet any requirements for the removal of nasal myxomata.

The principal object to be attained in an attempt to remove a polypus is to get the whole tumor with its pedicle and site of attachment, and this is best accomplished when the growth springs from the middle turbinated body in the following manner: The nasal chamber is anæsthetized as well as may be by the use of a spray of a ten-per-cent. solution of cocaine; the loop of the snare having been compressed laterally so that its short diameter measures about one-half an inch, is then introduced into the nostril, parallel with the plane of the septum, and carried back in this position until the tip of the instrument touches the anterior border of the growth, when the loop is made to turn and encircle it by manipulation of the shaft of the snare. The growth being surrounded by the loop, the latter is now carried high up by a slight jiggling movement until the tip of the snare is pressed firmly against the anterior end of the middle turbinated bone. The loop being in a correct position, it is drawn home rapidly by turning the milled-nut located at the proximal end of the handle, but during this process great care should be exercised to keep the beak of the instrument pressing firmly against the turbinate, otherwise the tendency will be for the loop to slip forward and the result will be incomplete.

If the operation has been properly performed the polypus will have been brought away whole, and with it the mucous membrane covering that area of the middle turbinate. Indeed, it is even desirable to include in the removal a portion of the spongy end of the bone itself, as it frequently is the seat of a necrotic process.

The operation as described should be repeated as often as necessary to clear the nasal chambers. It is not advisable to subject the patient to too much pain and nervous strain at one time, and when the nasal fossæ are completely blocked with polypi it is better to extend the operative work over a period of half a dozen sittings.

Although much has been written and said to the contrary, the removal of multiple nasal myxoma under cocaine anæsthesia is always a somewhat painful operation. This is explained by the difficulty one has in placing the cocaine on the surface

to be cut, which is high up in a fossa that is densely packed below with the growths.

Again it is the custom of the writers of textbooks to advise a slow operation with the cold-wire snare, they claiming that by extending it over a period of half an hour or more for the removal of one mass of polypoid tissue, the operation is made a bloodless one. The speaker's views are that the small amount of blood lost in the rapid excision of polypi is of minor importance, and as the agony is sooner over, it is to the best interests of the patient to complete the operation as speedily as possible.

Neither is it recommended that the region from which the polypi spring should be touched with the galvanocautery, or caustics, to prevent a recurrence of the growths. The surgeon's main reliance should be placed on his having done a sufficient number of thorough cutting operations to have removed the diseased membranes, which will, in time, be replaced by cicatricial tissue from which polypi will not grow.

313 Madison Avenue.

CASES OF MORPHINISM IN WHICH THE DRUG WAS IMMEDIATELY WITHDRAWN.

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Only a few years ago students were taught that the morphine habit must be broken off by degrees, and that its cure was always attended by untold suffering. Current textbooks still teach that severe symptoms will follow the sudden withdrawal of the drug. Being so fortunate as to have my patients in a hospital where I could completely control their treatment and watch them every hour if necessary, I determined to try the experiment of cutting off the drug at once.

As each patient came under my care I endeavored to win her confidence and to make her feel that she and I together would carry the day. I told her frankly that no morphine would be administered, but that she would not be allowed to suffer much. Each one expressed a desire to be cured of her habit. Hypnotism was not resorted to, but suggestion and a great deal of personal interest were freely used all through the treatment.

Case I.—Came under treatment May 24, 1901. She was an American, aged twenty-four years, weighed ninety-nine pounds. She claimed she contracted the habit while under the doctor's care for a broken leg. This statement is somewhat unreliable, as her first method of taking the drug was, in fiend parlance, "hitting the pipe." She was taking six to ten grains of morphine daily besides smoking a dollar's worth of crude opium. This being my first case, I waited to see what would happen. She sent for me in the evening and was evidently suffering greatly. Her pupils were dilated, she was vomiting, in a cold perspiration, extremely nervous and said she ached all over.

I gave her strychnine sulphate $\frac{1}{60}$ of a grain, hyoscine hydrobromate $\frac{1}{200}$ of a grain, codeine sulphate, $\frac{1}{4}$ of a grain, and suggested that she would pass a comfortable night. Water was also freely given.

No one watched the patient during the night. Next morning she complained that she had not slept well, but vomiting had ceased and she was free from pain. She was visited every morning and evening for a week and given the same dose with slight variations. At the end of the week she left her room and did light housework. Still somewhat nervous, her pains gone, and appetite good, she kept about. Strychnine $\frac{1}{60}$ to $\frac{1}{30}$ grain was given for another week. Then all treatment was stopped. In six months she gained thirty pounds. She remained with us a year, and was exceptionally well the whole time. She had been out now eight months, and we have heard from her or her parents each month. So far she has not relapsed.

Case II.—Came under treatment June 19, 1902. German girl, aged twenty-three years. Came to New York City with her parents when nine years old. Ran away at the age of fifteen years with an older girl, who took her to Chinatown. Here she learned to smoke Hop, and the habit mastered her for eight years. When she came to me she was smoking from one dollar to one dollar and a half worth daily.

Patient was emaciated, pupils dilated, pulse slow, no appetite, constipated, muscular tremors, tongue coated, nauseated, and in pain.

She weighed 109 pounds. She was put to bed and given strychnine sulphate $\frac{1}{60}$, hyoscine hydrobromate $\frac{1}{100}$, codeine sulphate $\frac{1}{4}$ of a grain.

June 20, A.M.—The same, except one-half the quantity of hyoscine. This was repeated on June 21 and 22. June 23, no medicine was given. I found her dancing in the evening and she told me how well she felt. June 24 and 25, the same treatment as on the 20th. July 3, hyoscine hydrobromate $\frac{1}{200}$, was given simply for variety. July 5, 6, 8, 9, 11, 18, 19, 21, 22, 26, and 28 she came to the office and was given one tablet of strychnine $\frac{1}{60}$. Aside from cascara tablets and water, this is all the medicine she has had. To sum up, this patient had in all ten tablets of hyoscine $\frac{1}{200}$, twenty-one of strychnine $\frac{1}{60}$, and seven of codeine $\frac{1}{4}$.

She is still with us and a good member of society. Her present weight is 142 pounds. She says she has no desire for the drug, and when I interviewed her a week ago she told me the same story of her former life that she did when she entered.

Case III.—An American, aged twenty-nine years. She contracted the habit in a New York City hospital, where she was being treated for a broken wrist. She had taken morphine ever since in increasing doses, that is, for ten years. When she came under my care she was taking twelve grains daily, and said this has been her average daily dose for the last five years. The general description of Case II applies here also.

August 10 she was put to bed and given strychnine, hyoscine, and codeine, one tablet of each. August 11 same treatment. August 12, strychnine only. The first day's treatment was repeated daily until the 21st; after this she had strychnine sulphate $\frac{1}{60}$ for six days. The fifth, sixth, and seventh days of her treatment she suffered from nausea.

I did not increase her medicine, but visited her oftener, saw that she drank water, and suggested that the vomiting would relieve her more quickly. The ninth day she was lonesome and begged to be allowed to leave her room. After that time nothing was given her but the tablets above noted. To-day she is the picture of health, and weighs 190 pounds. She claims to have no desire for morphine, her feeling is rather one of aversion.

Case IV.—An American, aged twenty-four years. She was taught the habit by an older woman. She had taken morphine hypodermically for the last seven years. Last winter her daily dose was from fifty to sixty grains, and in addition she had taken cocaine for a year. Last spring she entered Bellevue three separate times to be cured of her habit, but had relapsed each time. She had, however, reduced her daily dose somewhat. Patient was very

emaciated, weight 90 pounds, pupils dilated, nervous, pulse regular but slow, constipated, body covered with lesions left by the hypodermic. She was put to bed November 24 and given the following treatment: One tablet each of hyoscine, strychnine, and codeine at noon and at eight o'clock in the evening.

November 28, same treatment except a cathartic. November 29, same in the morning, but two hyoscine tablets in the evening, as she was nervous and wanted to sleep. November 30, had not slept well, no pain, ate voraciously. At 9 A.M., one hyoscine, one strychnine, one codeine. At 7 P.M., two hyoscine. At 9 A.M., one hyoscine. December 1, had slept well; A.M., one codeine and one strychnine. P.M., one hyoscine and two codeine. December 2, no medicine. December 3, one hyoscine and one strychnine. December 4. one hyoscine, and on the 11th one strychnine tablet. Since that time she has not asked for or taken a bit of medicine. She eats well, sleeps well, looks well, and has gained in weight, her present weight being 114½ pounds, a gain of over twenty pounds in six weeks.

CASE V.—Mexican, aged twenty years, weight ninety-two pounds. She had peritonitis at the age of thirteen years, following childbirth. Her morphine habit dates from this time. At first she took it by mouth, then smoked it for three years, but for the last three and one-half years she has taken it hypodermically. For the past year she has also taken cocaine by inhalation, averaging about six grains daily. Her physical description is so like the preceding that it need not be repeated. The two patients entered together and were treated exactly alike, except that this one had one less tablet of hyoscine and strychnine. The present weight of this case is 116 pounds, a gain of twenty-four pounds in six weeks.

Cases one and two were smokers for from three to ten years.

Case three had taken it for ten years by mouth.

Cases four and five had taken it by mouth and hypodermic for seven years.

Case four, who had been treated in a city hospital, assured me that it would be impossible to cut off all morphine at once in her case; that when she had been treated before the dose had been gradually reduced, and that although she had been given bromide and sedatives every few hours she had suffered agonies and had even been restrained in bed. She was treated here just one week, and at no time did she complain of anything except pain in the back and nervousness. She was more surprised at her quick and painless recovery than she could express. The same treatment cured all cases in practically the same time. Case one has been out since last May and has not relapsed. The others are still with us, and are among our healthiest inmates. They are free to call for treatment at any time; they all say they need nothing. They seem to have no craving for anything. Their appetites keep excellent and all bodily functions go on normally and unaided. Friends who have not seen them for a few weeks hardly recognize their bright, well-nourished faces. Strychnine, hyoscine, and codeine certainly form a perfect antidotal combination and one which works quickly. Morphine, as we know, depresses the nervous system, reduces metabolism, hinders the action of the liver, finally paralyzes the vasomotor centers, and lessens all secretions. Strychnine, on the other hand, stimulates all functions, increases the appetite, and while doing this it is eliminating the morphine. Nausea, restlessness, insomnia, and pain are cared for by the hyoscine and codeine. It seems reasonable that this combination should cure in time, but the celerity of cure, with no suffering to speak of, and the very small amount of medicine used, is certainly remarkable. These cases may relapse, but it will not be because they are unable to fight the habit.

BRONCHOPNEUMONIA.*

By JOSEPH N. STUDY, M.D.,
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THIS disease usually affects young children and those who are under five years of age. It is said to attack often elderly subjects at the opposite extreme of life, and frequently occurs in persons suffering from tuberculosis and others who are constitutionally weak. The subject of this article applies wholly to bronchpneumonia as it occurs in children. If we can be guided by some of the more able writers upon the diseases of children, not longer than a quarter of a century ago, then the above title may appear as a new name applied to an old and well-described affection, namely, capillary bronchitis. This condition was well described by J. Lewis Smith in his careful, painstaking manner, and, under the subject of prognosis, he speaks of its being one of the most fatal diseases of early childhood, especially in those under one year of age, and more especially if complicating or following any of the acute infectious or wasting diseases. Complicating whooping-cough, it was said to portray one of the saddest scenes—a child cyanosed and battling with a paroxysm of coughing. The mortality was invariably high.

This older name, capillary bronchitis, from both a clinical standpoint and the pathological findings, seems to embody completely all the symptoms and conditions described under the more modern appellation of bronchopneumonia. J. Lewis Smith says of capillary bronchitis that the disease begins primarily in the larger tubes and extends to the small and smallest air-cells, while Osler tells us the affection invariably begins in the smaller tubes and in the air-cells, extending thence to the larger tubes. The two conditions, however, combine one affection which is found in the lungs of children dying from this disease, namely, an inflammation involving the mucous membrane of the bronchial tubes, extending into the air-cells and most frequently also into the alveoli and connective tissue. Collapse of a lobule is often the result, and the air-cells and tubes contain mucus and pus cells, while section of lung may show gray or red hepatization.

It would seem highly improbable that so serious a condition as a severe attack of this disease could occur without involving all these structures to greater or less extent.

This disease occurs at all times and seasons. Sudden changes of atmosphere renders the late fall, winter and early spring months especially productive of this affection. The older authorities placed much stress upon the belief that these atmospheric changes, with perhaps a lowered vitality from various causes, was sufficient to produce in children these characteristic phenomena. Modern medicine comes to our aid and suggests that the pneumococcus lanceolatus is the cause of pneumonia, and consequently the sole, or leading, factor in the production of the disease.

In the lobar variety of pneumonia, which we are not, however, considering, Netter found this bacillus present in 65 per cent. of all cases. Curry, in the *Journal of Experimental Medicine*, found the bacillus present in thirty-two consecutive cases. In bronchopneumonia the bacillus has not so constantly

*Read before the Wayne County (Ind.) Medical Society.

b:en found, but it is, nevertheless, found with such frequency as to cause the belief of the bacteriologist, that this is perhaps the sole or leading cause of all bronchopneumonias. This relative absence of the bacillus—if it be true that pneumonia is caused only by the bacillus known as the micrococcus lanceolatus —awaits the explanation of the bacteriologist.

However, the somewhat ancient belief that has well stood the test of many years past, that atmospheric conditions and a lowered vitality, with perhaps something born in each individual, which we will, for convenience, call susceptibility, have, in fact, something to do as etiological factors in producing the disease.

The diagnosis of bronchopneumonia in many cases is not especially difficult. Perhaps one of the most frequent mistakes is made in differentiating this affection from a simple acute bronchitis. In a given case in which the bronchial and vesicular auscultatory sounds have passed beyond the limits of which an ordinary bronchitis should approximate, coupled with considerable increase of temperature and marked accelerated breathing, and increased heart action, should leave but little doubt of the condition present. From an acute lobar pneumonia the exaggerated bronchovesicular murmur usually involving both lungs, in one. In the early stages of the other, the crepitant rale, and later, partial or complete absence of the normal vesicular murmur, and flatness and dulness at times in the percussion note, and its usual occurrence in one lung, should not be very hard to distinguish one from the other. The early stages of pneumonia and meningitis might present some points common to either affection, and when we remember that one person in seven dying from pneumonia of the lobar variety has a complicating meningitis, this condition should not be lost sight of.

It should not be forgotten that in many conditions in childhood attended with fever the respirations are almost invariably accelerated, and auscultation will frequently reveal abnormal sounds, which may take more than one examination to determine the conditions present. Age in this disease gives some aid. Of all pneumonias occurring under the fifth year, a large preponderance are bronchopneumonias, and under one or two years of age lobar pneumonias rarely occur. The occurrence simultaneous or following one of the acute infectious diseases, strongly suggests bronchopneumonia.

I have frequently, in this disease, auscultated the lungs of children to find at my next visit changed conditions to other and more remote portions. There is generally a marked increase of temperature, often reaching to 102° to 105°, most frequently in the late afternoon and night, although my personal observation leads me to believe that this temperature curve does frequently vary. There is often a maximum temperature in the morning and sometimes a complete remission of the fever. The pulse is usually very fast in severe cases, often 120 to 140 or 180 or more beats per minute. The respirations are sometimes as rapid as fifty to ninety per minute.

The respiratory pulse ratio characterizes pneumonia in children from all other affections. Cough is frequently present, but in some very severe cases it is seldom noticed. Expectoration is rarely seen as a part of this affection. In severe and fatal cases, the skin assumes an ashen cyanosed condition, resulting from an accumulation of carbon dioxide in the blood acting upon the nerve centers.

In the physical examination of these little patients the stethoscope is of incalculable value, and all portions of the thorax, lungs, and heart can be quickly and accurately auscultated, even in the most irritable child, without prolonged or unnecessary exposure. The posterior portion of the lungs and infrascapular region should invariably be examined. These examinations should be made each day at least. This disease so frequently attacks more than one member of the same household, that its contagiousness may reasonably be looked upon without much, if any doubt.

The treatment in these cases, when it can be carried out, should be first to place the child in a large and well-ventilated and lighted room, at as near a uniform temperature as possible—65° to 68°. The chest of the child should be well protected with cotton or wool clothing. Turpentine and lard, or camphorated oil in sufficient strength, rubbed over the entire thorax one or more times a day, is an admirable local application. The above will meet all the requirements that any local measure can accomplish. This affection is one which the writer believes is self limited, and it is questionable if any drug or drugs ever cut short or aborted the affection. But it is believed that drugs may have a very beneficial effect to meet certain indications as they present themselves. If the bowels are not sufficiently active, calomel in small doses every one or two hours should be given until they are well moved. I seldom give much quinine in this disease. Its use is of a doubtful utility. In a majority of cases, if there is cough or marked restlessness, I think opium, in small doses, especially in the early part of the affection, does good in securing rest, relieving pain, and quieting cough. The smallest dose that will meet the indications should always be administered. I usually meet this indication with paregoric or liquid dover's powder, combined sooner or later with arometic spirits of ammonia or ipecac, withdrawing or adding either, as may be indicated. Carbonate of ammonia should seldom be given, on account of its nauseating pungent taste, the good effects of which are found in its less objectionable brother, the aromatic spirits. If the temperature is high—say, above 102'—I seldom give the coal-tar derivatives. When I do, it is not for any prolonged time, and I usually give small doses of acetanilid, combined with sodium, salicylate, and caffeine citrate.

In its stead I have given general sponge baths at a temperature below the normal body temperature, with good results. In some severe cases in which there was considerable fever, rapid breathing, and cyanosed condition following, a warm tub bath with mustard added to the water has acted well to relieve this condition.

I have recently treated a delicate child with a severe bronchopneumonia, in which liquid peptenoids combined with creosote, acted well. From the recent good reports from the use of creosote in pneumonias of all kinds, I should expect good effects to be obtained from the use of carbonate of creosote in bronchopneumonia. There are some cases in which alcoholic stimulants would evidently be indicated in some stage of the affection, but their routine administration should be discountenanced. When heart and respiratory stimulation have seemed indicated, I have administered strychnine with marked good results.

Nutrition should be maintained in children not nursing the breast, by milk, egg, albumen or meat broths, administered at regular intervals. Water should be administered freely to all these little patients, and its administration, at regular intervals, insisted upon. The face, mouth, and lips should be kept clean with simple warm water.

While this disease has been characterized by the

authorities as one with a mortality reaching from 25 to 50 per cent., my own personal observation has been that these little patients get alarmingly ill, which they really seem and are, but usually after from one to three weeks—rarely six weeks—almost all have made a good recovery, and without any chronic sequela following.

THE *X*-RAY AND THE FINSEN LIGHT IN THE TREATMENT OF LUPUS.

By A. D. ROCKWELL, M.D.,
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The beneficial effects of both the *x*-ray and the actinic rays of light upon superficial malignant growths and ulcerative processes have been so very positively established, that the report of a single case of lupus is of no great moment. An interesting point, however, in a case recently treated, is the fact that both the *x*-rays and the Finsen light were utilized in the treatment, opening up the question so frequently asked as to which of the two is the better and more effective method. It cannot be expected that a positive answer can be given this question at this stage of our experience.

The actinic rays, which are the only efficient rays of light in the treatment of malignant or tuberculous skin affections, possess one great manifest advantage over the *x*-ray, namely, their more benign action. It is true that light radiance, like its fellow, the *x*-ray, causes both chemical changes and fluorescence, as well as dermatitis and pigmentation, but the dermatitis, the result of light, is soon produced, and undergoes rapid resolution, while *x*-ray burns are both slower to develop and far slower to heal. So far, then, the light is to be preferred to the ray.

On the other hand, there seems to be no question that the curative effects of the *x*-ray in lupus and other skin affections, follow more rapidly than those of light, while with improved technique *x*-ray burns may in time become an almost negligible quantity. The *x*-rays and the actinic rays of light do not differ so much in kind as in degree—in the frequency and intensity of their vibrations. Their therapeutic effects are therefore very much the same. They cure the same diseases.

This question of differences in degree rather than in kind applies to all the various electric modalities. There are few pathological conditions susceptible of resolution by one form of electricity that cannot be influenced in greater or lesser degree by some other of its manifestations. The analogy holds good in the consideration of psychical, and other physical forces, and in the use of drugs.

In the case to which allusion has been made—a case of lupus vulgaris of the chest of long standing—the Finsen light had been used with a measure of success. Changes that were distinctly beneficial were observed up to about the fifteenth treatment, but thereafter, although there were some thirty more exposures, no further improvement was appreciable.

Some two weeks after abandoning the light treatment the patient began treatment by the *x*-rays, and with results that were most satisfactory, finally ending in complete recovery after some forty-five exposures, administered through a period of four months.

The question arises whether in other cases this experience might not be reversed, the chemical rays of light succeeding after the failure of the *x*-rays. It is reasonable to believe that here, as in other therapeutic measures, one form of treatment may effectively supplement and reinforce the other. Idiosyncrasy is again something that must always be reckoned with in therapeutic differentiation. Susceptibilities vary in their relation to *x*-ray effects quite as positively as they do in their relation to electric modalities. In some persons an active dermatitis is readily excited, while others may undergo repeated exposures without the slightest irritation. I recall one patient who was so susceptible to *x*-ray influence that it was quite impossible for her to continue treatment. Even when no appreciable dermatitis was evident, the slightest exposure caused an unpleasant sense of burning and itching, with an irresistible desire to scratch. The Finsen light, which she subsequently tried, had no such unpleasant effects, and greatly benefited her. The question of differentiation between the use of the actinic rays of light, and the *x*-ray is an interesting and important one, in which the personal equasion must often be the determining factor.

25 East Forty-fourth Street.

THE TREATMENT OF RING-WORM.

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Ring-worm, like the poor, we have always with us. No matter where a doctor's work may lie, whether in the city or in the country, if he is in general practice he will sooner or later be called upon to treat ring-worm. There are few diseases of the skin easier to cure than ring-worm of the so-called non-hairy parts of the body. Sulphur, iodine, salicylic acid, mercury, ony one of these in ointment or lotion will cure it. Indeed, most of them are not brought to the doctor, but cured by means of domestic remedies. While it is easy to cure ring worm of the non-hairy parts, it is difficult to cure ring worm of the scalp and beard, specially the former. In many communities a case of ring-worm of the scalp will float around from one doctor to another, and will persist in spite of their best endeavors. No conscientious physician will promise them a speedy cure. If the patient is well in six months or a year the doctor can congratulate himself upon his success.

To a certain extent this is true of ring-worm of the beard, barber's itch. While it is by no means as intractable as is ring-worm of the scalp, still six months is often necessary for a cure under most methods of treatment.

The reason for the intractability of ring worm of the scalp and beard is that the fungus grows down into the hair follicles, and it is very difficult to make our well-recognized antiparasitics penetrate to the seat of the trouble without damaging the skin.

It is not my intention to detail the many methods of treatment with which all are more or less familiar, but to commend one that I have used for some years with excellent effect, and to ask that it be given a trial.

In looking for an excipient that would penetrate easily and be bland, goose grease occurred to me as probably just what I wanted. Many who have been brought up in the country will remember how our mothers used to rub our throats and noses with goose grease when we had a cold, in the belief that "it would loosen up the phlegm."

I have found it better than I had hoped for, and if a drachm or more of the crystals of iodine is added to the ounce of goose grease, it will make a most effective remedy for ring-worm.

At the Vanderbilt Clinic, New York City, where we have many cases of ring worm, this preparation has been used extensively for two or three years,

almost exclusively after the first few months, when it was found to be more efficacious than other remedies. It is to be applied twice a day until it produces reaction, as shown by a little swelling of the patch. Then once a day will be sufficient. In two or three weeks the hair falls out of the patch, and it becomes bald like a patch of alopecia areata. After a time the hair grows again, and the patch is well. The first applications are apt to be a little painful for a few moments, but after that, even little children do not complain of pain. No epilation is necessary.

When used on the bearded portions of the face the applications are more painful than when the scalp is the part treated. If much reaction with swelling is caused the use of the remedy can be suspended for a few days and a salicylated oil of 3 per cent. strength can be used. As soon as the reaction subsides the remedy should be used again. The result in this form of ring-worm is remarkable. A few days ago I asked Dr. Dade, who has charge of one of the classes for men at the Vanderbilt Clinic, how long it took to cure barber's itch with the preparation. He said just three weeks, as he had noted in many cases. This coincides with the results I have had in private practice. Just one word of caution. Be sure to obtain the genuine article. I am told by those who should know, that the goose grease dispensed by many druggists has never seen a goose, but is manufactured of several fats which, like goose grease, melt at low temperature. There are some good samples on the market. The finest variety is expensive, as it is made from the fat of uncooked geese.

Occasionally an obstinate case will be met with that will not yield to this treatment. In such a case I have had good results from the use of an ointment composed of from half a drachm to a drachm of croton oil to the ounce of sulphur ointment. After a few days it will cause a good deal of dermatitis and convert the patch into a perfectly bald one. Eventually the hair grows in again and the disease is cured.

15 East Twenty-ninth Street.

Actinomycosis of the Lungs.—Actinomycosis in man is not so rare as it has been generally supposed. That it should have been considered so is, according to Prof. J. K. Spijarny, mostly due to the difficulty of its diagnosis. Actinomycosis of the lungs occurs in about 20 per cent. of these cases. The fungus actinomyces bovis enters the lungs either directly during inspiration, or indirectly through the alimentary system. There are two forms of the disease, viz., the deep and the superficial; the latter is of no significance; the former deeply affects the parenchyma of the lungs with subsequent destruction of tissue. It consists of three stages: (1) The formation of foci of infection with destruction of the surrounding tissue, formation of connective tissue leading to adhesions, compressions, etc. (2) The necrotic process approaches the surface of the lungs, affecting the pleura, resulting in exudations, adhesions, etc., and finally spreads upon the thoracic wall. Sometimes it spreads to the diaphragm, or to the pelvis, affecting the internal organs. At last a swelling appears on the thoracic wall, within which softened spots are soon formed, and fluctuation follows. (3) The third stage is characterized by the opening of the swelling and the formation of fistulæ. Metastases occur in different organs, pyæmia develops, and finally death follows after some months or years from exhaustion, or the involvement of an important organ.

Actinomycosis of the lungs in its general course strongly resembles pulmonary tuberculosis, in both its physical and clinical characteristics, but the constant absence of tubercul· bacilli, and the presence of actinomycotic fungi in the sputum clearly indicate the character of the disease. Very characteristic is also the swelling appearing on the chest, from the softened parts of which pus containing actinomycotic fungi may be withdrawn with the aspirator. Sometimes the general course of the disease resembles chronic pyæmia, and only the examination of the exudate of the foci of infection clears up the diagnosis. The prognosis is unfavorable. Regarding the treatment, Karewsky advises the thermocautery for the removal of affected parts. Lakowsky advises the Paquelin cautery. In all severe cases removal of affected parts, either with knife or cautery, is necessary; in milder cases, especially at the beginning of the disease, Rasumousky and Berazol advise either K. T. alone in very large doses, or K. T. combined with some slight surgical procedure, aspiration, partial resection, etc.—*Meditsinskoye Obozzienye.*

Ocular Headaches.—Sydney Stephenson says that the cardinal diagnostic point of ocular headaches is that pain, whatever its exact site and nature, is brought on, or at least rendered worse, by using the eyes. He reports a number of cases which illustrate the following practical points: (1) That it is the low degrees of hypermetropia, and especially of hypermetropic astigmatism, that have the greatest tendency to give rise to headaches. (2) That in such cases the sight at the distant types is usually normal or even better than normal. (3) That it is of vital importance to correct even such low degrees of astigmatism as 0.25, D or 0.50 D. (4) That the greatest discomfort is likely to be met with when astigmatism is asymmetrical as regards the two eyes or when the axis of the cylinder is horizontal or nearly so, instead of being, as is the rule in hypermetropic astigmatism, vertical or nearly vertical. (5) That the ametropia must be estimated under the influence of a cycloplegic, as atropine or homatropine. The relief to the pain obtained during the use of these agents is sometimes very marked. When this is the case one may safely promise that the headaches will be cured by glasses, although the converse is not invariably true. We should expect asthenopia to be marked: (1) In patients who are recovering from some general illness; (2) in those of neuropathic disposition; (3) in those of sedentary habits who use the eyes for long periods; (4) in persons of good social standing and of more than ordinary education, and (5) in children and those who belong to the female sex.—*Medical Press and Circular.*

On Certain Forms of Menstrual Suffering, and the Action of Permanganate of Potash Therein.—Wm. Stephenson uses the term menstrual suffering, because it embraces all forms of derangement of the function, does away with the limitation of such terms as amenorrhœa, and includes affections of distant organs associated with the rhythmic changes of the menstrual cycle. The writer's experience of nearly twenty years is that this drug gives more direct and reliable results in menstrual troubles than any other. He describes various cases, one of which had suffered from amenorrhœa for fifteen months; another from dysmenorrhœa and vascular weakness with distension of the veins in the leg; a third from dysmenorrhœa, menstrual headaches, distended veins, and eruption on the face; still another had chlorosis at eighteen, phlegmasia dolens at twenty, for four years dysmenorrhœa, menstrual headaches and varicose veins. In all of these cases, permanganate was ordered in the form of pills, gr. ii. ter in die. In the great majority of cases, headaches are amenable to the action of manganese. Sometimes the headaches are of the intermenstrual type. In some cases it takes five, six, and seven months before the beneficial effect is fully secured. It is a mistake to prescribe it as if it were an emmenagogue a day or two only before an expected period.—*The Scottish Medical and Surgical Journal*, January-February, 1903.

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THE PROSPECT OF EXTINGUISHING TUBERCULOSIS.

A SOMEWHAT new theory as to the cause of the spread of tuberculous infection has been started recently. Dr. Alfred Hillier read a paper before the British Society of Medical Officers of Health, on January 9, 1903, entitled "The Prospect of Extinguishing Tuberculosis Based on the Researches of Koch, Flügge, Niven, and Others."

A considerable portion of Dr. Hillier's address was devoted to a comparison of the statistics relating to tuberculosis in England and Prussia since the year 1875. The annual death rate per 10,000 of these countries show that while the English decline in mortality from consumption is fairly constant, the decline in the Prussian death rate is by no means of the same character. In England the deaths from phthisis have been declining since 1838, when they stood at 38 per 10,000, down to the present time, when they are only 13 per 10,000, and this decline, in the opinion of many competent authorities, is associated with, and largely attributable to, the generally improved sanitary conditions and food standards of the working classes. Professor Koch is also of the opinion that the degree of segregation and isolation afforded by the English chest and general hospitals has materially aided in this fall.

In Prussia, whose statistics do not deal with the phthisis rate alone, but with the whole of the deaths from tuberculosis, the only decline—and that is a rapid one—of which the statistics furnish a record has occurred since 1886. From 1876 to 1886, a period during which the English tuberculosis rate was steadily diminishing, the Prussian rate remained stationary at about 31 per 10,000. But in 1887 the drop in the Prussian rate began, and it has continued steadily down to 1900, when it had fallen to 21 per 10,000. In England, during the same period, the drop in the tuberculosis death rate has only been from 24 to 19 per 10,000.

Dr. Hillier believes the phenomenal drop in the Prussian death rate to be due to three chief causes: (1) The discovery of the tubercle bacillus, and the spreading of the knowledge of the infectious nature of phthisis, which Professor Koch says has led to the taking of precautions even among the lower classes in Germany. (2) The greatly improved general conditions of the working classes brought about by the operation of the Workman's State Insurance Laws, the first of which, the Sick Insurance Law, came into existence in 1883. (3) The establishment of sanatoria, although this is too recent a movement in Prussia to have had much effect at present.

But the progress made in England and Prussia, in arresting the spread of tuberculosis, great as it has been, is not nearly quick enough to satisfy Dr. Hillier, who thinks that the scourge can be wiped out in half a generation. And this is what the views of Koch. Flügge, and others, if put into practice, will accomplish, the author thinks. Koch deems that the victim of consumption, who after, say, some months in a general hospital, finding himself rather worse than better, goes home to die, is the most terrible source of further infection. Both Koch and Flügge hold that the minute-drop infection, the microbe-laden spray shed around him by the consumptive in his last stages, is a more potent and virulent factor in spreading the disease than dried and pulverized sputum. Experiments made by Flügge and Laschtschenko seem to prove this most significant point. A series of cases collected by Dr. Beatty at Manchester also appear to support this view.

Consequently, if this be so, strict isolation of patients in the last stages of phthisis is strongly indicated, and Dr. Hillier is sufficiently optimistic to think that if such a scheme were carried out that the disease would be extinct in a comparatively short space of time. However, the opinions of Koch, Flügge, and others are as yet only opinions, and even if, after further investigations, they are proved to be correct, the difficulties in the way of a rigid system of isolation for consumptives in the last stage must be very great—almost, it would seem, insurmountable. Nevertheless, to be able to demonstrate clearly the most fertile source of tuberculous infection would be a magnificent accomplishment on the part of Koch and his co-workers, and most certainly a long step toward extinguishing the disease.

THE ADULTERATION AND SUBSTITUTION OF DRUGS.

MR. BOSTWICK'S Assembly Bill, to amend the Penal Code of New York State by adding thereto new sections relative to the manufacture, sale, adulteration, deterioration, or substitution of drugs, if it becomes law will tend to prevent the increasing and prevalent pernicious custom on the part of manufacturers and druggists of foisting upon the public drugs which are either adulterated or not up to the proper standard. The bill in question requires that all manufacturers or importers of drugs must affix to all packages containing the same a certificate in writing which shall indicate the purity, strength, and genuineness of such drugs and their ingredients, and in case of drugs which are liable to deterioration through lapse of time, said certificate shall furthermore state the date after which such drugs will deteriorate, and after which they shall not be sold, and in all cases said certificates shall state the date of manufacture or of importation, and also the date of the sale thereof. Any manufacturer or importer, druggist or dealer in drugs, or other person who shall sell, offer, or expose for sale, dispense, or give away any drug which shall not have affixed to it or to its wrapper or package, the certificate or certificates above mentioned, shall

be guilty of a misdemeanor, and liable to a heavy fine and imprisonment.

The clause of the bill dealing with substitution reads as follows: "Any druggist or dealer, or other person who shall sell a drug not demanded by the buyer in place of that so demanded, or substitute any drug not required for another, without the knowledge or consent of the buyer, shall be guilty of a misdemeanor and liable to a heavy punishment.

The fact has been obvious for a considerable time that a law of the nature referred to above, is badly needed, not only in New York State, but throughout the whole country. The adulteration of drugs is a very serious matter, and may be placed almost in the same category as that of food. Both are in a way worse than stealing, for whereas filching a man's property only injures him materially, adulterating food or drugs hurts him physically. One affects his pocket; while the others menace—what is far more important—his health.

As to substitution, it has been proved up to the hilt, that the practice is largely resorted to by New York druggists. The custom from every point of view is most reprehensible. The patient, the physician, and the manufacturer are all sufferers by the druggist substituting another drug than that ordered. The patient because he does not receive the therapeutic treatment which the physician judges to be most suitable for his complaint, the physician because the patient does not respond to treatment in the manner anticipated, and the manufacturer because his medicine may gain an undeserved bad name through the substitution of an inferior article. Adulteration of all kinds, whether of food or drugs, and substitution, should be prevented by the strong hand of the law.

CHARACTER STUDY IN THE EXAMINATION OF PERSONS FOR MILITARY SERVICE.

Dr. Franklin Bache Stephenson, Medical Inspector of the United States Navy, presented, at the 1902 annual meeting of the Association of Military Surgeons of the United States, a paper on the above subject, which was published in the *Journal of the Association of Military Surgeons*, January, 1903. The study of man has within recent years received a great impetus, and it strictly accords with the fitness of things that the knowledge of anthropology should be utilized in selecting individuals who are candidates for military service. Dr. Stephenson draws attention to several idiosyncrasies and physical features which mark the type of man, and are valuable in estimating his moral and mental attributes.

"For example," says the writer, "a short, quick step indicates the same traits of mind. A slow, slouching gait does not mean force of character or promptitude in action. A low, narrow forehead does not tell of high moral qualities. The small or retreating chin reveals a very different future from that betrayed by a wide, prominent jaw. From thin, bony fingers we do not infer constitutional vigor. Good proportions among the parts of the head, of the face, and of the entire body, shows excellence in general product. Extremes in form —plus or minus—have the same general origin as the peculiar or eccentric traits of character—mental or moral. A general average of size is prophetic."

The greater part of Dr. Stephenson's paper is taken up with a brilliant review—which appeared in the New York *Sun*—of a book recently published by Dr. Bernard Hollander, entitled "The Mental Functions of the Brain." The object of this book is to show that all the fundamental psychical functions are localized in the brain.

The majority of textbooks describe insanity as a disease implicating the entire brain; all forms of mental derangement are ascribed to an affection of the whole cortex. Dr. Hollander dissents from these views, and attempts to demonstrate in his work that the principle varieties of mental alienation are localized in definite, circumscribed regions, and frequently are in the early stages at least amenable to treatment.

Dr. Hollander is an advocate of the study of phrenology—that is to say, he is a believer in its study as a science, and thinks that, in the hands of men who possess an accurate knowledge of it as such, it might be put to excellent practical use. The works of Dr. Francis Gall, the pioneer of phrenology, are made the text of Dr. Hollander's remarks. He claims Gall's contention, that the shape of the skull harmonizes with the conformation of the brain to be now established by the best modern authorities, and further says that he does not know of a single anatomist who denies it to be the brain which gives the form to the skull. This assertion is supported by quotations from the writings of many well-known authorities. Sir William Flower said in his lectures at the College of Surgeons in 1879: "The skull is a fair index to the development of the brain in its different regions, and ought therefore to be studied," and added that the longer he lived he saw fresh beauty and meaning in every line and configuration of the cranium, and that the fact that he could not recognize particular skulls presented to him as belonging to certain nations, was a proof that there existed certain fixed and uniform laws in regard to them. Professor Alexander Macallister, at the meeting of the British Association held in Edinburgh in 1892, said: "The study of the brain's development shows that the convolutioning of the cerebral hemisphere is primarily due to the connection and different rate of growth of the superficial layer of cells with the underlying layers of white nerve fibers, and that, so far from the shape of the brain being seriously modified by the constraining influence of the surrounding embryonic skull, the form of the soft membranous brain-case is previously molded upon the brain within it, whose shape, however, it may be, to some extent, a secondary agent in modifying in later growth. We have also learned that the cerebrum is not a single organ acting as a functional unit, but consists of parts, each of which has its specific province; that the increase in the number of cells in any areas is correlated with an increase in the size and the complexity of pattern of the convolutions of that area, and that this, in turn, influences the shape of the inclosing shell of membrane, and, subsequently, of bone." Professor J. Ranke stated in 1891 that the differences in the form of the skull are entirely due to the differences in the development of the brain.

Sir William Turner, late professor of anatomy in Edinburgh University, said that the "precise mor-

phological investigations of the last few years into the cerebral convolutions have led to the revival in Paris of discussions in which the doctrine of Gall and his disciples—that the brain is not one organ but consists of many organs—has been supported by new arguments, and the opinion has been expressed that the primary convolutions, at least, are both morphologically and physiologically distinct organs. Finally, is the opinion expressed by Havelock Ellis in *The Criminal*, 1890: "Gall thrust aside forever the credulous fancies of the physiognomists; and he has been described not altogether without reason as the founder of the modern school of criminal anthropology. He was certainly its most brilliant pioneer. . . . Gall studied the brain, sought to differentiate the functions of its various parts and the effect of its varying development on the skull."

Dr. Hollander contends that Gall's observations, crude as they were, have been confirmed by recent experiments and researches, and although aware that the definitions advanced by himself as to certain brain "localizations" may require a great deal more of scientific evidence, nevertheless he ventures, after fifteen years of accumulated research, to formulate as highly probable the following propositions: First, the prefrontal lobes are concerned with purely intellectual operations. Secondly, the temporosphenoidal lobes are in some way connected with the propensities common to man with the lower animals. Thirdly, the parietal lobes and the posterior part of the frontal lobes are involved in the manifestation of definite emotions, while the occipital lobes bear a relation to the domestic and social affections. Further, Dr. Hollander holds that size of brain-mass bears a proportion to the power of manifestation, and that two brains or skulls differing in the regions above mentioned will differ n character accordingly.

The work of Dr. Hollander is of undoubted value. Phrenology is not as yet a science, nor does the author claim this position for it, but he believes that, intelligently studied, the views initiated by Gall will provide a working hypothesis, and that when the theory is better elucidated, its application will be found to be of infinite use in furnishing modern specialists in lunacy the key to many of the mysterious problems of mental science.

Although Dr. Stephenson entitles his paper "Character Study in the Examination of Persons for Military Service," it is rather an exploitation of Dr. Hollander's development of Gall's opinions. Incidentally, of course, if, as a result of investigation, the seal of definite proof be set upon this theory, its use in choosing recruits for the army will be plainly apparent. At present, however, the matter is one which chiefly concerns alienists, and it must be borne in mind that the question is still *sub judice*.

Heredity of Mental Diseases.

The belief, once universally held, that a very large number of diseases were more or less directly inherited has died out. Indeed, the influence of heredity, so far as the occurrence of disease is concerned, is almost entirely denied. With regard, however, to mental disorders, in the opinion of experienced alienists, the fact has been clearly demonstrated that heredity is an important factor n the production of aberrant mental traits. The *London Hospital* February 14, deals with statistics collected by Dr. J. Wiglesworth, Medical Superintendent of Rainhill Asylum, who investigated the family history of a series of cases with a view to answering some of the questions which suggest themselves in connection with heredity and insanity. The ground covered by Dr. Wiglesworth is wider than would be convenient to discuss here, so that it must suffice merely to touch upon one or two points. The inquiries referred to, and which were incorporated in articles contributed by Dr. Wiglesworth to the *Journal of Mental Sciences*, treat of a series of 3,445 patients admitted to Rainhill Asylum during a period of twelve years, 1,693 of the patients being males and 1,752 females. The patients were those concerning whose family history no details whatever were obtainable, and in whose direct parentage—fathers, mothers, and grandparents—or collaterals—brothers, sisters, uncles, and aunts—insanity, if it was met with, was regarded as an hereditary factor. Patients whose cousins only afforded evidence of insanity were not included in the class of hereditary insanity, as it was thought that there was an equal chance of such taint having been introduced by marriage from an entirely different family, and it could not be assumed without further proof that such taint belonged to the family of the patient. "Out of the whole series of 3,445 patients a definite hereditary taint of insanity, epilepsy, or a marked degree of eccentricity or peculiarity, either direct or collateral, was found in 965 cases, a percentage on the whole number of 28.01." Other authorities who have gathered statistics of a similar kind show that the percentage is generally larger than this.

Of these 965 patients, 419 were males and 546 females, thus exhibiting a percentage of 24.74 for male patients and 31.16 for females.

The writer of the article in the *Hospital*, commenting on these figures, says: "This striking difference has an interest which is enhanced by the fact that it harmonizes with the records of previous investigators, almost all of whom have found a higher percentage of hereditary taint among the female patients than among the male. The conclusion has hence been drawn that the female sex has a greater liability to suffer from hereditary insanity than the male. It has been suggested that the female sex has to pass during life through physiological crises—puberty, pregnancy, and the parturition, lactation, and the menopause—which constitute periods of danger, and which are prone to evoke into activity any latent hereditary taint of insanity; whereas in the male sex such danger is over when the age of sexual maturity is attained."

The Public Telephone as a Transmitter of Disease.

It has been asserted more than once that disease may be, and has been, conveyed by the agency of the public telephone. Dr. William Bissel of Buffalo contributed an article to the January number of the *Buffalo Medical Journal* in which he discusses the possibility of such a happening, and records some experiments he made with the view of testing its feasibility. He states that in order to discuss the question two important points must be considered: First, is the human body, and particularly the mouth, of well persons a possible carrier of infection? Second, if so, what part does the telephone play in transferring such infection? Dr. Bissel points out that it has been proved by laboratory investigations that microbes belonging to a particular species of pathogenic bacteria are, as

a rule, virulent, and that, further, such organisms, when carried in different locations, are capable of being shed, hence constituting a source of danger in the transmission of disease. It is well known that an individual to all intents and purposes in good health may be the carrier of noxious germs. For instance, the germ of croupous pneumonia is present in the mouth of every healthy person, and the diphtheria bacillus exists in the nose and throat of many persons who have never suffered from the disease. Again, those who have recovered from typhoid fever and cholera continue to throw off the germs of these respective diseases, while in cases of chronic pulmonary tuberculosis, when expectoration is profuse, the organism is expelled in large numbers. The experiments conducted by Dr. Bissel took place in the early part of this year, the telephones at three of the largest hotels in Buffalo being utilized for the purpose, and the particular organism for which search was being made being the diphtheria bacillus. After the most careful investigation it was found to be impossible to demonstrate the presence of the diphtheria bacillus on any of the telephones. It would thus appear as if there is little or no fear of contracting diphtheria by this means.

Yellow Fever and the Panama Canal.

A discussion took place at a recent meeting of the British Epidemiological Society, with regard to the risk of introducing yellow fever into Asia by the agency of the Panama Canal. A paper on the matter was read by Dr. Patrick Manson, who considered two points: (1) The risk of the extension of the fever to the populous regions of Asia involved in the opening of the Panama Canal; (2) the means to be adopted for lessening the risk. Dr. Manson drew attention to the fact that shiploads of laborers from China, Japan, and India would soon be plying between Panama and the seaports of Asia, and if the traffic were unrestricted the disease would inevitably be introduced into the populous, densely crowded, and insanitary cities of China and India. The author pointed out that the freedom from yellow fever hitherto enjoyed by Asia was like that of America, until recently, from cholera and the plague, due, not to any conditions unfavorable to its spread, but to the absence of direct communication with the localities where it was endemic. It was true that the parasite was present in the blood for a few days only at the commencement of the fever, but if taken from the patient during this period by a mosquito it retained its vitality in the body of the insect for eight or ten weeks, and might be at any time communicated by its bite to previously healthy individuals. The yellow-fever patient was in himself no more dangerous to others than was the sufferer from malaria, and it was the stegomyia that, like the anopheles, conveyed the germs from him to others, infecting them in turn. The cause of yellow fever having been shown to be owing solely to the presence of infected mosquitos, it was evident that it could not be carried by cargo or fomites, nor even by infected persons to places where stegomyia were absent. Quarantine and disinfection of cargo were alike useless, the sole means of prevention being the extermination of the stegomyiæ, for which, so far as shipping was concerned, sulphur fumigations of the hold and between decks were the most efficient, with the destruction of the larvæ in the bilges and water tanks.

Dr. Manson expressed his hope that the Americans, though they had no direct interests in Asia, would carry out the sanitary control of the canal with equal thoroughness, but it would be advisable that the civilized powers most concerned, such as England, France, Germany, Holland, Italy, Japan, and Siam should constitute an international board of supervision and subvention.

The measures he would recommend were simple enough, but must be inexorably enforced. Every vessel coming from, or having called at, a port within the yellow-fever zone should be boarded on entering the eastern end of the canal by an officer and assistants, whose duty it would be to destroy, by fumigation and other means, all stegomyiæ on board, and before leaving the canal it should be inspected by others who should satisfy themselves of the completeness of the work. To prevent the infection of a vessel in its passage through the canal, the country for half a mile on either side should be cleared of trees, standing water, and everything that could afford shelter for mosquitos or their larvæ.

In the discussion that followed, Dr. Strong of the United States Laboratory, Manila, Dr. Nuttall of Cambridge, Dr. Louis Sambon, and many others, took part, and it was the opinion of all, that the danger of carrying yellow fever to Asia during the construction and after the completion of the Panama Canal was a real and serious one, and that steps should be taken in good time to prevent, as far as possible, such a deplorable occurrence.

Bellevue and Allied Hospitals.

The last quarterly report of the trustees of these institutions has been issued recently. The improvements and changes which have been initiated are many, among which a better housing of the staff and employees is not the least. So far as the staff is concerned, the overcrowding still remains, for the simple reason that there is not room enough for the number of doctors required by the service. Furniture, however, has been bought, rugs placed upon the bare floors, and space provided for clothing, and the apartments occupied by the staff have been rendered in some degree fitting for the habitation of civilized gentlemen. The old Cornell Medical College is going to be converted into a dormitory for the women employees of the hospital, and many of the other dormitories have been painted and enlarged. Some of the employees have been given more wages, but the report states that further changes in organization and discipline are needed. The nursing service has been reorganized to some extent. Improvements and changes have been introduced in the Gouverneur, Harlem, and Fordham hospitals. The appropriations recently made by the Mayor of New York, for the purpose of building a new Bellevue and to reconstruct Fordham Hospital, lead to the confident expectation that it will not be long before this city possesses charity hospitals in keeping with her wealth and importance. Nevertheless, the Board of Trustees are to be congratulated upon the energy its members have displayed in remedying many of the abuses which have existed in Bellevue and the allied hospitals.

Local Treatment of Internal Diseases.

In the *Klinisch-therapeutische Wochenschrift* for February 15, 1903, Dr. Max Schüller emphasizes the importance to internal medicine of the recognition of the principle so dominant in surgery, of the application of remedies at the seat of the disease, using as a text the following case: A woman, aged thirty years, following severe influenza at the end of 1893, developed in March, 1894, pneumonia, which ran a very protracted course. In May violent stab-

bing pains, with dyspnœa of high grade, suddenly developed. On June 12 the greatly emaciated patient showed dulness on the right side behind up to the middle of the scapular region, with an absence of râles and vocal fremitus. A portion of the seventh rib was resected subperiosteally, and by incisions through the hepatized lung the abscess was drained, the periosteum sutured and the skin wound closed. Under an iodoform dressing healing took place by the first intention. Cultures of the sputum showed bacilli resembling Pfeiffer's influenza bacillus, and injection of them into the lungs of rabbits caused extensive fatal pneumonia. Tubercle bacilli were always absent. Convalescence was retarded; considerable fever, cough, with at times expectoration of considerable pus, and a dulness the width of two hands, remained. In August twenty punctures were made at various points in the dull area by way of probing for an encapsulated, purulent pleuritic focus, but without result. Then several injections of sterile salt-solution were made into the hepatized lung at several points—120 to 130 gms. in all being injected. After some days an alteration took place in the local and general symptoms; the expectoration became looser, the cough lessened, the dulness began to recede, the febrile symptoms became less marked, and the breathing improved. Steadily the respiratory sounds returned, the dulness lessened progressively, and by the end of October, it had disappeared and, except for slight catarrhal symptoms, nothing abnormal could be detected. The nutrition had increased notably and the patient had regained her fresh color and resumed her housework. In August, 1895, physical examination was entirely negative and the resected portion of the rib filled out by new bone. In this case the final restoration appears to have been brought about by the injection of salt-solution, previous medication, and also inhalations, having been without appreciable result. Certainly one could hardly attribute a special chemical action to the salt-solution. It appeared to act by rendering the infiltrating mass more fluid and by facilitating its extrusion via the bronchi. If at first only a few alveoli became free, this would permit the re-entrance of air into them, which would mean access to and circulation of the blood in those parts, and the first breach would thus be effected in the solid mass of infiltration. Such infusions into the lung should, in the author's opinion, certainly be employed in cases of delayed resolution of pneumonic or other inflammatory infiltrations, and still more in cases of so-called caseous pneumonia; of course with the presupposition of aseptic precautions, under which the injections can be carried out without danger.

Injections of Brain Emulsion in Traumatic Tetanus.

Dr. Anton Krokiewicz gives in the *Klinisch-therapeutische Wochenschrift* (Vienna) for February 8, 1903, the statistics of all the cases of tetanus treated by the subcutaneous injection of brain emulsion up to the present time. From his analysis it appears that sixteen cases have been so treated, of which thirteen recovered and three died. The author believes that the showing would have been even more favorable if the injections had been used in the beginning of the disease. Included in the sixteen cases are four which were treated under the author's own eye, by the injection of an emulsion of rabbits' brains, of which three recovered and one died. In three of the cases the disease exhibited a very great intensity, and in all the cases previous treatment with pharmaceutical preparations had been entirely without result, so that the recoveries could be ascribed solely to the action of the brain emulsion. The number of the injections were as many as six, and the injections were made daily, or at intervals of several days, according to the severity of the disease. They were well borne, the temporary suppuration at the site of injection never acquiring any importance, the abscess healing rapidly after incision. The author concludes that, considering the not specially favorable results of serumtherapy, this method, which is easy of application, deserves a wider application.

The Dangers of Internal Antisepsis.

In a pamphlet, "Les Dangers de l'Antisepsie Interne," Dr. Albert Robin recalls a case he reported of a syphilitic who, at the end of an intensive mercurial treatment for thirty-six days, was seized with an infectious bronchopneumonia of such gravity that she died in four days of very severe complications, which were entirely uninfluenced by the most active treatment. This observation, which had the aspect of a laboratory experiment, demonstrated that the method of internal antisepsis, which consists in saturating the organism with the most powerful antiseptics in order to prevent a microbic infection, moderate the multiplication of microorganisms, or attenuate their virulence, is not applicable in therapeutics, however rational its application may appear. The case showed, moreover, that the presence of mercury in the organism, far from attenuating microbic activity, appeared to be a powerful aggravating cause of the bronchopneumonia. Robin also reports the case of a woman suffering from secondary syphilis who had been subjected to an intensive mercurial treatment for fifteen days, in which time she received in all 0.75 g. of mercury in several forms (benzoate by injection; the bichloride and the metal in pills), or an average of 0.05 g. per day. During treatment she contracted typhoid fever, which assumed a grave form. Neither cold baths nor medication produced any appreciable effect; on the nineteenth day gangrenous spots and phlegmasia alba deolens appeared, and death occurred on the twenty-first day. In this case, then, mercurial saturation did not operate to prevent infection by the bacillus of Eberth, and did not lessen its virulence. Calomel, in particular, can be exceptionally and occasionally used to advantage as a purgative, cholagogue, or diuretic, when indications are present for it, but mercurial preparations, of whatever description, cannot serve as a basis for a systematic treatment, since alongside of a nullity of their antiseptic effects upon the organism, they possess the great inconvenience of retarding organic oxidation, whereas in the treatment of typhoid fever we are endeavoring to exalt the oxydizing powers of the organism, which are among the best means of defence that it possesses against intoxications. Outside of the restricted and altogether transitory indications which have just been outlined, mercurial preparations can then be of no value in typhoid fever. There is even reason for thinking that they are injurious, since in the author's case mercurial impregnation appeared to have been one of the causes of aggravation of the disease.

Roosevelt Hospital.—Dr. Victor Cox Pedersen was recently appointed Anæsthetist to the Roosevelt Hospital, First Surgical Division, and also Assistant Anæsthetist to the New York Polyclinic Medical School and Hospital.

News of the Week.

A Bill to Prohibit the Careless Distribution of Medicines, Drugs, and Chemicals.—An amendment to the Penal Code has been introduced into the Assembly of New York State with the above object. The amendment is as follows: "Careless Distribution of Medicines, Drugs, and Chemicals.—Any person, firm, or corporation who distributes, or causes to be distributed, any free or trial samples of any medicine, drug, or chemical compound, by leaving the same exposed upon the ground, sidewalk, porch, doorway, letter-boxes, or in any other manner, that children may become possessed of the same, shall be guilty of a misdemeanor, punishable by a fine of $25 for each offense, but the section shall not apply to the direct delivery of any such article to an adult."

Dr. Roux Wins Osiris Prize.—The Institute of France has awarded the Osiris prize of 100,000 francs to Dr. Roux of the Pasteur Institute, the discoverer of the anti-diphtheria serum.

Manhattan State Hospital West, Wards Island.—Owing to the energy of Dr. E. C. Dent, the Superintendent of this institution, many improvements have recently been made and the service has become remarkably active. The operating room has been fitted up with all the modern improvements, and new instruments have been purchased. A weekly operative clinic in gynecology, comparing favorably with that at any of the large hospitals, is conducted by Dr. Leroy Broun. Modern appliances for hydrotherapeutic treatment have been installed. These have been modelled after the institution of Dr. Simon Baruch, the well-known authority on this subject, and an attendant has been specially trained under his direction to take charge of this department. The Nauheim Baths are also to be introduced. A special ward has been divided off for experiments with the Russell treatment for tuberculosis, which has been reported as successful at the Post-graduate School. Dr. John Russell has taken charge of these experiments in person, and, so far, the results secured have been especially encouraging. Numerous specialists have been recently appointed on the Consulting Board, and researches are being instituted by them, by the resident staff, and by prominent physicans of this and of other cities, as Dr. Ferd Valentine, T. M. Townsend, John Russell Kent, and others. The Board of Consulting Physicisians at present holds monthly meetings at the hospital, and many of its members make frequent visits each week to the institution. Dr. Austin Flint was recently elected President of the Medical Board, and Dr. Robert Coleman Kemp, secretary.

The hospital possesses excellent material and facilities for work, and it is the evident intention to develop an extremely active service.

College of Physicians of Philadelphia.—At a stated meeting, held April 1, Dr. Morris J. Lewis read "A Memoir of the Late Dr. Francis W. Lewis." Dr. Thomas R. Neilson presented "A Report of a Case of Suturing of the Omentum to the Abdominal Wall (Talma) for Cirrhosis of the Liver Twenty-one Months after the Operation." The patient was much improved, and there was no further recurrence of the ascites, although the liver remained enlarged. Drs. Henry M. Fisher and W. W. Keen presented "A Report of a Case of Suturing of the Omentum to the Abdominal Wall (Talma) for Cirrhosis of the Liver Twenty-five Months after the Operation." Ascites recurred several times after the operation and required paracentesis, but there has been no further return in twenty-one months, although the spleen, previously large, as increased considerably in size. Dr. Chas. H. Frazier demonstrated a patient in whom he had performed a similar operation for a like cause thirty-five months ago with relief of the ascites and other symptoms. The liver is reduced in size, while the spleen is enlarged. Drs. P. Savary Pearce and L. Napoleon Boston presented a communication entitled "The Blood in Epilepsy; Experiments on Animals," in the course of which they detailed the results of studies of the blood from cases of essential epilepsy, with relation to the hæmoglobin-percentage, the number of red and of white corpuscles, with the differential enumeration of the latter, and also the results, as manifested especially in changes in the blood, induced by inoculation of rabbits with the blood from such patients.

The Denver Academy of Medicine has been organized to maintain a home and meeting place for the profession, and to provide for a medical library. The officers chosen for the ensuing year are: *President*, Henry Sewall; *Vice-President*, George B. Packard; *Trustees*, W. A. Jayne, W. W. Grant, Thomas H. Hawkins, L. E. Lemen, H. W. McLauthlin, I. B. Perkins; *Secretary*, C. K. Fleming; *Treasurer*, Frank E. Waxham; *Librarian*, C. D. Spivak.

Mosquitos on Vessels.—Assistant-Surgeon Grubbs, who is in charge of the Gulf Quarantine Station, has been investigating the question as to whether mosquitos infected with yellow fever can carry the disease to any extent, and if so, under what conditions. Dr. Grubbs inspected eighty-two vessels arriving from ports where the yellow fever-bearing mosquitos are prevalent, and of these vessels, sixty-five had no mosquitos on board at any time during the voyage; five had the insects on board at port of departure; nine reported the appearance en route of harmless mosquitos, and three conveyed stegomyia to the station. The three last ships were from Vera Cruz, a yellow-fever port, and the voyages lasted on an average, seventeen days. Dr. Grubb came to the following conclusions: First, that mosquitos can come aboard a vessel under favorable conditions when the vessel is not more than fifteen miles from shore; second, that stegomyia can be carried from Mexican or West Indian ports to those of our Gulf States; third, that they can board a vessel lying at anchor a half mile or less from shore, being conveyed by the open lighters used or flying aboard; and, finally, that a vessel moored a short distance from land may become infected with yellow fever.

Red Cross Affairs.—It is likely that the International Red Cross Society, at its meeting in Geneva next summer, will be called upon to settle some of the points in the dispute pending among the members of the American National Red Cross Society. It is stated that a report of the present dissensions in the American Society will be made to the Geneva Conference by Brig.-Gen. John M. Wilson, former Secretary John W. Foster, and others, comprising the committee of Washington members of the society. A memorial is to be prepared for the International Conference pointing out the illegality of the present American organization through the violations of its charter and the withdrawal of the President of the United States and his Cabinet from membership on the general board.

Sanatorium for New Jersey Consumptives.—Plans have been prepared for the erection of the New Jersey Tuberculosis Home at Lebanon. Dr. Charles Kipp of Newark is president of the board of directors, Dr. James Green of Elizabeth is secretary, and Col. A. Stevens is treasurer. The

building is planned to accommodate about 250 patients. Six physicians will reside in the grounds, and the superintendent will probably be a bacteriologist. Indigents only will be admitted as patients, and those in an advanced stage of the disease and deemed incurable will not be accepted.

The New Jersey Legislature has appropriated $50,000 for the purchase of the land, and a sum of $300,000 will be appropriated when those in charge of the proposed institution are in a position to build.

More Deaths from Typhoid Fever in Ithaca.—Two persons died of typhoid fever in Ithaca on April 4, making a total of five deaths from the disease during the week.

Fordam Hospital Plans.—The architects have been chosen to draw the plans for the new City Hospital to be erected at Fordham and for which $500,000 has been appropriated. The trustees have not yet made a selection of land for the site, but the building will probably be erected south of Pelham avenue and west of the Bronx river. It is to be four stories in height and built to accommodate 150 patients. Plans are also being prepared for an additional wing, to cost $125,000, to Gouverneur Hospital for the accommodation of sixty patients.

Political Control of the State Institutions.—Under Governor Odell's centralization scheme for the various State hospitals, charitable reformatory institutions and prisons, the expenditure of about $2,500,000 granted for supplies will be in the hands of politicians, who will be able to expend the money as they choose, with practically no let or hindrance. This is the direct outcome of the Governor's action in ousting the prominent men and women of the Charity organization who used to exercise a wise supervision over the State hospitals for the insane. The MEDICAL RECORD has consistently taken the course of strongly condemning the arbitrary action of the Governor, which would seem unpleasantly to resemble the policy of another noted political leader, "unto the victor belong the spoils."

The Late Prof. T. Gaillard Thomas.—At a meeting of a committee appointed by the Medical Board of the New York Infant Asylum, held on March 30, 1903, the following resolutions were adopted:

Whereas, The late Dr. T. Gaillard Thomas, for several years and at the time of his death, was Consulting Obstetrician of the New York Infant Asylum and President of the Medical Board, an office in which he exhibited wise counsel and charming geniality, and

Whereas Dr. Thomas was a man of great eminence, well known to the medical profession throughout the world, by virtue of whose character and renown much honor was reflected upon this institution, therefore

Be it resolved, That the Medical Board of the New York Infant Asylum record the death of Dr. Thomas with a sense of deepest regret and inexpressible loss; and further

Be it resolved, That a copy of these minutes be sent to the bereaved family, and to the principal medical journals, and inscribed in the records of the New York Infant Asylum.

(Signed)

J. MILTON MABBOTT, M.D.,
GEORGE TUCKER HARRISON, M.D., } Committee.

In Honor of Dr. Thomas L. Maddin of Nashville.—The annual meeting of the Nashville Academy of Medicine and the Davidson County Medical Society was held on April 7 at Tulane Hotel, Nashville, Tenn., when a banquet was given in honor of Thomas L. Maddin, M.D., of Nashville, Tenn., he having completed fifty consecutive years of membership in the Tennessee State Medical Society.

Navy in Need of Young Surgeons.—There is a great demand in the navy for young medical officers. The need of assistant surgeons in the medical corps is very great, there being at the present time twenty-seven vacancies in that grade. Surgeon-General Rixey is trying to attract young medical men into the service. He is now in the South inspecting a hospital at Pensacola. He intends addressing several medical colleges and calling to the attention of the students the desirability of a naval career. Not long ago he delivered an address at the Jefferson Medical College, in which he dwelt upon the opportunities for young medical graduates in the navy. The work to be performed by the medical corps in the navy is growing every year. The authorized strength of the navy now is about 38,000, and within the next six years will probably reach 50,000. The enlistments and reënlistments require the constant attendance of surgeons to make physical examinations and besides this routine work there are fourteen naval hospitals with naval stations, navy yards, and receiving ships, where the services of members of the naval corps are needed. Applicants for admission in this branch of the service must be between twenty-one and thirty years of age, physically sound, of good high-school education, and master of their profession to a degree that would insure a successful career in civil life.—*Philadelphia Press.*

Instruction in Tropical Diseases in Paris.—The appointments to the Institute of Colonial Medicine in Paris have now been completed. Professor Brouardel, director; Professor Debone, dean of the school; Professor Chantemesse, teacher of bacteriological and hematological technique; Professor Blanchard, parisitology; Professor Le Dentu, tropical surgery; Professor de Lapersonne, tropical ophthalmology; Professor Wurtz, tropical hygiene; Professor Jean Selme, tropical skin diseases.—*Journal of Tropical Medicine.*

Plague in India.—The plague epidemic throughout India goes on steadily increasing. The deaths in the week numbered 25,882, as against 25,870 for the previous seven days, and 12,695 for the corresponding week last year. Bombay city returned 716 deaths; Calcutta, 171; Karachi, 25; and Poona about 600. The Bombay Presidency reported 10,835 deaths; the Madras Presidency, 604; Bengal Presidency, 2,941; the United Provinces, 2,995; the Punjab, 3,581; the Central Provinces, 1,203; the Mysore State, 526; the Hyderabad State, 1,640; Central India, 435; and Kashmir, 1,717. The increase is general, but Poona and some other places seem to suffer out of all proportion to the number of the population. During the past fortnight the death rate in Poona has been about 500 per 1,000 per annum. In Calcutta the rate has never reached 100, while even in Bombay it has not exceeded 150 in any of the outbreaks.—*The Lancet.*

Triple Vaccination in France.—The French Government has just promulgated a new code of sanitary regulations. This code among other regulations contains the proviso that for the future three vaccinations instead of one, as hitherto shall be obligatory upon all French citizens. The first is to be made during the first year of infancy, the second in the eleventh year, and the third in the twenty-first.

An Anti-vivisection Bill in Great Britain seeks to amend the statute which already regulates and controls the performance of experiments upon live

animals. Its main object appears to be the abolition of the existing provisions for the performance of of certain experiments under certificates, which without certificates are not permissible Those especially aimed at are, no doubt, those in which it may be desired to dispense with the administration of an anæsthetic. There is also in the bill a section ordering that "there shall be present throughout the whole course of the experiment an inspector," and no such experiment shall at any time be performed or continued save in the presence of such inspector aforesaid." Power is given to the Secretary of State to appoint a sufficient number of inspectors for this purpose. Their duties, however, would be obviously such as only highly qualified members of the medical profession could adequately perform, and the questions to be decided by them are now safely left in the hands of the highly qualified members of the medical profession, whose experiments, at times, under the existing act, lawfully include those upon live animals. These experiments are already subject to conditions with regard to inspection and other matters, the stringency of which, it is proposed, should be increased in other directions besides those to which we have called attention. Members of Parliament who have considered the existing act and are acquainted with the statistics relating to its subject matter will, for the most part, be satisfied that the protection which it affords to dumb animals is sufficient without the additional restrictions proposed in the bill just brought forward. —*The Lancet.*

Pension Fund for Nurses in England.—At the annual meeting of the Royal National Pension Fund for Nurses, recently held under the chairmanship of Sir Henry Burdett, K.C.B., solid progress in all departments was reported. In the pension branch 869 policies had been issued as against 842 in 1901, an increase all the more satisfactory from the consideration that 1901 was the record year of the fund. The amount distributed in sick pay during the year was £1,568 ($7,840), and the total funds increased from £648,725 ($3,243,625) to £734,182 ($3,670,910). —*British Medical Journal.*

Dangerous Essences.—Owing to the ill-health of the reporter M. Laborde, M. Jouffroy, in the name of the Commission on Alcoholism, closed the discussion on "Dangerous Essences" before the Académie de Médecine of Paris by moving the following conclusions, which were unanimously adopted: (1) The Académie declares that all essences, natural or artificial, without exception, as well as extractives incorporated with spirits or with wine, constitute dangerous and harmful drinks. (2) The Académie declares that the danger of these drinks resulting at once from the essences and from the alcohol which they contain, they deserve proscription, whatever may be their basis, and at any rate there is need to increase the tax in such away that the excess tax becomes in a measure prohibitive. (3) The Académie particularly calls attention to the danger of apértifs—that is, drinks containing essences, and alcohol, which are taken fasting. The fact that these drinks are taken before meals renders their absorption more rapid, and their toxicity more active.—*British Medical Journal.*

Obituary Notes.—Dr. Reinhard H. Weber died in Philadelphia on March 29 at the age of fifty-nine years from cerebral hemorrhage. He was born in Hesse-Darmstadt and came of a distinguished family of German physicians, his father having been in the service of the German Government. He was graduated from Jefferson Medical College in 1865.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

PARLIAMENTARY—HOSPITAL DISTRIBUTION—ANTI-TYPHOID—MULTIPLE MYELOMA—THE APPENDIX—SANATORIA—NOTIFICATION ORDER—SIR M. FOSTER—DR. HUTCHINSON, M.P.

London, March 20, 1903.

From the reply to a question in the House of Commons it appears that Trinity College, Dublin, recently applied for authority by a King's letter to confer degrees on women. Some technical difficulties have to be overcome as to the construction of the college statutes, but it is expected that authority will shortly be given.

The expected bill dealing with the certification of deaths, is not to be introduced this session, notwithstanding the recommendation of the recent committee, and the earlier one of 1893.

Bills have also been introduced dealing with reciprocal arrangements with Canada respecting the Medical Acts. The second reading of these is on the program for to-day, but is not likely to be reached.

The distribution of our hospitals is exciting more attention outside as well as inside the profession. Of course it is a public question, and a difficult one. Many newspaper correspondents have, therefore, something to say about it, though these suggestions do not of en proceed from full or accurate information. Now that it is decided for Bartholomew's to keep its old position, the means of extending its work is being considered. I mentioned to you before that there are several buildings on the premises which might just as well be elsewhere. The chaplain's house and the treasurer's house, as well as the chapel, need not be on the premises, and the nurses' home could very well be removed. Those who advocate the removal of some of the hospitals to the suburbs have been urging that St. George's and King's College should both seek new habitations. In regard to the former there is something to be said on both sides. The latter is a case of need.

The Council of the King's Fund is in favor of removals where practicable, and it is whispered that they are also urging some of the smaller, and especially special, hospitals to amalgamate. No doubt such a plan would be an advantage if it could be carried out, but there are difficulties even with these. One of the most obvious is that many of them are rival institutions, and, supposing amalgamation to be effected, there is nothing to prevent another rival being established.

We seem to be on the eve of attaining an effective antitoxin for typhoid fever. A paper at the Royal Society by Dr. A. Macfadyen gives an account of investigations he has made conjointly with Dr. Dewar with bacteria exposed to intense cold by means of liquid air. They are not killed by such exposure for long periods, but frozen into brittle masses, which can then be triturated. The temperature inhibits chemical change, and the cell plasma can be separated. This has been used to render animals immune, and their serum is both antitoxic and bactericidal. Animals inoculated with a lethal dose of living bacteria have recovered under the influence of this serum, which it would seem is both preventive and curative.

Multiple myeloma is a convenient term enough for certain rare cases in which myelogenic new growth has been found, but in which there are such differences that two if not more types may be distinguished. Dr. Parkes Weber related a case at the Medico-chirurgical Society which he thought was probably the second diagnosed *during life* in England, the first being Dr. Bradshaw's in 1898. Dr Weber's case was complicated with syphilitic gummata, chronic rheumatoid symptoms, and ulceration of the duodenum. Early in 1900 the urine was found to contain the Bence-Jones' proteid, and Dr. Rob. Hutchinson estimated the amount excreted as 15 grams per day. Later anæmia and cachexia were marked, and by January, 1901, the blood examined gave only 23 per cent. of the normal hæmoglobin. No atypical cells were found among the leucocytes. A year later the man died from intestinal hemorrhage, which the post-mortem showed to be derived from ulceration of the duodenum. The Bence-Jones albumosuria had persisted to the last. The marrow of all the bones examined at the autopsy was affected by a diffuse sarcoma-like growth of rounded or polyhedral mononuclear cells. Professor R. Muir examined the growth microscopically. It was confined to the bones, and formed no projecting tumors from them, and no other parts of the body were affected. Chemical investigation by Dr. R Hutchinson and Dr. J. J. R. Macleod failed to find in any of the organs or tissues a body giving the same reactions as those of the Bence-Jones' proteid in the urine, Nor could they obtain it from normal red bone marrow.

They did obtain, however, a similar but not identical proteid from the vertebræ and ends of the femur, but it differed in the temperature at which it coagulated, and in not being redissolved on boiling. They think the marrow must have been the seat of production of the proteid rather than any unassimilated digestive proteid, as suggested by some. Dr. Weber gave the following as the conclusions he had formed: (1) Bence-Jones' albumosuria is always the result of disease of the bone marrow. (2) It is due to an abnormal metabolic or degenerative process in the myelocytes or in the tumor cells derived from them. (3) The reason why it is generally associated with myelogenic tumor formation is that the tumor cells derived from bone-marrow cells, however closely they may resemble true marrow cells, are more prone to abnormality than real myelocytes. (4) Non-myelogenic tumor cells are not affected in the same way and therefore metastatic tumors in the bone-marrow do not give rise to Bence-Jones' albumosuria-like myelogenic tumors.

Dr. T. R. Bradshaw said that when five years ago he brought a case before the society not more than six had been described, a number which has now increased to thirty-two. He thought myelopathic albumosuria should now be regarded as a definite disease. The proteid appeared to be intermediate between an albumin and an albumose. The latter name was applied to bodies which differ a good deal in chemical reactions. The idea of an albumose is a proteid derived from albumin, but of less molecular weight and of less complexity. The Bence-Jones' albumose has not been found, except in association with bone tumors, and the change in the urine is marked before any symptoms of bone disease occur. The new growth in the bones seems to be the seat of the formation. Dr. R. Hutchinson agreed with this, though it seemed to him difficult to see how the destruction of these cells could give rise to the great quantity of proteid passed in the urine. Dr. Macleod thought the proteid was rather an albumin. Its biuret reaction was always violet—not red.

The appendix vermiformis continues to claim attention from various points of view. At the Medical Society, on the 9th inst., Mr. Frederic Eve of the London Hospital discussed the conditions which simulate inflammation of the tube and cases of abscess in unusual positions. He related five cases of tuberculosis of the cæcum, all having a history of recurrent attacks of pain, sometimes coming on suddenly. One was, for years, supposed to have a gastric ulcer. The pain being referred to the epigastric region. In nearly all cases there was constipation, but vomiting in only one. The appendix was only found involved once and was not tuberculous. The difficulties in diagnosis between affections of the appendix, gall-bladder, kidney and intestines, in some cases, were dealt with. The localization of pain and the position of an abscess varied greatly. In one case the pain was referred to the right loin, the tip of the appendix being adherent beneath the liver. In another the complaint was of pain in the *left* flank. Pelvic inflammations must not be forgotten.

Mr. Gould (president) mentioned cases of tuberculous disease in the neighborhood of the appendix which led to errors of diagnosis. In one, recovery occurred after an exploratory laparotomy. Other cases were twisted pedicle, duodenal ulcer, perforating. On the other hand, appendicitis had been mistaken for ovarian tumor, and concretions had been found free in the peritoneal cavity without any fluid.

Dr. De H. Hall mentioned a case of a woman who had a lump in the position of a femoral hernia, and found to be the appendix passed down the sheath. Dr. Caley said that when pain had been long continued colitis should be suspected, and cited such a case in which the appendix was removed without benefit. Another difficult case proved to be a perforated ulcer of the cæcum.

In connection with the foregoing let me add a few points from the recent Hunterian lectures of Mr. McAdam Eccles, at the Royal College of Surgeons. First he said the appendix is an intraperitoneal organ, always suspended by a fold of peritoneum, but with its extreme tip usually free. It cannot, therefore, be reached without incising the parietal layer of peritoneum. Another fact is the direct communication with the cæcum proper. This is a safety-valve, and not in the vast majority of cases the entrance by which a foreign body passes into the tube. The lumen is smaller than many of the bodies which have been said to have passed through it. The *position* of the appendix within the abdomen is important, but the lecturer said it was almost impossible to guess where the tip was in a given case, without exposing it, and he cited instances of unusual positions, and said there are three, which may be conveniently termed normal: (1) pointing upward and inward toward the spleen; (2) downward and inward over the brim of the true pelvis; (3) directly upward behind the cæcum. In more than half of nearly 200 cases he had found it in the last. As to appearances, Mr. Eccles described those which might decide that the organ was healthy enough not to be excised, though he admitted that it would be impossible to say it was absolutely normal without microscopic examination. As to its physiology he took a middle course, considering it as partly absorptive and partly excretive. Pathologically, inflammation is the chief feature, and the lecturer stated his belief that every case is due to bacteria.

The Earl of Derby, presiding at a recent meeting of the Association for the Prevention of Consumption, remarks that the Berlin conference had considered the reason why treatment successful in one place was not in another. In Prussia deaths from consumption had fallen from 31 to 21 per 10,000, in England from 24 to 19. He thought there was a more wide-spread knowledge of the subject in Germany, and more general resort to sanatoria, also greater willingness to submit to regulations. He believed workmen would, through their friendly societies, establish for themselves such institutions as were necessary. In England fifty-two sanitoria had been erected during the last four years. He suggested that beds in the vacant smallpox hospitals might be utilized for consumption. I suppose he meant that they could be so used between epidemics. The association passed a resolution in favor of a law forbidding spitting in public places.

The London County Council has just sent a circular to the practitioners in its district to inform them that they have put in force the notification act in reference to measles.

Sir Michael Foster announces his intention to resign his Cambridge professorship before the next term. Looking at his vacillation about his seat in Parliament, one feels doubtful whether he may not again change his mind.

We have a new doctor in Parliament. The bye-election at Rye resulted in the return of Dr. C. F. Hutchinson, M.D., Edin., 1874, who several years ago retired from practice.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

ANTISERUM FOR RINDERPEST—PHARMACY IN THE PHILIPPINES—INJURY TO DRUGS BY CLIMATE AND INSECTS—STATUS OF SURGERY—AN OPENING FOR DENTISTS—FORTUNE IN DAIRY FARMING.

MANILA, P. I., February 20, 1903.

THE recent epidemic of rinderpest having destroyed so many cattle and carabao as to interfere seriously with the cultivation of crops, the commission is about to import a large number for sale at cost to the Filipino farmers. As rinderpest still prevails in the districts to which they are to be sent, the government is immunizing the newly purchased animals against the disease by the use of Dr. Strong's antirinderpest serum, which confers an immunity lasting six or seven years. The mortality following inoculation is small—less than 2 per cent. About 20,000 carabao, now collected at Amoy, China, are undergoing inoculation prior to shipment to the Philippines. Inoculation of animals against rinderpest is done gratuitously for private owners at the government laboratories in Manila. This fact has been widely advertised through the provinces, but with little effect, as the Filipino is slow to accept new ideas, and would rather take his chance of losing his animals than submit it to a procedure which he does not understand.

The commission is at present considering the question of raising the educational standard for persons desiring to practise pharmacy. As the matter stands, licensed pharmacists are required to study two years longer than assistant pharmacists. As compared with those of pharmacists in the United States, the qualifications required are not high—but it should be remembered that neither the intellectual nor the general educational standards of the Filipino are anywhere near as high as in the United States, and that the education and civilization of the natives are both superficial and imperfect.

The character and quality of many drugs, medicines, and articles of medical supply are affected very unfavorably by the Philippine climate, as the army medical authorities especially have found out. Heat, moisture, intense light, rust, molds, and insects all play their part in the work of destruction. Ammonium carbonate, chloral, and similar drugs liquify. Some fluid extracts, as that of wild cherry, deposit heavy precipitates; the gelatin coating of pills becomes leathery and insoluble; sodium salicylate turns purplish. Volatile substances require glass-stoppered bottles, as there is great loss of substance and virtue through ordinary corks; original tins of Squibb's ether, stored for some little time, are found to be empty, or nearly so, the ether having volatilized

through the metal of the tin. Flaxseed, farina, oatmeal, and similar articles soon swarm with weevils in spite of being put up in metal containers—a few eggs of the weevil present when the article was originally packed developing rapidly into a horde of worms and insects. Quick-lime rapidly a r-slacks and chlorinated lime loses its chlorine through the bottle-stopper, both becoming worthless for disinfection purposes. Oil silk loses its oil, and sections stick together so tightly as not to be detached without tearing; bandages, bedding, and fabrics generally are liable to undergo dry rot, be cut through by mold or riddled by white ants or moths. Leather is rapidly spoiled by mold, becomes brittle and ultimately crumbles to powder; leather is a'so a favorite food of white ants and the large Philippine cockroaches. In the rainy season all leather must be sunned frequently. Articles of rubber lose their elasticity so rapidly on exposure to air that in the army only a six month's supply is now issued at a time. Tins are cut through by rust and the contents spoiled by the action of air, bacteria or insects. Instruments must be watched most carefully to prevent their being promptly ruined by rust; those required for daily use are commonly kept in glycerin or carbolized oil, while instruments in their cases must be wrapped separately in pieces of paraffined paper. Wooden boxes undergo dry rot and frequently become so honeycombed by white ants, if allowed to stand in one place any length of time, as to collapse at the first attempt at handling. For all these reasons the lot of the pharmacist in the Philippines is not an especially happy one. One rift in the clouds for him consists in the fact that the native will accept anything in the way of medicine, particularly if it have pronounced color, a bad taste, and a well-marked cathartic or emetic action. Counter prescribing is a large feature of the retail drug and medicine trade in the Philippines, as might be expected in a country the lower classes of which are so ignorant and impoverished, and in which there are so few physicians. During the cholera outbreak the drug stores did a rushing business in specifics for cholera at a peso or so a bottle. If one proved valu less, the native did not lose faith thereby in the potency of drugs, but tried the "sure cure" advertised by the rival pharmacist. In the provinces the retail drug trade is held by Spaniards, or Spanish half-castes; the wholesale drug business is controlled by Germans. There is much substitution and adulteration of drugs, and the establishment of a few well-equipped American drug stores supplied with the best products of American wholesale manufacturing pharmacists would prove a paying investment. Many of the American and English physicians in practice in Manila prefer to import their own medicines so as to be certain that the patient receives the special drug, of the proper strength prescribed. The articles kept in Manila drug stores are not well selected, according to our way of thinking, nor is this selection very large. Patent medicines and secret preparations are very popular with the natives, and these form a large part of the stock in trade. To send to the United States or Germany for an article not on hand means a delay of three or four months, though occasionally a desired article can be procured in Hongkong. This difficulty in procuring at any time the supplies wanted is a no small hindrance to the most satisfactory medical practice. The supply of surgical instruments is even more limited, and some first-class American instrument maker would do well to establish a well-equipped agency here.

The amount of surgery to be done is relatively small in the Philippines, from the absence of the railroads and factories which furnish the greater part of surgical cases in more civilized countries and because the native has an instinctive dread of any operation requiring cutting, which, in the hands of the Spanish and Filipino doctors, usually turns out badly in the rare cases in which they are undertaken. As yet, the natives have not been educated up to the possibilities of modern aseptic surgery. The obstetrician has little field for practice among the natives, as child-birth is largely left to midwives, who rely on expression and kneading of the uterus to bring about delivery. Native women are very modest about exposing the genitalia to male physicians, and for this reason little opportunity for practice is afforded the obstetrician and gynecologist. Specialists in diseases of the eye, ear, nose, and throat generally do well after acquiring the confidence of the natives, as also the practitioner of internal medicine. American dentists in the islands are doing well and are preferred by the natives to the Spanish or Filipino dentists. The Filipino is very proud of his personal appearance, and will pay any price for gold fillings or prosthetic dentistry. Of the two, dentistry is much more remunerative than the practice of medicine and surgery among the natives. As the Philippine climate seems to have a very unfavorable influence upon the teeth of Americans, causing them to disintegrate rapidly, the dental work required among the white population is much larger than among the same class and numbers in the United States. At present the supply of dentists is not equal to the demand.

A small fortune also awaits one who will establish a dairy farm near Manila and provide a supply of milk of good quality and undoubted purity. The dairy should be modeled on the lines of the Walker-Gordon laboratories of the eastern cities of the United States, so that a supply of proper food for nursing infants might always be available. But little fresh milk is now obtainable in Manila, and this is so certain to be contaminated by the filthy methods of the natives as to be unfit for use without boiling. Native cattle are few and far between, and have for centuries been raised for draft rather than milk purposes. Carabao and mare's milk are obtained with difficulty, and the former is not relished by many persons The supply of goats' milk is very small, and this is so rich in fats as to cause indigestion in infants in this climate. Better than milk from the above animals is the unsweetened canned condensed cream, properly diluted, but this soon becomes distasteful to most adults, and cannot be used for children for any great length of time, except to supplement a supply of fresh milk, without marked impairment of the health and condition. A thick creamy milk is brought up from Australia on refrigerator ships, and is fairly palatable, as a change, when diluted with hot water. It is, however, undoubtedly preserved by the addition of boric acid or formaldehyde, and frequently becomes "stringy" and bad tasting. Malted milk is much used, but has its limitations. As a result, the nutrition of that class of patients, who, in the United States, would be placed on a milk diet, suffers; while the nourishment of infants whose mothers have an insufficient flow of breast milk is always a serious matter, as it is difficult to secure wet nurses from among the native women. The establishment of a dairy run under modern methods would thus be hailed as a boon by housekeepers, and as an important adjuvant in the treatment of the sick and feeding of infants by physicians, nurses, and mothers in these islands.

NEW LAMPS FOR PHOTOTHERAPY.

To the Editor of the Medical Record:

Sir: I note in your issue of March 28 a communication from Dr. Cleaves, in which she says: "From the beginning of my use of the ultra-violet light disassociated from the luminous and heat rays," etc.

If Dr. Cleaves has devised a lamp or other apparatus whereby she has disassociated the ultra-violet from the luminous rays so as to enable her to use the ultra-violet alone, it would be interesting to know the exact devices employed by her. It certainly cannot be accomplished by any of the lamps referred to in her article. It, of course, can be accomplished with the aid of a quartz prism or a diffraction grating, but the lamp with these attachments would not be as useful therapeutically as if these attachments were omitted.

In another part of the article it is stated: "Bang, in his experiments with an ordinary arc consuming 1,375 volts per hour, found," etc. This sentence, I think, would puzzle the most expert electrician unless he referred to Bang's original article (*Deutsche medicinische Wochenschrift*, September 26, 1901), where he would learn that Bang operated the lamps referred to under a pressure of fifty-five volts with a current strength of twenty-five amperes—in other words, the electric energy in constant use during the time of the experiment amounted to 1,375 watts (not volts). The lamp made by the Kny-Scheerer Co. has but little resemblance to the Bang lamp. In reality it is a copy of a lamp introduced by the Sanitas electricitats Gesellschaft of Berlin, and described by Dr. Kattenbracker in *Treatment*, February, 1902. An equally convenient lamp with probably double its efficiency on same expenditure for current has been introduced by Reiniger, Gebbert and Schall of Erlangen. Another twin-arc lamp offered by Heller, Coudray et Cie, Paris, appeals to me still more strongly. A twin arc lamp with metal-cored carbons is offered by Isenthal & Co. of London. These lamps are all of the low-tension arc type, working under a pressure of about fifty-five volts and with a current of eight or ten amperes, and are richly endowed with luminous rays with a good output of ultra-violet. The condenser-spark lamps, however, are comparatively feeble in luminous rays, but exceedingly rich in ultra-violet.

Since the publication of my recent paper in your issue of March 7, I have been asked by several as to whether the low-tension arc or the high-tension condenser-spark lamp is to be preferred. This will depend upon the case one purposes to treat. If the lesions are strictly superficial the condenser-spark will prove the more satisfactory, but if the lesions involve the entire thickness of the derma or exist beneath it, the low-tension lamp will be found the more efficient.

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Progress of Medical Science.

New York Medical Journal, April 4, 1903.

Syphilitic Pseudotabes.—J. Collins reports a case of this nature and discusses the differential diagnosis of tabes. Conditions calling for differentiation from tabes are multiple neuritis, flat feet, paresis, and multiple sclerosis. The latter, Collins considers to be the disease which, in an atypical form, is most readily mistaken for tabes. When the sclerotic patch or patches occur in the posterior columns, the symptoms that result are those of tabes, and so long as the sclerotic areas are confined to those columns, the clinical picture continues to be that of tabes. It is only when they develop in other parts of the cord, and produce characteristic symptoms, such as tremor, nystagmus, speech disturbance, and possible increase of the tendon jerks in the upper and cephalic extremity (knee-jerks and ankle-jerks being lost on account of the lesion of the posterior columns), that the disease can be differentiated Even then it requires repeated observation and considerable study.

Terminal Coma in Diabetes.—A. R. Elliott gives the histories of four fatal cases. Concerning the treatment of coma from this cause, he observes, that prophylaxis is of the greatest importance. The earliest indication of the trend of events is the appearance in the urine of the acid toxins. The first of these to appear is usually acetone, which is readily detected by the sweet chloroformic odor it imparts to the breath and urine of the patient. Subsequently, diacetic acid and β oxybutyric acids make their appearance and occasion the beautiful burgundy red coloration which follows the addition of a solution of perchloride of iron to the urine, and which is known as Gerhardt's reaction. Diet should be relaxed. The patient should be protected against nervous disturbances, cold, and fatigue. All sedatives and narcotics should be discontinued and elimination favored in every possible way When the prodromes of coma appear, the patient must be immediately put to bed, a stimulant given, and if the heart is weak, a good-sized dose of digitalin had better be administered subcutaneously. If the bowels have not been previously well evacuated, a laxative is given and a high soap suds enema for cleansing purposes. Alkalies which are the physiological antidotes of the acid toxins, should be at once begun in enormous doses, as much as it is possible to get the patient to take, and normal salt-solution charged with sodium bicarbonate may be used freely by bowel and subcutaneously. Inhalations of oxygen should be freely used.

Journal of the American Medical Association, Apr. 4, 1903.

Primary Endothelioma of the Gall-bladder.—W. Becker reports a case occurring in a woman of sixty-five years, and gives full autopsy findings with several illustrations. He says that endothelioma, hemangio-endothelioma, and perithelioma may be blastogenetically alike, but the first tumor differs materially from the last two in the mode of growth, histology, and clinical aspect. One need but think of the functional difference of the normal elements to appreciate this fact. Endotheliomata are only relatively malignant. A great number of tumors reported under this name are essentially inflammatory.

The Bacteriology of Cystitis.—R. C. Longfellow says that in cystitic urine, as a rule, both cocci and bacilli are present; either one may exist in excess of the other, both exist equally or only one form of bacteria be present. Among the cocci present are the staphylococcus pyogenes aureus, albus or citreous, the micrococcus ureæ, sarcina urinæ, the urobacillus liquefaciens septicus, the streptococcus pyogenes, the zoogloea masses, and the gonococcus. The bacilli are usually the coli communis, the tubercle, and in cystitis, during the middle or latter end of a typhoid attack, the Eberth bacillus. Thiogenic bacteria may be present, whose peculiar function is to convert sulphuretted hydrogen into more potent compounds of sulphur, and play no small rôle in cystitis. The pathologic bacteria that are factors in most cases of cystitis are the colon bacillus, the different varieties of staphylococcus, the streptococcus, the tubercle, and the gonococcus.

The Mosquito as a Carrier of Disease.—While accepting, in a general way, current views of the relation of the mosquito to malarial and yellow fevers, J. S. King cannot admit that for the former disease this insect is the only intermediate host for the parasite. He asserts that many of the experiments that have been made by investigators in different parts of the world during the past few years, which are claimed to have established the mosquito as the only intermediate host in the transmission of malarial diseases, have not been conclusive. For it is well known that many persons living in malarial districts can be, and are, exposed year after year to every possible means of contracting malarial fever—through the atmosphere, water, and the mosquito—and yet remain in perfect health; and that healthy persons from non-malarial districts can spend months where malarial fevers are prevailing—mingling with the sick and being exposed to every possible means of contracting the disease—and not have a symptom of malarial trouble.

Gastrointestinal Perforations and Their Diagnosis.—F. G. Connell concludes in the present issue of the *Journal* his studies on this subject. His conclusions are as follows: (1) The previous attempts at an early and accurate diagnosis of perforation of the gastrointestinal tract without opening the abdominal wall have not been adopted. (2) There has been practically no improvement in the method of diagnosing such conditions during the past century. (3) The treatment of the perforation *per se* during the last century has progressed to a state bordering on perfection when compared with the older methods. (4) The diagnosis of gastrointestinal perforations is one of the most important unsolved questions in the domain of abdominal surgery. (5) There is no pathognomonic sign or symptom or group of signs or symptoms of perforation. (6) The only positive method of arriving at a diagnosis to-day is to perform either an exploratory laparotomy or await the development of a peritonitis. (7) To await the development of a peritonitis will reveal the diagnosis too late for the most effectual treatment. (8) Exploratory laparotomy as a routine measure will of necessity result in some cases being needlessly exposed to the many dangers of a major operation. (9) Exploratory laparotomy is not a harmless procedure. (10) The consensus of opinion is in favor of exploratory laparotomy as a choice between two evils. (11) The fact that even the most expert clinicians fail to diagnose perforation in all cases and even diagnose such a condition when it does not exist shows the great need of improvement in diagnostic methods. (12) The diagnosis should be arrived at before the treatment of the perforation is complicated by the presence of a peritonitis. (13) The injection of air or normal salt-solution into the peritoneal cavity and withdrawal of the same for examination will do no harm. (14) Such a procedure will, in many instances, reveal a perforation before any sign or symptom of peritonitis exists. (15) The treatment of the perforation *per se* is simple and satisfactory. (16) The treatment of the complicating peritonitis is multiple and unsatisfactory. The best treatment is prophylactic, *i. e.* early diagnosis and repair of perforation before peritonitis has become established.

The Boston Medical and Surgical Journal, April 2, 1903.

Notes on X-Light.—William Rollins finds that many investigators who have worked with the *x*-light have had greatly impaired eye-sight, as a result from the effect of the light on the crystalline lens. That the author has escaped injury has been due to an early recognition of the dangerous nature of the *x*-light and to having taken certain precautions. These are the following: First axiom: No *x*-light should strike a patient except the smallest beam that will cover the area to be examined, treated, or photographed. Second axiom: No *x*-light should strike the observer. Directions are given for the construction of apparatus to meet the above conditions.

Cæsarean Section for Placenta Prævia.—P. E. Truesdale says that in complete prævia the statistics give an average maternal mortality of 18.9 per cent. and a fetal mortality between 65 and 70 per cent. These results were obtained in maternity hospitals by expert obstetricians, and will probably never be much lowered by any vaginal method of treatment. The mortality figures for Cæsarean section cannot justly be used for comparison, because the operations were performed as a last resource and after alarming hemorrhages had occurred. The author reports a successful case. In conclusion he says that the Cæsarean operation would seem to be the best treatment for placenta prævia, complete or partial, when the child is viable, and when the diameters of the pelvis or the conditions of the soft parts render the operation of dilatation and version, performed with sufficient rapidity to save the child, a dangerous procedure for the mother.

The Clinical Significance of Arteriosclerosis.—Reginald H. Fitz says that a diagnosis of arteriosclerosis is usually made by the physical examination of the accessible arteries and of the heart. The arteries are cord-like, resistent, tortuous, with a ribbed or granular surface. The tension of the pulse is high. The heart gives evidence of hypertrophy of one or both sides by an increased area of dulness, a more powerful apex beat, and an accentuation of the second aortic sound, provided the aortic valve is sufficient. In peripheral arteriosclerosis the physical examination of the accessible arteries is the chief element of diagnosis, but the diagnosis of visceral arteriosclerosis depends first upon the recognition of the

various disturbances of function and then upon the discovery of evidence of central or peripheral arteriosclerosis. In no instance of visceral arteriosclerosis is the diagnosis to be made from the knowledge of disturbance of function alone. The functional disturbances may be due to various causes, one of which is arteriosclerosis, and it is the association of this lesion in the central and peripheral vessels with the symptoms of such disturbed function in an organ which permits the diagnosis of a visceral arteriosclerosis. There are no remedies which can cause this disease to disappear, and the chief benefit of its early discovery comes from the opportunity it gives of warning the patient of the necessity of avoiding mental moral, and physical strain upon blood vessels which already show signs of weakness.

American Medicine, April 4, 1903.

The Influence of Altitude on the Mortality of Pneumonia.—Henry W. Hoagland has gathered a number of statistics which are of interest: There is a total number of 709 cases of pneumonia, 157 deaths, with a death rate of 22.1 per cent., at an average altitude of 6,600 feet, against a percentage of 26.8 at sea level. He thinks that the belief that pneumonia is more fatal in Colorado depends upon the fact that a man with active tuberculosis, with lowered vitality, or one with but one lung, and half of it affected, with a pneumonic consolidation, has very little chance against this disease. In those who are acclimated the disease is no more fatal, and, in fact, from the statistics here presented, it seems manifestly less so at an average altitude of 7,000 feet than at sea level.

Lobar Pneumonia and Its Treatment.—G. Wehrle states that in many cases the drugs so warmly advocated by various authorities cannot be used at all. The best results on the whole seem to come from rational symptomatic treatment. Absolute rest in bed from the very beginning is imperative. The patient should not be allowed to raise himself at all in bed. Anything that will add to the comfort of mind or body is a real and valuable aid to recovery. No visitors at all should be allowed in the sick room. The diet should be nourishing and easily digestible. Milk is both a food and a diuretic. Abundance of plain or medicated water should be given. Enemas of salt solution are also valuable. Tympanites should be relieved by enemas or turpentine stupes. Fever, unless it causes restlessness or remains persistently high, is best left untreated. Circulatory stimulants are often needed, but should be used only when plainly indicated. Strychnine, ammonia, ether, and camphor are most to be depended upon in desperate cases. Many patients will die under any form of treatment. The writer concludes by emphasizing especially the great value of fresh air, plenty of water, absolute rest in bed, and good nursing.

The Use of Compressed Air to Enhance and Prolong the Action of Remedies upon the Cerebrospinal Axis: Synopsis of Experiences in Applying the Method Over Six Thousand Times.—J. Leonard Corning summarizes his conclusions as follows: (1) Limitations of the method.—This plan of treatment is of no use in the management of the inflammatory and degenerative conditions of the cerebrospinal axis. The painful crisis of ataxia may be averted by it, but the progress of the disease is not arrested. Upon such diseases as disseminated sclerosis, spastic, spinal paralysis, poliomyelitis, its influence is nil. In disease of the blood vessels and all cerebral accidents arising therefrom, its use is absolutely counter-indicated. In neuritis this treatment rather augments than diminishes the pain. The same is true of articular rheumatism. (2) Legitimate sphere of application.—Generally speaking, it may be said that cerebral and cerebrospinal affections of a functional character, in which pain, exhaustion, insomnia, or depression are prominent, are the most amenable to this treatment. Here its effects are striking and beyond those obtainable in any other way. Finally, and causally, compressed air, by increasing the pressure in the renal blood vessels, gives rise to diuresis. This effect, obtainable from the air alone, becomes exceedingly pronounced when a diuretic is given, even in insignificant doses.

Medical News, April 4, 1903.

The Significance of Variations in the Internal Secretions.—O. T. Osborne declares that the thyroid gland seems to be the one that has the most to do with the health of the skin, keeping it soft and pliable, and causing the normal amount of insensible perspriation. Suprarenal is a strong cardiac stimulant as well as a vasomotor contractor. Diseased suprarenal glands give the cause of many of the symptoms in Addison's disease, notably the great diminution of vasomotor tension. These glands have something to do with the production of glycogen. What the pituitary secretion means to the system is, in a measure, uncertain. When it becomes disturbed there is almost continuous headache, sometimes excruciating. The glands of the body seem to be more or less interchangeable in their functions; if one is unable to do its work, another seems to take up extra work. The thymus gland contains the largest amount of nuclein, and hence of phosphorus, of any gland of the body and will serve the purpose of any nuclein treatment.

The Prognostic Value of the Diazo-reaction in Pulmonary Tuberculosis.—Francis Carter Wood concludes that: (1) If the urine of a case of pulmonary tuberculosis shows no diazo-reaction and a kidney lesion can be excluded the prognosis is favorable. Only 10 per cent. of the moderately severe cases here recorded gave a reaction, and in a number of these the reaction disappeared on treatment. Early cases not ill enough to apply for hospital treatment do not give the diazo-reaction. (2) If the urine of a case of pulmonary tuberculosis shows an occasional diazo-reaction the prognosis is not necessarily grave as only some 66 per cent of the patients showing an occasional positive reaction die. (3) If the urine of a case of pulmonary tuberculosis shows a continuous strong diazo-reaction the prognosis is very grave, since a large proportion of such cases die within six months. (4) The presence of a diazo-reaction on the first examination of a patient should not debar the case from a thorough trial of climatic treatment in a proper sanatorium.

The Results of Intravenous Injections of Dilute Formalin Solution in Septicæmic Rabbits.—William H. Park reports the results of recent experiments. Even after large doses of formalin the streptococci can still increase in the blood and cause death through septicæmia. Although these experiments are limited in number, still they are so uniform in their outcome that it seems fair to assume that non-lethal formalin injections cannot stop a septicæmia already started in healthy animals. These experiments, as well as others, and the fatal outcome of septicæmia in man after diluted formalin injections should cause us to be guarded in using formalin, and make it necessary to weigh each case injected not only to determine when improvement ensues whether recovery has been promoted, but also when death occurs as to whether harm has been done. An intravenous injection of water plus sodium chloride may prove better than water plus formalin. *Bulletin of the Johns Hopkins Hospital, Mar.-Apr., 1903.*

The Significance of Oxaluria.—J. Bergen Ogden states that oxalic acid may be regarded as a normal constituent of the urine. The amount is very small, usually not exceeding 0.02 gr. in twenty-four hours. It exists in the urine in combination with calcium—calcium oxalate—which is ordinarily held in solution by monosodic acid phosphate, also a normal urinary constituent. Properly, the term oxaluria should be employed in only those cases in which the crystals of calcium oxalate are present in the urine for a considerable period. One important cause of oxaluria is excessive fermentation in the gastrointestinal tract. Another is articles of food containing oxalic acid. Some of these are sorrel, rhubarb, tomatoes, asparagus, spinach, onions, cabbage, and some grapes and apples. A well-marked oxaluria is nearly always accompanied by an increased amount of indoxyl, showing that there is a more or less intimate relation between them. There seems to be a rather close relation between diabetes and an oxaluria. Sometimes a marked oxaluria is an accompaniment of nervous disorders, especially those attended with mental depression, a subacute or chronic prostatitis, and diseases of the heart and lungs.

The Rôle of the Toxins in Inflammations of the Eye.—Robert L. Randolph concludes that: (1) Bacterial toxins, so far as tested, when instilled even for many hours into the healthy conjunctival sac were found incapable of producing inflammation or causing other injury. (2) The same toxins when injected into the tissue of the conjunctiva or into the anterior chamber invariably set up local inflammation, the extent and intensity of the inflammation varying to some degree according to the species of bacterium yielding the toxin. (3) Bacteria which had not previously been proven to produce soluble toxins were found to produce them even in young cultures, and it is suggested that injections of bacterial filtrates into the eye, particularly into the conjunctival tissue, constitute a more delicate biological test for the detection of certain toxins than the tests usually employed for this purpose. (4) The experiments recorded in this paper furnish additional examples, in a comparatively new field, of the importance of toxins in explaining the pathogenic action of bacteria, and likewise emphasize the etiological significance of injuries of the covering membrane of the eye in favoring the action of toxins and of bacteria.

Philadelphia Medical Journal, April 4, 1903.

Subcutaneous Emphysema from Perforation of the Pleura by Extension of Tuberculous Ulceration from the Lung.—Starling Loring reports this case of a mulatto aged thirty-three years. He contracted tuberculosis.

Localized pleurisy developed. In about six weeks he had another attack. About a month later the patient noticed a swelling in the right armpit, which increased and extended inward to the right front of the chest. The next day it reached from the axilla and lower border of the right clavicle downward to the crest of the ilium. The swelling was soft, easily compressible, crackled on pressure, was resonant on percussion, and on auscultation yielded a coarse, crepitant râle with both inspiration and expiration. Punctures allowed the escape of air but did not reduce the swelling. At autopsy there was found a cavity in the upper lobe of the right lung, from which ulceration had extended through the adjacent pleura and the chest wall to the subcutaneous connective tissue.

Impressions of Differences in Practice at Low and High Altitudes.—Will H. Swan reviews this subject and says that as to insomnia, it appears to be the case that most overworked, debilitated, anæmic individuals sleep better on coming to a high altitude, while the full-blooded, high-strung, nervous person sleeps better at sea-level. The writer believes that he sees rather less of so-called biliousness and digestive disorders than while practising at sea-level. As to the occurrence of rheumatism, gout, lithæmia, or uric-acid diathesis, he finds more frequent indications for the salicylates and drugs which are supposed to aid in elimination of uric acid; that there is more often an excess of urates in the urine; that chronic rheumatic affections—especially of a myalgic type seem rather more frequent, while acute articular rheumatism seems less so. In high, dry climates there is increased elimination of water and waste solid products by the skin and lungs. The skin is more active at warm, dry temperatures, while the lungs do more work when it is cold. It is probable that if there are influences in high altitudes which tend to diminish elimination, this can be easily overcome by drinking more water and bathing more frequently. Convalescence after illness in general is apt to be more prompt at high altitudes, because of the greater possibility of being in the open air and sunshine. People who recently come from a low to a high altitude are more easily fatigued.

The Lancet, March 28, 1903.

The Comparative Value of the Mouth, the Rectum, the Urine, the Axilla, and the Groin for Observation of the Temperature.—An elaborate series of observations along this line has been made by F. W. Burton-Fanning and S. G. Champion, with special reference to tuberculosis and to the effects of exercise and other conditions thereon. The article is illustrated by specimen temperature charts, which must be consulted by those interested in the details of the experiments. Concerning the effect on the temperature in tuberculosis of exercise, the authors state that repeated observations were made upon ten patients to ascertain the amount of their reaction to the slight effort entailed in assuming the standing posture. With only one exception a distinct elevation of the rectal temperature has been noted; occasionally as much as a degree's difference has separated the retal temperature of rest and that of standing. It is necessary again to state that the patient must have rested completely beforehand in order that the reaction of standing may be discernible. A patient with arrested pulmonary tuberculosis and wholly free from fever found that his rectal temperature while lying down was 98.9°; he then stood quietly by his chair and the temperature taken each succeeding five minutes read 99.3°, 99.4°, 99.7°, and 99.9°. A rise of one degree, then, had occurred as a consequence of merely standing for 15 minutes. It remained stationary at this point and the patient then resumed the horizontal posture when the temperature was ascertained to have fallen again in ten minutes. As regards the pulse, its frequency was 68 during rest and on standing it rose at once to 80, but while the temperature steadily increased until fifteen minutes had elapsed, the pulse showed no further change. Taking all the observations on the reaction of the rectal temperature to standing the average rise in tuberculosis was 0.5°, the limits being 1.0°, and in one case *nil*.

Medico-legal Post-mortem Examinations.—H. H. Littlejohn lays down the following rules of procedure: (1) The medical inspector should, as a rule, have an opportunity of viewing the body before it is removed from the place of position in which it is found, and in every case the body should be inspected before the clothes are removed. (2) The medical man who attended the deceased before death, or was the first to see him after, should not, as a matter of course, be appointed to make the post-mortem examination, unless he is known to be fully qualified for the duty. (3) A post-mortem should not be made on a case evidently judicial without informing the authorities beforehand, and the warrant of authorization to perform a dissection should always be taken by the inspector to the examination. (4) No one should be allowed to be present at the examination out of mere curiosity or unless specially authorized. (5) Before proceeding to a dissection it is advisable that the examiner should be in possession of information as to the general, and also any special, circumstances of the case, and more particularly in regard to any injury or violence which the deceased may be stated to have received, and as to any known diseased or other condition which may have contributed to the death. (6) The examination should not be commenced without sufficient daylight in prospect to allow of the whole inspection being made without artificial light. (7) The body should be identified by witnesses before the dissection is commenced. (8) Complete notes should be made during the dissection. All measurements should be accurately determined. (9) Injured parts (if possible) all diseased organs or portions of them, and all foreign bodies, should be removed and preserved for further examination. (10) The examination in all cases should be complete, and all the necessary instruments, bottles, etc., should be provided before commencing the dissection.

Treatment of a Formidable Case of Sprue by Diet; the Value of Strawberries.—The patient of F. H. Young was a woman, aged fifty-nine years, who had suffered from influenza and diarrhœa. As these conditions came on the sprue appeared and became so severe as seriously to reduce the patient. She had several attacks of tetany and steadily grew worse on all kinds of diet, but from the time at which strawberries were allowed a marked improvement commenced. The points of interest suggested by the case are summarized by the author as follows: (1) The remarkable change in the condition of the patient after the addition to the diet of strawberries, which distinctly appeared to act as a specific in the disease. Directly strawberries were given it was found possible to increase the bread, which previously could only be given in small quantities, and even then with risk, to practically any extent without there being any return of sprue symptoms. (2) The attacks of tetany, so alarming in this case, are not mentioned as a complication in most textbooks, but it is known that tetany may follow some cases of chronic exhausting diarrhœa. The age of the patient was also unusual for tetany. (3) The uniformity with which the pulse became peculiarly hard, and always then intermittent before the advent of a large fermented motion, was more than a coincidence. So uniform was this that it was always possible to predict the coming event, even though things may have been quite quiescent for some time previously. (4) In the same way the temperature conveyed information not to be disregarded. When the tendency to tetany prevailed a rising temperature always put the author upon his guard and enabled him to adopt timely precautions. There was one curious point about the temperature. A few days after strawberries were commenced the temperature rose slightly in the mornings, reaching 99°, while the evening temperature generally kept lower. This continued for some time after strawberries were stopped. (5) The direction in the textbooks of "milk only" in sprue is not of universal application in advanced cases of the disease. Had it been further continued in the present patient he feels sure that the ending would have been disastrous.

British Medical Journal, March 28, 1903.

Note on the Changes in the Red Cell Produced by the Malignant Tertian Parasite.—J. W. W. Stephens and S. R. Christophers speak of the "stippling" of the red cell produced by the malignant tertain parasite. It is characterized by the fact that: the staining dots are few in number—two to six. They are coarse in size and irregular in outline. Another change is known as the "brassy corpuscle." There are also changes seen in stained films. The corpuscles containing the developed, malignant, tertian parasites present minute clefts or spots, scattered over the cell, staining slightly with hæmatein.

A Case of the Form of Chronic Joint Disease in Children Described by Still.—F. Parkes Weber reports this case, which was a typical example of the articular affection in children described by Still. There was an attack of endocarditis and the initial valve was affected. The knee and elbow-joints became enlarged, but the most striking features of the case were the symmetrical swellings about the articulations of the hands and feet, and the stiffness in the cervical region of the spinal column. The spleen, liver and lymphatic glands in neck, axillæ, and groins were enlarged. The results in this case seem to show that the rheumatoid articular affection in children described by Still is sometimes practically recovered from. The most important part of treatment has consisted in keeping the child away from the unsatisfactory conditions of its own home, care in regard to diet, etc.

The Diagnostic Value of Blood Counts in Malarial and Other Fevers.—T. H. Delany, after giving the tables rep-

resenting his work in this line, says that if the diagnosis of malaria can be made in over 90 per cent. of cases by the blood count against 17 per cent. by the parasitic test, there can be no question as to which is the superior method. A reduction of the white corpuscles to 1,500 or less is of grave prognostic value. Large doses of quinine hypodermically will alone save the patients in such cases. Leucocytosis in malaria seems to be comparatively rare. The writer th n shows the value of blood counts in the diagnosis of post-operative and post-puerperal fevers in the tropics and in the diagnosis of liver abscess from malaria.

A Demonstration on Some Experiments on the Nature and Specific Treatment of Hay Fever.—Felix Semon concludes that: There can be no doubt that Professor Dunbar has succeeded in extracting from the pollen of certain grasses (maize, wheat, rye, etc.) a toxin which, when instilled into the eyes or nostrils of people predisposed to hay fever, produces in these parts the characteristic subjective and objective symptoms of the disease. The toxin, when injected into the eyes or nostrils of people not predisposed, produced, in the great majority of cases, no symptoms whatsoever, but it appears as if there were instances of transition in which, although the persons experimented upon never suffer from typical hay fever, they are yet more susceptible to the influence of the toxin than the ordinary run of people. The effects of the toxin in people suffering from hay fever are variable in intensity. Dunbar's antitoxin produced immediate disappearance of the subjective, and after a few minutes great amelioration of the objective symptoms. The effects of the antitoxin are sometimes sufficient to prevent a rea - pearance of the subjective symptoms, but sometimes repeated instillations of the antitoxin were required to produce ultimately the return to normal conditions. Although the writer does not believe in raising pre ature hopes, still he thinks a most important discovery has been made which he hopes will ultimately lead to the development of an effectual specific treatment of this troublesome affection.

Berliner klinische Wochenschrift, March 9, 1903.

Traumatic Albuminuria.—Fr. Engel reports a case to show that all uminuria may occur from simple traumatism. The patient was twenty-two years of age, and shortly before the accident, which was a fall from a horse, had successfully passed a life-insurance examination. The fall was followed by much pain and stiffness of the back. The examination of the urine was first made one week thereafter and showed albumin by Heller's test and sugar by Nylander's Frequent examinations were subsequently made, but all umin was never again detected, although the glycosuria persisted in traces. Casts were never found.

Does Mercury Cause Tabes?—Paul Cohn says that there is no evidence to show that it does. He reports 117 cases of tabes; of these 43 had previously had syphilis. Fifteen had never been treated with mercury. Twenty-eight had taken the drug but had not followed out a systematic mercurial treatment. In most instances only small and infrequent doses had been taken. Those patients who had never had syphilis had, however, passed through some of the infectious diseases, notably influenza and typhoid fever. It is evident that while syphilis may be an etiological factor in tabes it is not the only one, and that other infectious diseases play a certain part in its causations.

Berliner klinische Wochenschrift, March 10, 1903

Traumatic Albuminuria.—H. Senator refers to Fr. Engel's recent article upon traumatic nephritis in the *Berliner klinische Wochenschrift*, 1903, No. 10 The latter author says that hitherto traumatism has not been considered among the etiological factors of albuminuria or nephritis. This is not correct, for, in Senator's book on diseases of the kidneys (second edition) the following passage occurs: "It is not certain whether traumatism can cause nephritis. The symptoms such as hæmaturia, albuminuria, and cylindruria, which frequently appear after traumatism, do not necessarily indicate the presence of a nephritis since they could be caused by a rupture of the renal vessels, or a mutilation of the kidney substance. It is possible, however, that traumatism of the kidney may lead to necros s in this organ, and that, as the result of such, reactive inflammations may arise."

Carcinoma and Diabetes.—J. Boas reports 366 cases of intestinal carcinoma in twelve of which carcinoma and diabetes were concurrent diseases. In five the diabetes preceded the carcinoma. The influence of the diabetes upon the course of the carcinoma is varied, depending upon the grade of the former. If a carcinoma develops during a diabetes of marked intensity, such a tumor usually runs a rapid and exceedingly malignant course; while, on the other hand, if the diab tes is of low grade the intensity of the carcinoma is abated. The influence of the carcinoma upon the diabetes is also varied. In many instances such an influence is favorable, the intensity of the diabetes markedly lessening, but in other instances the reverse is the case, and the diabetes becomes much exaggerated. The factors which are responsible for these variations are not at present known. In diabetics who develop carcinoma, and in all cases in which these diseases are associated operative treatment for the tumor should be deferred until the urine is sugar free.

Deutsche medicinische Wochenschrift, March 12, 1903.

Antistaphylococcus Serum.—Pröscher has obtained a serum which completely protects rabbits against five to seven times the fatal dose of virulent staphylococcus cultures. The serum was obtained by submitting goats to successive inoculations of virulent staphylococcus bouillon cultures. This serum also agglutinates such cultures in 1 to 2,560 dilution. It has not as yet been tried upon human subjects, but if found efficient in such, its wide scope of usefulness is obvious.

Identity of Bovine and Human Tuberculosis.—Tro'e reports a case which is unique, and which adds evidence in favor of the view that human and bovine tubercle bacilli are identical species. The patient was a young healthy male, who gave no hereditary or personal history of tuberculosis. He was inoculated with bovine tuberculosis on the hand, and a typical lupus lesion developed at the site of inoculation. Subsequ ntly the lymphatic glands which drain the involved region became tubercul us, and, in the course of time, many other lymphatic glands throughout the body bec me similarly affected. Those who dispute the identity of bovine and human tuberculosis have always contended that those who become inoculated with bovine tuberculosis never developed tuberculosis in other regions of the body, and especially that the lymphatic glands never became tubercul us. This is the first case reported in which such involvement occurred, and it at least shows that the same is possible

Münchener medicinische Wochenschrift, March 10, 1903.

Relations between Epilepsy and Migraine.—William Strohmayer concludes from a study of the material available in Binswanger's clinic in Jena, that migra ne and epilepsy often coexist in the same patient. Usually migraine appears first to be followed sooner or later by epilepsy. No case has, however, been observed by the author in which one of these diseases was transformed into the other, or in which one was substituted for the other. When such was apparently the case, it is evident that the migraine was only a symptom of the epileptic condition or that the epilepsy developed as an independent disease, in addition to the migraine. In atypical cases it was difficult to decide whether the epilepsy or the migraine was the primary condition.

Banti's Disease and An æmia Splenica.—F. Marchand does note that splenomegalia is the cause of the cirrhotic changes which develop in the liver in the latter stages of Banti's disease, but that such cirrhotic changes are due to other causes, as, for example, congenital syphilis or alcohol. Two cases are reported, one of Banti's disease and the other of anæmia splenica. In the former, the liver cirrhosis either preceded or arose simultaneous with the splenic condition. The case was operated upon for the ascites, and thereafter the cirrhosis became non-progressive, and at death autopsy showed that the liver condition was not active. In the second case, the patient became tubercul us and died. At autopsy no cirrhotic lesions were found in the liver, although the patient had, for some years, suffered from splenomegalia.

Ovariotomy During Pregnancy.—Willi Thomass reports the case of a woman upon whom ovariotomy was performed during the third month of pregnancy. Abortion followed two days after the operation. The operation was performed, not from necessity, but on the earnest solicitations of the patient. Previous to the operation no tendency to abortion had been detected, and the patient had already passed successfully through four pregnancies since the ovarian tumor had first been discovered. The operation was prolonged on account of numerous adhesions and considerable blood was lost, this probably accounts for the early abortion. From this case, and a résumé of those recently reported by Graefe, it is evident that ovariotomy performed during pregnancy is very liable to be followed by abortion, and that the operation should not then be performed unless urgent symptoms require.

Disinfecting Power of the Old and New Mercurial Preparations and Phenol.—Fritz Hammer has tested experimentally the comparative disinfecting power against anthrax and

staphylococci cultures of certain mercurial and phenol preparations. The mercurial preparations were the sublimate (1 and 3 per cent. solutions) sublamin (1, 3, and 5 per cent. solutions), and hydrarg. oxycyanatum (¼, ½, and 1 per cent. solutions). Those of phenol were carbol (1, 3 and 5 per cent. solutions), cresol (1, 3. and 5 per cent. solutions), lysol (1, 3 and 5 per cent. solutions), cresol soap solution (1, 3, and 10 per cent. solutions), bacillol (1, 3, and 5 per cent. solutions). and lysoform (1, 3. and 5 per cent. solutions) The sublimate solutions, even those of 1 per cent., showed much greater bactericidal power than any of the other substances tested. The phenol preparations possessed very little power, growth taking place in all the tests. The time of exposure to the disinfectants was five fifteen, and sixty minutes. As a rule, the growth recurred more quickly in the anthrax cultures than in those of the staphylococci.

French and Italian Journals.

Ovarian Cyst in a Small Girl of Eight Years; Recovery.—Delassus reports this case, the chief interest of which lies in the extreme youth of the patient The operation offers nothing of particular interest, and the results were excellent. The physician had detected the tumor two years before. The tumor reached to the umbilicus A great part of it was cystic. Before operation it was thought that it was a cystic sarcoma or a dermoid cyst. In reality the tumor was mixed, and in its midst was cartilaginous tissue. It weighed 800 grams.—*Journal des Sciences Médicales de Lille*, March 7, 1903.

Appendicitis and Opium.—Krafft concludes that: Surgeons do not employ opium as the treatment of perappendicitis, but simply to calm the pain and peristalsis before operation. Purgatives and injections are dangerous because the peritoneum, always inflamed in per append.-citis, can only be disturbed in its process of encapsulating the trouble, if it is shaken up by irrigations either by mouth or rectum. In periappendicitis, operation is the only rational treatment. Tenderness, acute and localized, at McBurney's point or elsewhere in the case of "cæcum migrans" is the only symptom on which we can count in the beginning of an appendicitis.—*Revue Médicale de la Suisse Romande*, February 20, 1903.

Hysterical Fever.—G. B. Ughetti reports several cases of this not very frequent affection. The hyperpyrexia appears to be the only constant symptom, and strangely enough, hysterical attacks do not seem to occur during the rise of temperature. One of the most important distinctions between hysterical fevers and those due to infection is the dissociation of the three phenomena—temperature, pulse, and respiration. Yet this sign is not always present. Nearly every type of fever is simulated by this affection, the most insidious being that which simulates typhoid fever.—*La Riforma Medica*, March 4, 1903.

Histological Changes in the Spinal Cord Due to Local Injections of Cultures of Staphylococcus.—Vittorio Martinelli, concludes, from his experimental researches, that the injection of very virulent cultures of the staphylococcus produces a limited local lesion the character of which is chiefly that of a necrosis and only secondarily that of a suppurative inflammatory process. The microorganisms which are injected disappear rapidly from the site of injection, owing to cellular phagocytosis, and even in fatal cases but few cocci can be found *in situ*.—*Giornale della Associazione Napoletana di Medici e Naturalisti*, November-December, 1902.

Tumors of the Larynx and of the Velum Palati.—Garel presented a patient with respiratory embarrassment, spasms, and a peculiar vocal timbre. Examination discovered a large tumor of the size of a nut masking the whole glottis. Light swelling movements at each respiration first gave rise to the suspicion that the tumor was pediculated. Garel preferred its extraction by the natural ways to surgical intervention. The tumor was removed by electricity. It was a fibroma. The writer has removed two other rare tumors from the velum palati, one a simple lipoma, and the other a mixed growth of congenital origin.—*Lyon Médical*, March 1, 1903.

Pustular Acne of the Face.—Leredde says that the remedy most employed for this affection is sulphur. The pastes are much used in the treatment of acne. They consist of a mixture of powders and fats, made up to a firm consistence. The value of the excipient lies in the fact that the proportion of active substance which is incorporated in it can be increased or diminished, without increasing or diminishing to the same extent the efficiency of the preparation. A pomatum used in acne consists of: precipitated sulphur, 5 grams; vaselin, 75 grams; lanolin, 20 grams; calomel, 2 gr. 50. Sometimes even exfoliation is necessary. General treatment should be given at the same time.—*Journal des Practiciens*, March 14, 1903.

Diagnosis of Appendicitis from Blood Examination.—Lamy states that the researches of modern workers show that leucocytosis does not appear exclusively in the suppurative forms of appendicitis. In the milder forms which terminate by resolution, the number of white corpuscles reaches 15,000 to 20,000 per cubic millimeter at the moment of the acute crisis. This hyperleucocytosis is very fleeting. It lasts only from two to four days. On the contrary, in the grave forms, when suppuration is established, the number of leucocytes exceeds 25,000, even reaches 30,000, 40,000, and more. And this condition persists a long time. In every case, initial leucocytosis is the rule.—*Gazette des Hôpitaux Civil et Militaires*, March 10, 1903.

The Results of the Ligature of Steno's Duct.—V. Marzocchi and E. Bizzozero concludes, from their experiments on animals, that the ligature of Steno's duct does not lead to the formation of cysts. The lumen of the acini and of the duct becomes dilated and the epithelial cells are changed. Immediately after the operation the gland is found to be invaded by leucocytes with polymorphous nuclei, which gradually decrease, but do not entirely disappear, even after the lapse of sixty-five days. Reactionary process on the part of the connective tissue is very slow in becoming established, and does not lead to sclerosis sixty-five days after the operation.—*Gazzetta Medica Lombarda*, March 15, 1903.

A Case of Hepatitis with Grave Icterus in an Infant Nursed by a Nephritic Mother.—Dante Pacchioni reports the fatal case of an infant of four months with hepatitis. The mother had always been healthy, but in the last month of pregnancy had suffered from œdema, and albumin had been found in the urine. At the time of the child's death she still had slight albuminuria, with a few hyaline and granular casts and scattered renal cells. The author considers it rational to suppose that the toxic substances excreted by the mammary gland of a nephritic woman might produce various morbid symptoms in the infant (hæmolytic, phlogistic for certain tissues, convulsive, tetanic, dystrophic, etc.), according to the nature of the toxin and the individual predisposition of the infant's tissues.—*Rivista di Clinica Pediatrica*, March, 1903.

Chronic Recurrent Osteomyelitis.—Deroeque describes a sequestrum, 5 or 6 cm. in length, which was taken from a patient operated on by him. The patient was a man of forty-nine years, who at the age of fourteen years had an osteomyelitis of the upper extremity of the right tibia, accompanied by considerable fever. At the end of six weeks several small sequestra were eliminated. Suppuration ceased at the end of two months. Again, at eighteen years of age, there was another attack following trauma; at thirty-nine years another attack occurred with great pain. Again, this last attack was accompanied by such pain that an operation was performed. An abscess was discovered and the sequestrum mentioned above was removed.—*La Revue Médicale de Normandie*, February 25, 1903.

Treatment of Lead Colic by Electrical Injection.—M. L. Galliard presents most encouraging results from this treatment. The first case he reports was a patient of thirty-six years, a worker in metals. He had not had a bowel movement for five days. No gas had been passed for thirty-six hours. This treatment was followed so quickly by relief, that the writer determined to institute it systematically in all cases in which coprostasis was resistant to simple or purgative injections. In a foundryman of thirty-two years, who had not had a passage for six days, and who had vomited bile, a single electrical injection resulted in rapid recovery, as in the former case. Other cases with results equally as successful are reported. This treatment allows the complete suppression of purgatives, which are attended by multiple inconveniences.—*Le Bulletin Médical*, March 21, 1903.

Alimentary Régime in Muco-Membranous Enterocolitis.—Froussard declares that diet plays an important rôle in this affection. He treats the subject very thoroughly and considers not only foods, but their preparation. Butchers' meats and fowl may be eaten provided they are fresh, tender, and not infiltrated with fat. Fat is badly digested Fish with lean meat may be recommended. All of the crustaceans and shell fish should be rejected. Perhaps the oyster might be excepted. Green vegetables are as a rule, badly digested Starchy vegetables are useful. Often milk is badly digested when given in the absolute milk régime. Fruits in general may be taken. Pure water is the best beverage. Butchers' meat should be roasted or broiled. Fowls should be roasted. Yolks of eggs and very fresh butter ought to replace fats of animals or vegetable origin in ordinary use.—*Gazette des Hôpitaux Civils et Militaires*, March 17, 1903

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held April 2, 1903.

ANDREW H. SMITH, M.D., PRESIDENT.

Chronic Middle-ear Suppuration.—This was the subject for the evening's discussion, the meeting being in charge of the Section on Otology.

Symptomatology and Diagnosis of the Complications.—DR. T. PASSMORE BERENS read this paper. He said that cases of suppuration of the middle ear were common. Thus, out of 25,667 cases of ear diseases at the Manhattan Eye and Ear Hospital during the last six years, 7,336 were cases of suppuration of the middle ear. The suppuration was considered to be chronic when it had persisted actively for six months. It generally began as an acute suppuration, which in turn originated, as a rule, in conditions of the general health causing a lowering of the natural resistance of the mucous membranes to infection with pathogenic microorganisms. Chronic suppuration of the middle ear very commonly resulted from the neglect of acute conditions, or secondarily as a result of destruction of the mucous membrane and periosteum with erosions of the bone, or by the formation of granulation tissue. Extension of infection from the ear into the brain often took place through the tympanum and the mastoid antrum into the middle cerebral fossa. The complications of chronic suppuration of the middle ear were chiefly deafness, suppurative mastoiditis, osteosclerosis of the mastoid, facial paralysis, vertigo, leptomeningitis, sinus thrombosis, and brain abscess. The latter was only considered in the present discussion. The symptoms of extradural abscess were said not to be constant. There was usually pain on pressure over the mastoid antrum and a profuse discharge from the ear, although the latter symptom might be entirely wanting When the arachnoid was once affected, the infection spread rapidly, and might eventually involve the whole subdural space. The rapidity of this process was remarkable, frequently only a few hours being required. The tissues were anæmic, and there was marked dilatation of the veins, which were surrounded by an exudate which rapidly degenerated into pus. The symptoms of purulent leptomeningitis in the early stages were variable, being insidious in some cases and marked and sudden in others. Usually there were headache and pain referred to the side of the diseased ear, associated with vomiting and retraction of the abdomen. There was, ordinarily, a decided elevation of temperature accompanied by chilliness. The cranial nerves were usually affected. General convulsions were not unusual, and spasms or rigidity of different groups of muscles were common, while optic neuritis, squint and intolerance to light and sound were familiar symptoms. Meningitis serosa was the serous form of leptomeningitis, and was due to hyperæmia, followed by an exudation of serum containing a few leucocytes, but no pathogenic microorganisms. The effusion of fluid might be so rapid and abundant as to cause pressure on the brain, and even death. The symptoms were those of intracerebral pressure. The diagnosis was confirmed by lumbar puncture or puncture through the dura under aseptic precautions during operation on the temporal bone. The prognosis was fair in cases operated upon early. Septic thrombosis into the cranial sinuses was usually the result of a spread of the process, by continuity. The size of the thrombosis varied; at times it might extend even down into the innominate vein. A leucocyte exudate formed around the vein, giving rise to phlebitis or periphlebitis. When this occurred in the brain it led to septic leptomeningitis. Pain on pressure was usually present at some point on the mastoid and at the upper end of the internal jugular vein. The commonly quoted symptom of a cord-like swelling in the neck along the course of the jugular vein was usually absent. Choked disk was frequently present, as was optic neuritis. In thrombosis of the cavernous sinus there was exophthalmos. Disease in the jugular bulb might give rise to tortico lis, paralysis of the pharyngeal muscles, and hoarseness. The general symptoms were headache marked digestive disturbance and foul, heavy odor to the breath. Chills were always present, although they might not be marked in the early stages. They were followed by high fever, the temperature frequently rising above 105°F. They were followed by a profuse and prostating sweat. The temperature was remittent in type. The pulse was rapid and became weaker as the disease advanced. The patient died either from toxæmia or from metastases into various organs. Examination of the ears would usually aid in differentiating from malaria and typhoid fever. From pneumonia, the physical signs would aid in making the diagnosis. From meningitis, it was differentiated by the absence of involvement of the cranial nerves and absence of delirium. Cases operated upon early usually did well. Abscess of the brain or cerebellum was not uncommon. If the infection were by way of the blood or lymph channels it was usually caused by a septic embolus or thrombus. The most frequent location for brain abscess was in the temperosphenoidal lobe, and the next most frequent site was in the cerebellum. Generally speaking, there was only one abscess. In the encapsulated form the symptoms of the early stages were so slight as usually to pass unnoticed. The general symptoms of brain abscess were headache, disturbance of the digestive system, sensations of chilliness, propulsive vomiting with no relation to the taking of food, and not preceded by nausea. The respirations were slow, especially in cerebellar abscess. The temperature was usually subnormal or nearly normal until the last stages, when it would suddenly rise to 108°F. or higher. The pulse was slow until the late stages of the disease Vertigo was present There was a tendency to drowsiness, but the patient could be easily aroused until late in the disease. Cerebration was slow. As the disease progressed, drowsiness deepened into coma, and emaciation was marked and rapidly progressive. Convulsions were rarely present, and localizing symptoms might be few, owing to the fact that motor areas frequently escaped. In cerebellar abscess there were usually occipital headache, stiffness of the muscles of the neck, vertigo, staggering gait, and sometimes nystagmus.

Treatment of the Complications.—Dr. JAMES F. MCKERNON presented this paper. He said that one of the first and most frequent complications was a more or less extensive destruction of the membrana tympani. A careful examination of the nose and nasopharynx should be made, and if any obstructions were found there they should be removed. It was a cardinal principle to maintain cleanliness of the structures to be healed, and to apply an astringent solution to the edges of the perforation. The favorite remedy was a solution of silver nitrate, varying in strength from a very weak to a saturated solution. This application should be followed by an insufflation of some drying powder, such as boric acid, aristol, or acetanilid. Subsequently the hearing should be improved by the use of catheter insufflation and vaporization in adults, and of the Politzer bag in children. Fungoid masses should be removed by means of the curette after cocainization of the base. In some cases the opening in the membrane was slow in healing, and the process should then be hastened by the use of collodion, or by the gumming of a bit of paper over the opening. After doing an ossiculectomy extreme care should be exercised to remove all diseased tissue in or around the tympanic opening of the Eustachian tube. Furuncle of the external auditory canal was frequently observed during a purulent discharge from the middle ear. Free incision, followed by curetting and drainage, was the most rapid method of effecting a cure.

Mastoiditis.—Mastoiditis might be met with in either the acute or the chronic form. At the outset a careful examination of the middle ear should be made, and if the drum membrane was found to be bulging a free incision should be made in this membrane to permit drainage. If there was much tenderness over the mastoid antrum or tip, the ice-coil should be applied for twenty-four hours, and the auditory canal irrigated every three hours with a very weak solution of bichloride. If some diminution of tenderness were observed after twenty-four hours, the ice might be continued for twelve hours more. It was most important to make a bacteriological examination of the discharge from the middle ear. When this examination showed the presence of the streptococcus, one might feel almost sure that operation would be demanded. The antrum should be entered first and a free communication established between it and the middle ear. Careful search should be made for cellular structures. The removal of the first dressing could be made comparatively painless if a piece of sterile rubber tissue were button-holed and approximated to the bony cavity before inserting the gauze.

Subperiosteal Abscess.—In cases of subperiosteal abscess it was not sufficient merely to open the subperiosteal accumulation, for in thirty-one cases of this kind which he had treated in children, varying in age from five weeks to eight years, pus was found in the mastoid process thirty times.

Pachymeningitis—Pachymeningitis was a common complication of mastoid abscess. The pus and granulations should be removed. When the dura was found to be covered with healthy granulations they should not be molested, as this was nature's method of effecting a cure.

Sinus Thrombosis.—Sinus thrombosis was most commonly observed in the sigmoid sinus. The first step in the treatment was a thorough exposure of the sinus and a flushing of the field with absolute alcohol to insure sterilization. The anterior wall of the sinus should be incised rather than punctured with an aspirating needle, for the latter method had been found misleading. If a clot were present, a freer incision should be made, and the thrombus removed. Hemorrhage was controlled by the packing in of gauze. In about one-half of the uncomplicated cases the return circulation could be reëstablished. When the sinus did not contain pus and the symptoms did not point strongly to a jugular involvement, it was better not to carry the operation any further, even though there was no return current of blood. In all of the cases the lower end of the sinus and bulb should be exposed, as here the trouble was very apt to be located. If, on opening the sinus, a disintegrated clot were found, or else pus, the clavicle should be resected, and the internal jugular vein should be removed, provided the patient's condition would permit. Enlarged glands found in the course of the dissection should be removed. The wound in the neck should be flushed with hot saline solution, and then nearly closed with a continuous silk suture. The inferior petrosal sinus was quite frequently thrombosed in connection with thrombosis of the sigmoid sinus. A thrombosis of the cavernous sinus was almost invariably fatal.

Brain Abscess.—About 37 per cent. of all cases of brain abscess were of otitic origin. When there was an accumulation of pus just beneath the dura, the latter would be found of a darker color than normal. After opening the dura silk sutures should be used as retractors. For exploring the brain, he preferred the use of the scalpel and finger. When pus was found a sufficient opening should be made and wick drainage employed. After three or four days the wick should be renewed. When there were no distinct localizing symptoms, it was well to make the opening one inch above the center of the bony meatus. In all cases the openings should be made as nearly as possible on a level with the floor of the lobe, which it was desired to drain. In cases of suspected cerebellar abscess the opening should be made one inch and a half behind the center of the bony meatus and one-third of an inch below that point. Metastatic abscesses in various parts of the body should be treated on general surgical principles.

Facial Paralysis.—Facial paralysis was by no means uncommon following middle-ear suppuration. Absolute rest and frequent purgation were important elements in the treatment. When paralysis appeared several days after an operation for the removal of dead bone and there was no solution of continuity around the canal the paralysis could be explained either by concussion over the canal at the time of the operation, or by later inflammation, or by injury of the facial branch of the chorda tympani This form of paralysis would recover spontaneously The use of the interrupted galvanic current and appropriate tonic treatment were important adjuvants Vertigo following partial occlusion of the Eustachian tube was often troublesome, and could be quickly relieved by inflation of the tube. If treated early and properly, an acute suppurative process in the middle ear should never reach the chronic stage.

Dr. Robert Abbé said it was most interesting to note the changes that had taken place in surgical work in the last thirty years. Formerly the hospital wards were filled with erysipelas, and second to that the great bugbear was pyæmia. The great causes of pyæmia were appendicitis and middle-ear suppuration. The advances made in the treatment of these conditions had very largely eliminated pyæmia. No matter how grave a case of pyæmia might appear to be when first seen a thorough removal of the source of infection in the mastoid not infrequently resulted in a cure. He had been impressed with the disposition of the general practitioner to delay operation if there was no tenderness or œdema of the mastoid, even though there were fever and other evidences of mastoid infection. In such cases if the disease were of long standing the mastoid was apt to be so eburnated that it was difficult to chisel through it. These cases usually presented a maximum of symptoms with a minimum of external evidence. He was not disposed to agree with Dr. McKernon as to the wisdom of partially suturing the wound of the jugular vein; it seemed to him far better to leave such a wound open, protected only by iodoform gauze. A wound that had been allowed to granulate for a few days and was then closed by strapping left a scar that was almost as small as in cases in which the wound had been sutured primarily.

Dr. William M. Leszinsky deplored the tendency to postpone the calling of the neurologist in consultation until the patient was comatose or moribund. Earlier consultation of this kind, he felt, would often throw much light upon the diagnosis. He did not see nearly as many abscesses of the brain or cases of meningitis due to otitic disease as he had done ten years ago. In view of the fact that a cerebral abscess was generally confined to either the temperosphenoidal lobe or the cerebellum, and in view of the fact that both of these points were classified as among the latent points of the brain, or those at which a lesion was non-localizable it was easy to see how difficult it was even for the neurologist, to make a correct diagnosis. It was not always easy to make a differential diagnosis between meningitis and abscess. Slowness of the pulse and a considerable elevation of temperature were observed in meningitis. In abscess of the brain there were often remissions, whereas in meningitis the disease usually progresses steadily. Rigidity of the muscles of the back of the neck were also apt to be misleading. Such rigidity was not apt to be found in cerebellar abscess unless this was associated with meningitis. He did not think lumbar puncture was of material assistance in cases of serious meningitis, although it was of value in other forms of meningitis. Several observers had maintained that there was danger connected with this procedure because of the reaction upon the brain. In his opinion the otologist was not justified in making indiscriminate explorations of the brain unless the symptoms were pretty clearly defined.

With regard to paralysis, Dr. Leszynsky said that an ounce of prevention was better than many pounds of cure. The only way of determining whether the nerve was degenerated or not was by the absence of irritability in the nerve and muscle when irritated by the faradic current. If at the end of ten days or two weeks the faradic irritability were abolished, it was an open question whether or not the use of the affected muscles would be recovered. He had previously pointed out that the determination of the occurrence of this degeneration could be made by the faradic as well as by the galvanic current.

Dr. Emil Gruening spoke of the anatomical conformation of the temporal bone and its bearing upon the diseases of the ear. It was known, he said, that at times the jugular bulb was very large, so that it encroached upon the floor of the tympanic cavity. In an ordinary case of otitis media it was not uncommon to find a sudden development of urgent symptoms. The jugular bulb lay much higher than the lowest part of the lateral sinus. The anatomical conformation of the mastoid often determined the course of the disease. He had not found the bacteriological examinations of great assistance. If there were a large antrum and large cells there would be no fever or headache, and only a slight tenderness. After a few weeks a few enlarged glands would be observed. These were most dangerous cases, because suddenly the pus would escape and give rise to very severe symptoms.

Dr. Wendell C. Phillips said he fully believed the truth of the statement already made, *i. e.* that if acute suppuration of the middle ear were properly treated there would be no chronic suppuration. This statement reflected very gravely upon the defective teaching in the undergraduate colleges, at least in years past. He was of the opinion that abortive measures were practically useless in any case of mastoiditis developing in a case of chronic suppuration. There had been a long-standing necrotic process in the tympanic cavity, so that only a slight increase in the inflammatory process was necessary to cause serious results. Bacteriological examinations of the discharge in acute cases were important, but in the chronic cases it could hardly be expected to have the same value. Early operation not only robbed this disease of most of its dangers, but gave the patient the best results as regards hearing. He had not found elevation of temperature of much importance in adults suffering from this affection. He did not think that any cases of general septic meningitis recovered, and so firmly was he convinced of this that in such cases he would not torture the patient by operation. He had recently been in correspondence with some life insurance medical examiners and had learned in this way that most of these examiners were so firmly convinced that chronic suppuration of the middle ear was dangerous that they either rejected such applicants for life insurance altogether or else required them to pay a higher premium.

Dr. Berens said that the temperature was of very little value in the classes of cases under discussion, even the most dangerous and extensive destructive processes often being present with little or no fever.

Dr. McKernon said that he had had no occasion to regret the policy of partially suturing the jugular wound, and the resulting scar, according to his experience, was much finer than when the wound was allowed to granulate.

Malta Fever.—(1) There occurs in the tropics and subtropics a fever which may resemble in its acute stage either typhoid or malaria, and in its chronic stage articular rheumatism, caused by the micrococcus meli ensis. (2) There are no pathognomonic symptoms of Malta fever. The symptoms observed are so inconstant and confusing that no one of them can be said to be typical of the disease. (3) A differential diagnosis of this fever is almost impossible in the majority of cases without the aid of the microscope and the serum test.—*Craig, American Journal of the Medical Sciences.*

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, Held March 26, 1903.

L. J. Ladinski, M.D., Chairman.

Deciduoma Malignum.—Dr. S. Marx presented a specimen of this condition. He said that the diagnosis had been made on the clinical history before a microscopical examination had been made. From the time of the first examination until the time of the radical operation no hemorrhage occurred. The patient was a woman of twenty-nine years, who had been married eight or nine years but had never before been pregnant. Six weeks before coming under observation, on March 23, she gave birth spontaneously to a three-and-a-half-months' fœtus, and did not quite recover from it before hemorrhage became so severe that her family physician thoroughly curetted her uterus. Despite this the hemorrhage became profuse, and she almost went into collapse. The speaker then examined her, and found what he at first thought was an organized uterine polyp. Her condition was so bad that an intravenous infusion was given, and then she was placed in hospital and this mass removed. She improved very rapidly in the course of the next three months, but then the hemorrhage recurred. Examination at that time showed the cervix open and a very large mass at the spot from which he had removed the first mass. In view of this history he made the diagnosis of deciduoma malignum, and then removed scrapings and submitted them to a competent pathologist, who confirmed the diagnosis. Hysterectomy was performed upon her sixteen days ago. She did well for a few days, but at the end of the first week suffered from exceedingly severe headache, which led him to suspect a metastasis in the brain. However, a neurologist was consulted, and expressed the opinion that the headache was merely the result of the anæmia, and appropriate treatment materially modified the headache. The pathologist said that the deciduoma was exceedingly superficial, and that the prognosis was good.

Pyosalpinx Complicating Pregnancy.—Dr. G. H. Balleray presented several specimens. The first was a tube and ovary, removed from a woman who was four months pregnant, and suffering from acute peritonitis. She had had four self-induced abortions in the preceding two years. Her pain at the time of examination was intense, and was associated with vomiting and high temperature. On opening the abdomen free pus was found, and the tube on the left side contained pus and the ovary on that side was cystic. There was a small perforation in the tube. The latter was removed, the parts swabbed with gauze, and the abdomen closed. She convalesced rapidly and did not abort until two weeks afterward. The fœtus was macerated and the membranes were retained.

Pyosalpinx and Operation During Acute Gonorrhœa.—The next specimen was removed from a patient suffering from pyosalpinx and acute gonorrhœa. The temperature was about 103° F., and the pulse 120. On opening the abdomen both tubes were found filled with pus. On separating the adhesions three or four ounces of free pus welled up, but the general peritoneal cavity was protected by gauze pads.

Hysterectomy for Malignant Disease and Procidentia.—The third specimen was a uterus, removed one week ago from a woman of fifty-seven. She had passed the menopause ten years previously. A small growth was found on the cervix, which proved to be malignant. The patient was rapidly convalescing. The next specimen was a tube and ovary removed from a case of puerperal sepsis. Considerable difficulty was experienced at the operation because of the number and density of the adhesions. The patient made a good recovery.

A Case of Cæsarean Section.—Dr. Balleray also reported this case. The patient, a woman of thirty-two,

was admitted to the Paterson General Hospital on February 14, 1903, with a transverse presentation of the fœtus and a marked pelvic deformity. She was a dwarf four feet and eight inches high with a marked humpback. The elastic ligature was dispensed with in the operation, and the uterine arteries were controlled by manual pressure. The uterus was turned out and the usual incision made through the uterine wall. The placenta was directly under the upper part of the incision. The child was quickly extracted, and the membranes delivered. The uterine cavity was then wiped out with iodoform gauze and the wound in the uterus closed by sutures. The abdominal wound was closed by through-and-through sutures of silkworm gut. The duration of the operation was twenty-seven minutes. The infant was a female weighing seven pounds, and although asphyxiated at birth it was resuscitated. According to measurements taken by the house surgeon, the distance between the anterior superior spines in this woman's pelvis was 25 cm.; between the crests, 27 cm.; between the trochanters, 27.5 cm., and between the ischial tuberosities, 6 cm., and the external conjugate was 15 cm.

Dr. MARX said that if the pelvic measurements had been correctly stated he would look upon this as an obliquely tilted ovate pelvis of Naegele of the funnel-shaped type. He was glad that the elastic ligature was not used, because he had seen very severe and extensive injury produced by it.

An Obscure Abdominal Tumor.—DR. L. J. LADINSKI reported this case and presented the patient. She was a young married woman with a normal menstrual history. Six weeks before coming under observation, after having been constipated for several days, she developed malaise, headache, and a sense of fulness in the epigastric region. The following day she developed sharp pain in the splenic region. Under the local application of cold she improved, but the pain and vomiting recurred a week ago. Examination showed a very peculiar and indefinite tumor in the epigastric region. Repeated examinations of the urine showed the kidneys to be normal. The leucocyte count was 9,000. There had been a slight febrile action. Dr. Ladinski said that she had been seen by a number of physicians and various diagnoses had been made. Several members of the Section examined the woman, but were unwilling to make a diagnosis from such an examination alone.

A Study of the Degenerations and Complications of the Fibroid Tumors of the Uterus from the Standpoint of the Treatment of These Growths.—Dr. CHARLES P. NOBLE of Philadelphia read a paper with this title. He said that the classical teachings regarding fibroid tumors of the uterus still influenced a large part of the profession, and even gynecologists were still largely influenced by them in their writings and discussions. Long ago his own experience had taught him that these teachings were not trustworthy. Atless, the great pioneer in the treatment of fibroids, had detailed many of the dangers of these tumors, and his work was a strong argument against the classical teachings. Many years ago, Dr. Noble said, he had published a study of 218 cases, and this number had now reached 288. In estimating the risks encountered he first considered conditions which would necessarily prove fatal without operation. There were 88 of these complications enumerated, of which 42 were of the uterus or tumor and 48 of the appendages, making a total of 34 per cent. Considering other classes of cases, it was concluded that of the 288 cases probably 110 would have died, or 46 per cent. Of 100 cases of fibroids collected by Dr. Cullingworth of London, 52 presented degenerations. Pain was a prominent symptom in two-thirds of the necrotic cases. The ages of the patients varied between twenty-three and sixty-one, the majority being between thirty-five and forty-five. Certainly twenty-four of the cases would have died from the tumors themselves. Many of the complications were excluded by this author on the ground that they were independent conditions. Sloughing intrauterine polyps were likewise excluded on the ground that no one questioned the propriety of operating on such cases. If these cases had been included, the mortality would have been about that found in his own series of cases. Dr. C. C. Frederick of Buffalo had reported 125 cases of fibroids. Of this number twenty-three represented complications of the tumor and uterus, twenty-six of the appendages, and two did not involve the pelvic organs. It was thought that fifty-one of the cases would probably have proved fatal, and forty would certainly have done so. Remote systemic effects of these tumors should also be taken into account. Of 205 cases published by Martin, thirty-three would have certainly died if no operation had been done, because of the nature of the degenerative conditions present. The presumptive mortality without operation from degenerations confined to the uterus was, in Martin's cases, 16; in Noble's, 16; in Fredericks', 23, and in Cullingworth's, 24 per cent. Probably one-fourth of all the cases would result in chronic invalidism. The percentage of cases in which tumors had been found more or less accidentally was quite small. The speaker said that his own experience afforded no support for the view that fibroid tumors were prone to disappear after the menopause or in connection with pregnancy. Four of his patients having uterine fibroids were respectively seventeen, twenty-two, twenty-four, and twenty-six years of age. Twenty-one of the patients were between fifty and sixty years of age, and nine were between sixty and seventy years old. The oldest patient was sixty-seven years of age. The majority of them sought relief from the tumors at the very age when, according to the classical teachings, they should have been materially relieved by the influence of the menopause. H. A. Kelly said, in his textbook, that the great majority of myomatous uteri required no treatment whatever, and were often discovered only accidentally, and Montgomery taught, in his book, that the mere discovery of a myoma must not be considered as an indication for its removal, or even for treatment. These teachings, Dr. Noble said, were certainly contrary to the facts just presented by him. The presumptive mortality without operation from the degenerations and complications varied, as had been shown, from 16 to 24 per cent., and from complications outside of the uterus the presumptive mortality was slightly greater than from the tumor and uterus. It was a conservative statement that upward of one-third of women having fibroid tumors would die if not subjected to operation. The mortality of myomectomy and hysterectomy was between 2 and 10 per cent., depending upon the gravity of the cases, the operation and the environment. It, therefore, seemed a fair conclusion that resort to operation would save from 25 to 35 per cent. of mortality, and would perhaps affect a greater saving in the morbidity. He thought all fibroids should be removed unless the small size of the tumor, the advanced age of the patient, or her general health seemed to afford a justification for refraining from operative interference.

Dr. WILLIAM M. POLK opened the discussion. He said that he thought the reader of the paper had generalized too much and had not shown that certain of the conditions enumerated were directly dependent upon the degeneration in the uterus. For example, before one could accept carcinoma of any part of the uterus as being directly dependent upon fibroid of the uterus it must be shown that they were directly dependent one upon the other. Similarly, the enumeration of appendicitis, of ovarian tumor, and of dermoid cysts was not in order, these conditions all originating far more frequently independently of fibroids than with them. The author's position with regard to degenerations in the tumors themselves was less open to criticism, although there were many gynecologists who believed that the development of certain symptoms should be awaited before radical

operation was undertaken. It would be interesting to know what was the average size of the fibroid tumors before the various degenerative changes were noted, for this would bring up the question as to whether these changes ever occurred early in the disease, and whether early operation was demanded in order to anticipate these changes. As these changes were non-malignant in character, many would take the position that the operation need not be undertaken until symptoms of degeneration were present. He thought most gynecologists who found a fibroid tumor of moderate size giving rise to no symptoms would hesitate to advise a radical operation, and would rather trust to other measures of treatment which would appeal not only to them but to the good common sense of the patient. When, however, the tumor reached such a size as to lead one to fear the occurrence of degenerations there could be no question as to the propriety of operating.

Dr. Noble remarked here that he had not stated that fibroid tumors produced these conditions, and hence an element of confusion had been introduced into the discussion by the last speaker.

Dr. Polk replied that he understood that the whole purpose of the paper was to put the onus upon these complications, and that fibroid degeneration was made to stand in the breach and bear part of the penalty of the complications urged as reasons for extirpation.

Dr. W. Gill Wylie said that while deeply interested in the paper, he, too, was inclined to think that the generalizations were too sweeping. Personally he looked upon a fibroid as a new growth in which the degenerative processes were most apt to occur late in the life of the tumor. He did not believe that a fibroid should be removed, whether or not it was giving trouble, simply because it was a fibroid. He would go so far as to avoid, if possible, the removal of the fibroid if it were possible by temporizing to enable the woman to become pregnant and bear a child. Fibroids often existed without causing any trouble, and their presence was only discovered accidentally. When making such an accidental discovery, it was his rule, in the case particularly of a nervous woman, to withhold the information from her, though protecting himself by telling some member of the family. The presence of a uterine fibroid, by its change in the circulatory conditions, would ordinarily greatly aggravate inflammatory processes. He was disposed to think that a fibroid uterus was more susceptible than the normal uterus to carcinomatous degeneration. If a woman was over forty and the fibroid was giving rise to symptoms it was safer to remove it. If a fibroid should increase in size after the menopause it almost certainly indicated that degeneration was going on and that operation was demanded.

Dr. Egbert H. Grandin said that, to be fair to the author, one must carefully differentiate the classes of cases considered in the paper. Many of the cases of uterine fibroids came to him and were operated upon not because they had fibroids but because they had ovarian cystomata, pyosalpinx, dermoid cysts, or other conditions. Fibroids complicated by disease of the adnexa must be ruled out of this discussion, otherwise the discussion would be unending. Such a case would be operated upon not because of the condition of the fibroid but because of the other condition. His own belief was that these were mere coincidences, and were not directly dependent upon the presence of fibroids. If one could say, in a given case, that a fibroid was not going to undergo malignant degeneration, or the pedicle become twisted, then one would be willing to say that fibroids should not be operated upon unless they gave rise to symptoms. Unfortunately one could never say that, in a given case, a fibroid was not going to undergo malignant degeneration or become necrotic, giving rise to localized peritonitis. His experience had taught him that the practice in the future would be absolutely different from that laid down in the text-books already quoted. Given a fibroid of sufficient size to rise above the brim, and his advice would be to have it taken out. It was far simpler and safer to remove a fibroid when it was small and free from complications than to delay. If any of the complications mentioned did occur before operation, the latter would be made much more difficult and dangerous. These remarks had reference not to tiny fibroid nodules but to fibroid tumors which were palpable, and were not subperitoneal. He would all the more strongly advise removal if the patient were near the menopause, because at this time of life the tissues of the body were on the decline, and fibroids were most apt to degenerate. Between the ages of twenty and forty-five, if there were no excessive hemorrhages and he could keep the patient under observation, he might be willing to delay operation for a time.

Dr. J. Riddle Goffe indorsed the position taken by the last speaker, but was willing to go a little farther and say that *every* fibroid tumor discovered in a woman should be removed. Small fibroids occurring in young women should be removed in order to anticipate possible degenerative changes. In these cases the operation was extremely simple, it being practicable in many instances to remove them through the vagina. Young women should not be told they had a tumor, and that they should avoid marriage and pregnancy on this account, but should rather be informed that it was safest and best that the tumor be promptly extirpated.

Dr. Henry C. Coe said he believed a great many of the complications mentioned in the paper were not really dependent upon the fibroids, nor did he think the reader of the paper would take the very radical view presented by Dr. Goffe that all fibroids, even small nodules, should be promptly extirpated. As he understood it, Dr. Noble took the usual position, *i.e.* that fibroids of reasonable size giving rise to pain, pressure and hemorrhage, and of rapid growth, should be removed. If he were in error in this point it was because he had unfortunately heard only a portion of the paper. He was afraid Dr. Noble would not have a high opinion of the pathological knowledge of the members of the profession in New York City, for some loose statements had been made. Most of the cases of so-called carcinomatous degeneration of fibroids were really adenocarcinoma—a secondary and not a primary development. However, sarcomatous degeneration of fibroids did occur. The latest researches regarding the development of fibroids showed that they probably developed around arteries as a result of an endarteritis, and it had been shown in many cases that, in addition to the visible and palpable fibroids, numerous other fibroids, perhaps only the size of a millet seed, were scattered through the tissues. For this reason the enucleation of small growths had never appealed to him. Nothing had been said as get in the discussion regarding the locality of the tumor. He would operate upon a comparatively small tumor if it were situated in what he considered a bad locality. The mere presence of a small tumor in the anterior or posterior wall did not appeal to him from the surgical standpoint in the absence of symptoms. He had known a hysterectomy to be performed for a small submucous fibroid which could have been easily twisted off with a pair of forceps. He was of the opinion that a great many diseases of the adnexa were really due to the presence of fibroids.

Dr. H. J. Boldt said he still believed that merely because of the existence of a fibroid tumor an operation for its removal should not be done. It must be admitted that degenerative changes of the ovaries and tubes were undoubtedly caused by fibroids or fibromyomata, and ordinarily it was impossible to make a diagnosis of the presence of such changes. In the majority of instances, when marked changes were present outside of the uterus, such as pyosalpinx, there were symptoms of sufficient

severity to lead to surgical interference, and whether one operated because of the complications or because of the fibroids was of no importance. Perhaps the most important point made in the discussion was with regard to the location of the tumor. If the tumor were located in a region which would be likely to give rise to pressure symptoms, it should be promptly removed, because it was not at all unusual for the ureter to be pressed upon, causing pyonephrosis and other serious changes.

Dr. Mary N. Dixon Jones said that it had been stated in this discussion that fibroid tumors produced disease of the appendages, but she would take exception to this statement. It was the condition of the uterus which produced the fibroid tumors which gave rise to the disease of the appendages. In her microscopical studies of fibroid tumors she had been surprised to find how continually the tissues of fibroid tumors were reduced to inflammatory action. It was from medullary or "vital" material that fibroid tumors were produced. When this medullary condition existed in a fibroid tumor, cancer or other forms of degeneration might result. All the degenerations of fibroid tumors originated, in her opinion, in the medullary tissue. She believed that no fibroid tumor developed in a uterus unless the latter were already diseased, and that there never was a sound ovary in the presence of a fibroid of any considerable duration. In 1888 she had published the statement that no fibroid tumor of the uterus existed without disease of the appendages and of the cervix. This being the case, it was wrong to leave this diseased cervix, whether it was treated intra- or extraperitoneally.

Dr. Noble closed the discussion. He said that the paper treated of two general groups, the complicated and the uncomplicated ones. On tabulating the cases it became evident that so many cases were complicated that the risks from the complications demanded operation, and if operation were indicated for the complication there was no reason why it should not be done for the fibroid also. He had shown that from 16 to 24 per cent. of the women coming under observation presented conditions within the uterus which would prove fatal without operation. He had seen tumors of all sizes undergo degeneration, and, hence, the question of the size of the tumor seemed to him of but little importance in deciding upon surgical intervention. Dr. Grandin had made an exception in the case of subperitoneal fibroids, yet, personally, he had met with such fibroids which had shown degeneration or else twisting of the pedicle. If, as seemed to have been shown in the paper from the statistics of 600 cases, a woman with a fibroid stood 20 per cent. in danger of dying from the tumor without operation, and she could have it removed with almost no risk, it was evident that many women would be willing to submit to operation under these circumstances. The surprising thing about this subject to him was that many surgeons who would not hesitate to operate for various comparatively simple pelvic conditions object to the removal of the much more serious fibroid tumor. This he interpreted as showing the potent influence of traditions.

Tobacco Deafness.—Wyatt Wingrave reports seventeen cases of deafness which he considers to have been due to excessive tobacco smoking. He emphasizes the following points: (1) That they were all well-marked cases of nerve deafness occurring in heavy smokers. (2) That the loss of low-tones in 50 per cent. suggests an auditory equivalent for a recognized ocular lesion. (3) That there was definite scotoma in four cases and impaired sensation of vision in eight of them. (4) That the disease was symmetrical. (5) That 80 per cent. showed marked improvement on abstinence from tobacco, and this abstinence being supplemented by drug treatment, three were cured. But the habit was so strong and the will so weak that the forecast was not always encouraging.—*Medical Press and Circular.*

New Instruments.

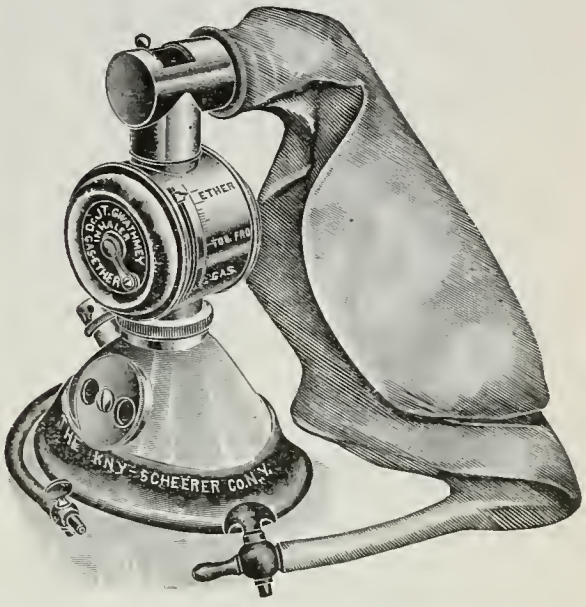
A NEW INHALER.

WITH SUGGESTIONS ON THE GAS-ETHER SEQUENCE.

By JAMES T. GWATHMEY, M.D.,
NEW YORK.
ANÆSTHETIST TO GOUVERNEUR, THE NEW YORK SKIN AND CANCER, AND CHARITY HOSPITALS.

It is really remarkable how very slow the medical profession is to take advantage of new methods and ideas that have been successfully employed by the most prominent surgeons for a number of years and in tens of thousands of cases.

The gas-ether method of inducing general anæsthesia was started by Dr. Clover in England over twenty-five years ago, and has been used very extensively in New York City for a number of years in private practice, but has been generally introduced into our hospitals only within the last year. The two things that possibly delayed the introduction of this method more than anything else have been the cost of the apparatus and its rather complicated mechanism.



Gwathmey Gas-ether Inhaler, complete; weight 26 oz.

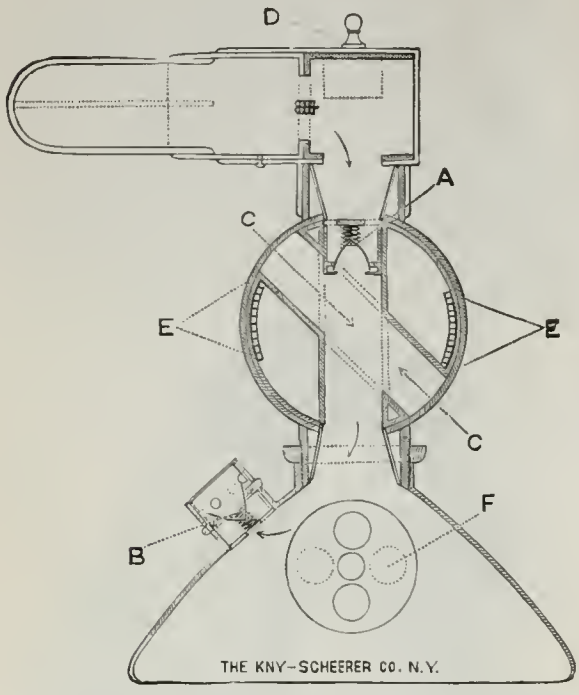
The objection to first giving gas and then changing to another inhaler for ether was that the patient would partially come from under the gas before getting completely under the ether, although this was an improvement over the old method of inducing narcosis with the open cone.

Clover finally perfected a combined gas-ether apparatus which was improved upon by Hewitt of England. Bennett's inhaler does not differ from the English apparatus in principle, but is a marked improvement in mechanical construction. It consists of a face-piece, two cylinders, one for the ether and one for the gas (the latter having an inspiratory and expiratory valve) and two bags, one for the gas, and the other for to-and-fro breathing, during the ether administration. The gas cylinder and bag are used between two and three minutes in the gas-ether sequence; they are then taken off and not used again during the entire anæsthetic.

The new inhaler, which is a modification of Bennett's (and perfected for me by the Kny-Scheerer Company, New York City), consists in doing away with this gas cylinder and bag, by placing one more tube in the ether cylinder with the inspiratory valve in it, and placing the expiratory valve on the face-piece. For all practical purposes this places the gas within the ether chamber. The same bag is used

for gas and ether. The weight and bulk is thus reduced nearly one-half. Bennett's complete apparatus weighing forty-six ounces, the new inhaler only twenty-six. Where space is in demand, as in army or navy use, or in an emergency kit, these are certainly no small considerations.

The valves, which are made of steel with a brass spring, are so arranged in tubes that they can easily



A. Inspiratory valve.
B. Expiratory valve.
C. C. Tube for to-and-fro breathing.
D. Tap for turning on and off the gas, admitting air when necessary; and also for pouring ether into chamber.
E. E. Openings to ether chamber.
F. Tap for admitting air through face-piece.

be taken out and replaced, if necessary; they are as light as a feather, giving perfect respiratory freedom. This allows the inhaler to be immersed in boiling water, or sterilized in the usual way, something that is impossible with the old inhaler with its rubber valves.

The tap on the gas-bag that is used for turning on and off the gas and admitting air when necessary, has been brought forward so that it answers the additional purpose of allowing the ether to be poured directly into the ether chamber, which is quite a convenience during the first part of the anæsthetic, when the patient is coming out of the gas, and is not thoroughly under the ether.

The inhaler can be used for giving ether alone or gas alone, or the gas-ether sequence or the combined method of giving gas and ether at the same time.

The object of the gas-ether sequence is to avoid the first and second stages of ether narcosis, with its preliminary excitement, struggling, coughing, holding the breath swallowing, and all other disagreeable and disgusting things that were formerly connected with this stage of etherization, and to enter immediately into the third stage or surgical anæsthesia. The patient is thus enabled to take advantage of the most universally used and safest general anæsthetic in the most agreeable manner possible, and with the least physical and nervous strain. It is the exception for the patient to show any excitement whatever, and deep anæsthesia is generally reached in about three minutes. With the open cone the average time required to produce surgical narcosis was about ten minutes, and with this method patients dreaded the anæsthetic in some instances even more than the operation.

Drachms of ether are used with the inhaler, where ounces were used with the open cone, consequently the patient is not so saturated with the drug as formerly, and thus escapes many of the after-effects of ether. The nausea and vomiting are in all cases materially lessened by turning the patient's head to one side during the administration (allowing the mucus and saliva to drain out), avoiding moving or jolting the patient for at least thirty minutes, and turning the patient on one side immediately after the operation whenever possible. The olfactory nerve is largely responsible for this disagreeable feature of ether narcosis. It is therefore advisable to remove at once all towels, etc., that may contain the smell of ether and substitute some cologne (if not too sweet) or other odor that may be agreeable to the patient.

At the suggestion of Dr. Monroe of the House Staff of Gouverneur Hospital, I have lately replaced the gauze used for packing the ether chamber with sponges, as they throw less strain upon the lungs in maintaining the same degree of anæsthesia, the diaphoresis is less and the exhaustion is not so marked following a long anæsthetic. For this reason the ether chamber is made to hold sponges, although gauze can be used. The face-piece has also been considerably altered and fits more comfortably and securely.

The mechanism has been simplified to such an extent that the technique can be easily acquired by any surgeon or hospital interne, and the cost so materially reduced that any surgeon can now afford to have this apparatus added to his armamentarium.

124 East Sixteenth Street.

AN ASEPTIC COTTON-HOLDER.

Designed by C. Y. HOGSETT, M.D.,
Dallas, Tex.

The construction of this holder, intended for use in the treatment of the eye, ear, nose, and throat, is easily understood from the accompanying cut. It consists of a leaded metallic base, upon which rests a double metallic cylinder four inches in length and two and one-half inches in diameter. Through the center of this passes a square steel rod, at one end of which there is a tap, at the other a small crank for turning the rod. The outer cylinder is attached to

the metallic base below, is open at both ends, and at its upper part has an opening one and three-fourths of an inch in width, extending through the entire length. The inner cylinder fits within the outer, is closed at both ends, and has an opening corresponding to that in the outer cylinder. Near the center of one side of the opening there is a small metallic knob by which the inner cylinder can be moved within the outer, thereby completely closing or opening both cylinders. The receptacle for the cotton holds the amount that comes in the smallest-sized packages. By placing one end of the roll of cotton into the opening of the receptacle and then turning the crank the cotton will be wound into a roll on the central

rod, just the same as a bandage is wound on a bandage roller.

The holder possesses certain advantages. It is simple and compact, and is easy to fill. There is no piece to become detached, misplaced or lost, thereby leaving the cotton exposed to contamination from dust and other impurities. It is easily opened and closed and when closed is dust proof. The cotton is wound in the direction of the long fibers and does not become matted or twisted. Pieces of cotton can be pinched off the roll without any resistance, and, as it comes off soft and fluffy, it can easily be wrapped firmly and smoothly on an applicator. If necessary, it can easily be sterilized. The cotton-holder is made by E. B. Meyrowitz of New York City.

THE THERMOMETER SHIELD.

By HARRY VAUGHAN, Ph.G., M.D.,
MORRISTOWN, N. J.

There have been many devices offered to the medical profession for sterilizing the clinical thermometer, but none of them is quite satisfactory, and all demand some labor on the part of the physician, and the expenditure of a little time, which he is not always able to give, at the bedside. A consideration of these facts has led me to suggest the use of a shield of very thin rubber tissue, which can be slipped over the bulb of the thermometer and extends far enough up the stem to protect it from contamination. The shield is so exceedingly thin that it will not in the least interfere with perfect action of the thermometer. The shield is intended to be used once only and then to be destroyed. This avoids all suggestion of uncleanliness, and does away with all possibility of carrying infection from one patient to another. The shields are very small, about the size of a two-grain capsule, and are packed in a small aluminum case for convenience in carrying. They are made by the Arrowsmith Company of Newark, N. J.

A HÆMOGLOBIN SCALE.

We have received from Mr. Edward Pennock of Philadelphia the hæmoglobin scale, devised by T. W. Tallqvist of Helsingfors. It is simply a book of detachable squares of filter paper with a colored scale in the back. In making a test a square of paper is torn out and applied to the specimen of blood in such a way as to absorb it slowly. When completely wet with the blood it is pressed against a piece of blotting paper to remove the superfluity of fluid, and as soon as the stain has lost its humid gloss, it is compared with the scale. If care is taken to make the comparison in daylight the percentage of hæmoglobin can be quite accurately determined.

An Experimental Study of the Function of the Pituitary Body.—Domenico Pirrone concludes from his observations: (1) That not all the symptoms following hypophysiectomy are referable to the suppression of the functions os the pituitary body. (2) The results of the suppression of its functions are disturbances of mobility, great depression, rapid emaciation, cachexia, and death. (3) The symptoms due to trauma are referable to the vascular and respiratory systems and the temperature. (4) Total ablation of the pituitary body does not alter the chemical composition of the urine. (5) Although the exact functional mechanism of this gland is not as yet well understood, it is evident that this organ is of the greatest importance to the economy. Although a partial lesion is compatible with existence, its total removal leads irrevocably to death.—*La Riforma Medica*, February 25, 1903.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Materia Medica for Nurses. By John E. Grodd, Ph.G. 12mo, 169 pages. Second Edition. P. Blakiston's Son & Co., Philadelphia. Price, $1.25.

The International Medical Journal, 1903. 8vo, 739 pages. Illustrated. E. B. Treat & Co., New York. Price, $3.00.

Annual Report of the New York State Reformatory at Elmira, 27th Year Book. Illustrated. 8vo, 138 pages.

Chronic Headache in Its Treatment by Massage. By Gustaf Norstrom. 8vo, 230 Pages. G. E. Stechert, New York. Price. $1.00.

The Manual Treatment of Diseases of Women. By Gustaf Norstrom. 8vo, 230 pages. G. E. Stechert, New York. Price, $2.25.

A Practical Treatise on Materia Medica and Therapeutics. By Roberts Bartholow, M.D. 8vo, 866 pages. Eleventh edition. D. Appleton & Co., New York.

A System of Clinical Medicine. By Thos. D. Savill, M.D. 8vo, Vol. I, 702 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

A Laboratory Textbook of Embryology. By Charles Sedgwick Minot, LL.D. Square 8vo, 380 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia. Price, $4.50 net.

The Care and Feeding of Children. By L. Emmett Holt, M.D. 16mo, 150 pages. Third edition. D. Appleton & Co.

Hygiene and Public Health. By Louis Parkes, M.D. 12mo, 763 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia. Price, $3.00 net.

The Pathogenesis and Therapy of Eclampsia.—Hengge, after a complete review of our present knowledge as to the nature of this affection, comes to the conclusion that the bacterial or bacteriotoxic theory is still without adequate proof. So far the observations on the toxicity of blood and urine, according to Bouchard's methods (injections, experiments, specific gravity, molecular concentration, electrolysis), have also failed to permit of satisfactory deductions. Investigations on the freezing point of blood and urine show that there exists a condition of insufficient molecular diuresis in three-fourths of all pregnant women. In eclampsia, at the beginning of the attacks, there is a wholly insufficient molecular concentration of the urine, and this condition may exist even with total absence of albumin. These observations correspond with those made in other renal disorders. The relations of maternal and fœtal metabolism are very intimate, but there appears to be a certain degree of exception for soluble albumin combinations. The biochemical theory of Veit seems to explain many of the observed facts, such as the transitory albuminuria of pregnancy. From the standpoint of treatment, prophylaxis is of the highest importance and comprises systematic freezing-point determinations as well as the testing for albumin. Our therapeutic measures should, above all, be free from risk; therefore the narcotics should be carefully used, and the newer remedies, such as veratrum, lumbar anæsthesia, and iodothyrin should be made subjects of further clinical study. The induction of labor is best effected by the use of the metreurynter or Bossi's dilator. In multiparæ the membranes may be ruptured, but Dührssen's incisions are not advisable.—*Volkmann's klinische Vorträge.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending April 4, 1903:

	Cases.	Deaths.
Measles	285	11
Diphtheria and croup	353	52
Scarlet fever	324	19
Smallpox	1	..
Varicella	105	1
Tuberculosis	270	124
Typhoid fever	36	4
Cerebrospinal meningitis	..	..

Mercurial Reaction of the Oral Mucous Membrane in Syphilitics.—Eugene Baroch reports five cases of late secondary syphilis in which the initial application of a large amount of mercurial ointment caused, within eighteen to twenty-four hours, the appearance, upon the tongue and oral mucous membrane, of large red spots, which were somewhat serpiginous in appearance and were painful. The spots disappeared within a few hours and did not return, although the inunctions of mercury were continued. If such applications were discontinued for a long time the reaction reappeared following a new initial inunction. No cutaneous reaction, as has been recently described by Herxheimer and Krause as occurring in early secondary syphilis, was observed. The cause of these mercurial reactions in syphilitics is somewhat obscure, but is probably to be sought in the chemical effects produced by the union between the mercury and the syphilitic virus. In those cases in which such a chemical reaction is sufficiently intense the reaction appears. Its non-appearance with continued inunctions of mercury is explained by the fact that the initial dose combines with the larger part of the syphilitic virus present in the location where the inunction is employed, hence the chemical reaction elicited by subsequent inunctions is not sufficient to produce the cutaneous reaction. The surplus of mercury left over after all the syphilitic virus is "anchored" would probably unite with the red blood-cells, in certain numbers destroying them, and thus prevent the cutaneous reaction from being seen even if it was present. However this may be, the reaction possesses marked diagnostic importance. Its appearance means a positive diagnosis of syphilis. Its absence, however, does not negative the presence of this disease, since in many syphilitics the chemical reaction above referred to is not sufficiently intense for the cutaneous reaction to be seen. The appearance, in late secondary syphilis, of the reaction only upon the tongue and oral mucous membranes is probably to be sought in the location of the most marked syphilitic lesions present in this class of cases. Oral lesions are always a prominent feature in such cases and persist long after the other cutaneous manifestations have vanished. In accordance with the above theory, the reaction would appear wherever the syphilitic virus was in largest amount, provided the mercury was not united to the virus while in transit through the body from its point of inunction to such locations. In late secondary syphilis the oral mucous membranes are undoubtedly locations in which the virus is markedly accumulated. Hence in these cases the reaction appears exclusively in this region.—*Allgemeine medicinische Central-Zeitung.*

Possibilities of the Normal Salt-solution.—L. C. Davis says that the human body may be compared to an acute circumscribed abscess. Before it is possible for the regenerative powers of the tissues to restore the normal condition of the part, it is necessary to open the abscess and drain it of the poison, causing the pathological process, so it is with the entire body, it must be drained of a certain amount of the toxic blood and replaced by an agent that will assist regeneration; and in the normal salt-solution we have that agent, to be used in coöperation with other effective means we now have at our command.—*Medical Herald.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending April 4, 1903:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
Alabama, Mobile	Mar. 21–28	3	..
California, Los Angeles	Mar. 14–21	2	..
San Francisco	Mar. 15–22	8	..
District of Columbia, Washington	Mar. 21–28	2	..
Florida, Jacksonville	Mar. 21–28	2	..
Illinois, Alton	Mar. 14–21	1	..
Chicago	Mar. 21–28	18	..
Indiana, Indianapolis	Mar. 21–28	17	1
Iowa, Davenport	Mar. 21–28	5	..
Kansas, Wichita	Mar. 21–28	1	..
Kentucky, Lexington	Mar. 21–28	2	..
Louisiana, New Orleans	Mar. 21–28	3	(2 imported, the other not traced)
Maryland, Baltimore	Mar. 21–28	2	..
Massachusetts, Boston	Mar. 21–28	2	..
Fall River	Mar. 21–28	3	..
Lowell	Mar. 21–28	2	..
Michigan, Detroit	Mar. 21–28	19	..
Grand Rapids	Mar. 21–28	4	1
Port Huron	Mar. 21–28	3	..
Minnesota, Minneapolis	Jan. 3–Mar. 28	92	3
Missouri, Kansas City	Mar. 14–29	4	1
St. Louis	Mar. 22–29	6	..
New Hampshire, Manchester	Mar. 21–28	10	..
Nashua	Mar. 21–28	2	..
New Jersey, Jersey City	Mar. 23–29	5	..
Newark	Mar. 21–28	2	1
New York, Buffalo	Mar. 21–28	3	..
New York	Mar. 21–28	1	..
Ohio, Cincinnati	Mar. 20–27	19	1
Cleveland	Mar. 21–28	1	1
Dayton	Mar. 21–28	5	1
Toledo	Feb. 14–Mar. 21	52	..
Pennsylvania, Altoona	Mar. 21–28	4	..
Butler	Mar. 14–28	2	1
Dunmore	Mar. 1–31	3	..
Johnstown	Mar. 21–28	9	..
McKeesport	Mar. 21–28	2	..
Norristown	Mar. 21–28	1	..
Philadelphia	Mar. 21–28	31	2
Pittsburg	Mar. 21–28	42	4 (3 imported)
South Carolina Charleston	Mar. 21–28	1	..
Tennessee, Greene County	Mar. 26	26	..
Nashville	Mar. 21–28	1	..
Texas, Galveston	Mar. 27	1	..
Utah, Salt Lake City	Mar. 21–28	18	..
Wisconsin, Green Bay	Mar. 22–29	1	..
Milwaukee	Mar. 21–28	1	..

SMALLPOX—INSULAR.

Philippines, Manila	Jan. 31–Feb. 7	1	..
Provinces	Jan. 31–Feb. 7	(Prevalent)	

SMALLPOX—FOREIGN.

Austria, Prague	Feb. 28–Mar. 14	18	1
Belgium, Antwerp	Feb. 21–Mar. 14	5	3
Brussels	Feb. 28–Mar. 14	..	11
Ghent	Mar. 7–14	..	2
Brazil, Rio de Janeiro	Feb. 13–20	..	1
Canada, Winnipeg	Mar. 7–14	1	..
Canary Islands, Las Palmas	Feb. 14–Mar. 7	86	..
Formosa	July 1–Dec. 31, 1902	1	1
Great Britain, Birmingham	To Mar. 14	41	3
Bradford	Jan. 15–Feb. 28	9	..
Dublin	Mar. 7–14	9	1
Dundee	Feb. 28–Mar. 7	1	..
Leeds	Feb. 28–Mar. 14	26	3
Liverpool	Feb. 28–Mar. 14	172	13
London	Mar. 7–14	2	..
Manchester	Mar. 7–14	23	1
Nottingham	Feb. 21–Mar. 7	4	..
India, Bombay	Feb. 24–Mar. 3	..	64
Calcutta	Feb. 21–28	..	2
Karachi	Feb. 15–Mar. 1	1	..
Italy, Palermo	Feb. 28–Mar. 7	..	1
Mexico, City of Mexico	Mar. 8–15	6	4
Netherlands, Flushing	Mar. 7–14	1	..
Amsterdam	Mar. 14–21	2	..
Russia, Moscow	Feb. 21–Mar. 7	7	3
Odessa	Feb. 28–Mar. 14	6	..
St. Petersburg	Feb. 28–Mar. 7	77	14
Warsaw	Feb. 21–Mar. 7	..	6
Turkey, Constantinople	Feb. 22–Mar. 1	..	1

YELLOW FEVER.

Brazil, Rio de Janeiro	Feb. 13–20	..	25
Ecuador, Guayaquil	Feb. 21–Mar. 7	..	33
Mexico, Vera Cruz	Mar. 14–21	6	3

CHOLERA—INSULAR.

Philippines, Cebu	Feb. 12	4	..
Talisay, Cebu	Feb. 12	6	..
Provinces	Jan. 31–Feb. 7	169	103

CHOLERA—FOREIGN.

India, Calcutta	Feb. 21–28	..	71

PLAGUE—INSULAR.

Philippines, Manila	Jan. 31–Feb. 7	2	..

PLAGUE—FOREIGN.

Brazil, Rio de Janeiro	Feb. 13–20	..	2
Formosam	July 1–Dec. 31, 1902	..	265
India, Bombay	Feb. 24–Mar. 3	..	1,297
Calcutta	Feb. 15–28	..	468
Karachi	Feb. –Mar. 1	90	83
Madras	Feb. 21–27	..	1

PLAGUE—UNITED STATES.

California, San Francisco	Mar. 17	..	1

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Original Articles.

A REPORT OF FINAL RESULTS IN TWO CASES OF POLYARTHRITIS IN CHILDREN OF THE TYPE FIRST DESCRIBED BY STILL, TOGETHER WITH REMARKS ON RHEUMATOID ARTHRITIS.*

By ROYAL WHITMAN, M.D.,
NEW YORK.

In 1897 G. F. Still of London published an account of a peculiar form of chronic-joint disease occurring in children.† The disease was defined as a chronic progressive enlargement of the joints associated with general enlargement of the glands and of the spleen. The onset of the affection was usually insidious, although it might be acute and accompanied with fever. The swelling of the joints was smooth and fusiform, not attended by redness or heat except in acute cases. The disease was progressive, and there was enlargement of the lymphatic glands and of the spleen. The lymphatic enlargement was most marked in the glands communicating directly with the joints, and its degree varied with the character of the local process.

The joints most often involved were the knees, wrists, and the spine. There was usually flexion deformity of the wrists, and in some instances lateral deviation of the hand toward the ulnar side. The smaller joints of the hands and feet were not not affected.

There were early and marked wasting of the muscles, waxy pallor, anæmia, and arrest of development. The disease progressed for a time and then became stationary. Improvement was possible Three post-mortem examinations showed the joint lesions to consist essentially of thickening of the capsule and of the connective tissue just outside it, and thickening and vascularization of the synovial membrane. The cartilage was normal, except in one instance, in which pitting beneath a fold of synovial tissue was noted.

Still had personally observed nineteen cases and had notes of three others, yet he confined his statistics to twelve cases. In ten of these the disease began at or before the sixth year, and in eight during the first three years of life.

This type of disease must be uncommon in this country, and I take this opportunity to report two cases which should be of special interest because they present certain variations from those reported by Still.‡

Case 1.—A boy twelve years of age was admitted to the Hospital for Ruptured and Crippled on October 23, 1899, having been under observation in the Out-door Department for several months. The family and personal history is not of special interest. He had first complained of discomfort in the right knee during the previous July. This became more noticeable, and soon stiffness and swelling appeared. Because of the evident persistence and progressive character of the local symptoms a diagnosis of tuberculous disease was made. On this diagnosis he was treated in the wards, and was discharged in the following January, wearing a protective brace on the right leg. During his stay in the hospital it was recorded that slight stiffness and swelling had been observed in the left knee and in the right elbow. After the patient's discharge he attended public school until the end of the term in July, when he was again admitted to the wards because of the extension of the disease. From this time he was under observation until his death on January 23, 1903, about three and a half years from the onset of the symptoms.

It was not until July, 1901, or about a year after his second admission, that my attention was first attracted to the patient. He was at this time bedridden, lying constantly on his back with the legs extended, an attitude that had been assured by the almost constant use of plaster bandages, which were applied also from time to time to fix the wrists and elbows when the pain on motion was extreme.

All the larger joints of the body were now involved, only the sternoclavicular joints, those of the fingers and toes, the lower jaw and the spine being free from disease.

Taking a knee-joint as a typical example of advanced disease it might be described as a fusiform enlargement accompanied by atrophy of the muscles so extreme as to exaggerate greatly the size of the affected joint. The tissues covering it were thickened, infiltrated, and sensitive to pressure. Motion was greatly restricted and very painful. In the joints more recently involved, especially the shoulders, there was well-marked synovial effusion, and the pain on motion was slight. The disease was well advanced in both wrist-joints and on the right side, in spite of the almost constant use of a plaster support there was evident anterior subluxation of the carpus, so that the lower extremity of the ulnar projected on the dorsal surface. The general emaciation was extreme and the pallor was marked. The abdomen was prominent and resistant, and there was evident enlargement of the liver and apparently of the spleen also. In the groins and in the axillæ were numerous enlarged lymphatic glands, visible as well as palpable, not sensitive to pressure or adherent to the tissues. At times there was slight redness, and increase of local heat in the affected joints.

On July 2, 1901, I opened the left knee-joint by a long incision over its internal aspect. The capsule was thickened and apparently adherent to the subcutaneous tissues. Its interior was lined with dark red soft granulation tissue which had replaced the synovial membrane. This tissue surrounded the marginal cartilaginous surfaces of the component bones, creeping over them here and there in a pannus-like growth, which eroded and destroyed the surface on which it rested. Elsewhere the

*Read before the Orthopedic Section of the New York Academy of Medicine, February 20, 1903.

†Medico-chirurgical Society Transactions, 1897.

‡The treatment of these cases was shared by my colleagues at the Hospital for Ruptured and Crippled, Drs. Gibney and Townsend

cartilage was normal, the bone was apparently not involved. There was no formation of ecchondroses or osteophites. The fluid within the joint was slightly increased in quantity, and it was redder and thinner than normal synovia. Passive motion in the joint was limited to about 40°, primarily by the thickened and contracted capsule. The more prominent granulations having been scraped or rubbed away, the interior of the joint was swabbed with pure carbolic acid, this was neutralized by alcohol. Afterward the joint was cleansed with salt-solution and the wound was closed with sutures in layers. It was thought that the discomfort was lessened by the operation, but no other effect was noted.

On August 27 the right knee-joint was opened and treated in the same manner. The appearances were precisely the same as have been described.

In September the right wrist, in which the swelling had increased, was opened by a long dorsal incision. The extremity of the ulnar was found to be separated from its attachments and in great part denuded of cartilage. The cartilage of the radius presented a deep erosion, running from before backward. The first row of carpal bones were imbedded in a mass of succulent mucoid granulation tissue, from which they were easily removed, their surfaces presenting the slight characteristic erosions. The articular surfaces of the radius and ulnar were removed, and the hand was then replaced in proper position. It was impossible to close the wound, as the skin was so thin and ill-nourished that the sutures would not hold.

This fragility of the skin was increased, apparently, by a scaly eruption, which at first appeared beneath the plaster bandages, not only at the wrist but at the knees, and eventually extending to other parts. Its nature was apparently obscure to the consulting Dermatologists. It was very resistant to treatment, and it finally received the name of lichen scrophulosum. The wound of the wrist closed slowly by granulation. (Fig. 1.)

The after history is simply of progression of the disease. Eventually every joint, except the jaw and the spine, was involved, the fingers of the right hand and the toes of both feet being greatly enlarged by effusion into the phalangeal joints. Curiously, and apparently as a result of the operation, the finger-joints of the right hand became fixed in a claw-like position (Fig. 2), without effusion or enlargement, while the joints and tissues of the left hand became greatly enlarged, even the periosteum of the shafts of the phalanges becoming infiltrated, as shown by an *x*-ray picture. (Fig. 3.) The abdomen became more prominent and the color and outline of the liver could be plainly seen through the thin and transparent skin.

The Pathologist failed to find tubercle bacilli in the skin at the diseased points. The examination of one of the glands showed simply hyperplasia. The tissues from the knee and other joints was reported as inflammatory material of an undetermined nature. Fluid was removed from the joints for bacteriological examination, but with apparently negative results, as I find no report in the record. The repeated examinations of the blood showed only secondary anæmia with an increase of eosinophiles. The immediate cause of death was undetermined.

The report of the autopsy may be summarized as follows: The liver was enlarged to about three times its normal size, extending from the fourth rib to the brim of the pelvis, and presented marked amyloid degeneration. The spleen was correspondingly enlarged, rather soft, plum colored, with here and there areas of amyloid degeneration. The kidneys were about one-third larger than normal, soft and nodular, showing decided acute parenchymatous nephritis and amyloid degeneration. The pancreas was enlarged and firm in consistency. The adrenal glands were free from disease. All the mesenteric glands were enlarged, yellowish white, firm, showing amyloid degeneration. The thoracic organs were practically free from disease.

Fig. 1, Case 1.—A photograph, taken in the third year of the disease, about six months before death, showing the appearance of the affected joints and the enlargement of the abdomen.

Several of the joints were removed for inspection. The local appearances were similar to those already described. The cartilage of the head of the right humerus presented several deep "worm-eaten" perforations. At the right elbow there was even more extensive erosions of the cartilage than in the other joints examined. On section of the bones of the knee-joint one was struck by the uniform dark red color of the spongy substance; its structure was, however, firm and regular. The cortical substance of the bones was extremely thin, as was the articular cartilage.

Case 2.—The patient, a boy five years of age, was admitted to the hospital in April, 1900. The family and personal history presents nothing of particular interest. About eight months before admission he had begun to complain of pain and stiffness at the right knee-joint. He was brought to the hospital in arms, and it was said that he was unable to sleep because of pain.

On examination the right leg was found to be flexed and adducted, and there was limited motion and muscular spasm about the hip-joint, as well as at the knee. He was placed in bed with traction, and finally the deformity was corrected under anæsthesia. For a time a double spica-plaster bandage was worn, which was afterward replaced

by a double Thomas hip-brace. Six months later it was noted that there was swelling at the wrists and ankles, and, in December, of the elbows, also. In July, 1901 (Fig. 4), when my attention was first attracted to the patient, the similarity of the symptoms to those of the first patient was striking. There was general enlargement of all the joints, of the character already described. The average range of motion permitted by the thickened capsules and muscular spasm was about 40°. There was persistent flexion at the elbows and at the wrists. The use of apparatus had prevented deformity of the lower extremities. The joints of the fingers and toes (Fig. 5) were free from disease, as was the spine. The abdomen was enlarged, and the liver and spleen were apparently hypertrophied, although not to the degree noted in the first case. The lymphatic enlargement was, however, more noticeable. The weight of the patient was twenty-three pounds.

FIG. 2, CASE 1.—Shows the contrast between the two hands; also the disease of the skin

On July 30, 1901, I opened the left knee-joint. The appearances were exactly like those in the other case, except that beneath the patella sprouted upward a fatty mucoid-like growth, deep red in color, and about the size of the patient s little finger. This was removed, and the interior of the joint was treated with pure carbolic acid in the manner described. A lymph gland was removed for examination; it showed simple hyperplasia.

During the autumn there was sufficient improvement to enable the patient to be about the ward on a wheeled chair. From the latter part of November until the middle of January, he was treated by daily exposure of the naked body to the heat and light supplied by numerous electric lights beneath a tent-like covering. He continued to improve after the cessation of treatment, and his cure was completed, apparently, by an attack of scarlatina, which necessitated his removal to the Willard Parker Hospital in April, 1902. At the present time he is fat, strong, and active, and presents no trace of disease.

From my observations on the course of the disease, and from the local conditions exposed at operation I infer that the sequence of events in this class of cases is somewhat as follows:

The process begins primarily in the synovial membrane, probably as a congestion accompanied by effusion of moderate degree. As the disease progresses and as the deeper parts of the capsule become infiltrated the original stiffness and discomfort increase and the affected joint becomes sensitive to motion and to pressure. The muscular atrophy that always attends joint disease is exaggerated doubtless by the multiplicity of the joints involved. The interior of the capsule becomes lined eventually with what corresponds to granulation tissue; this encroaches upon the margins of the articular cartilages, which it slowly erodes, and doubtless the adjoining marginal bone on which it rests as well. The capsule thickens and becomes adherent to the overlying tissues; the cavity of the joint is lessened and it may be finally obliterated. The final result should be limited motion or fibrous anchylosis in an attitude of deformity with attendant atrophy of the substance of the bones, corresponding in degree doubtless to that of the soft parts.

There can be no doubt but that these cases are examples of the disease described by Still, yet they present certain variations of the type. In one case there was complete recovery, of which Still records no instance. He mentions enlargement of the spleen only, yet in both these cases the liver was enlarged, in one case extremely so, ending finally in amyloid degeneration. In Still's cases the joints of the fingers and toes were exempt, while the spine was involved at an early period of the disease. In one of these cases all the small joints were diseased, while in neither was the spine affected. Still mentions slight pitting of the cartilage in one case that came to autopsy, as if this were an unusual occurrence, while my examination shows that such erosion is an inevitable outcome of advancing disease.

It is of interest to consider the relation of these cases to those described by Schüller as polyarthritis chronica villosa (*Berliner klinische Wochenschrift*,

FIG. 3, CASE 1.—An *x*-ray picture of the left hand.

January 27, 1900) and to the atrophic form of arthritis deformans. The term atrophic signifies that form of chronic polyarthritis not accompanied by marginal outgrowths of bone and cartilage, and for convenience, following the suggestion of Goldthwait, I shall class this variety of disease as rheumatoid arthritis and consider it as distinct from osteoarthritis or the hypertrophic form of arthritis deformans.

In the ordinary form of rheumatoid arthritis the effusion is less marked than in the cases described, and finger joints, particularly the first interphalangeal articulations, are usually affected; but in childhood at all events the disease may first appear and remain for a time in one of the larger joints, the symptoms simulating tuberculous disease so closely that diagnosis is impossible until the extension of the disease to other joints shows its true character. In some instances the fingers remain free from disease. The spine may or may not be involved.

In this class of cases the local disease appears to correspond closely with that already described, beginning in the soft parts and involving the cartilage and the bone secondarily. In a typical case

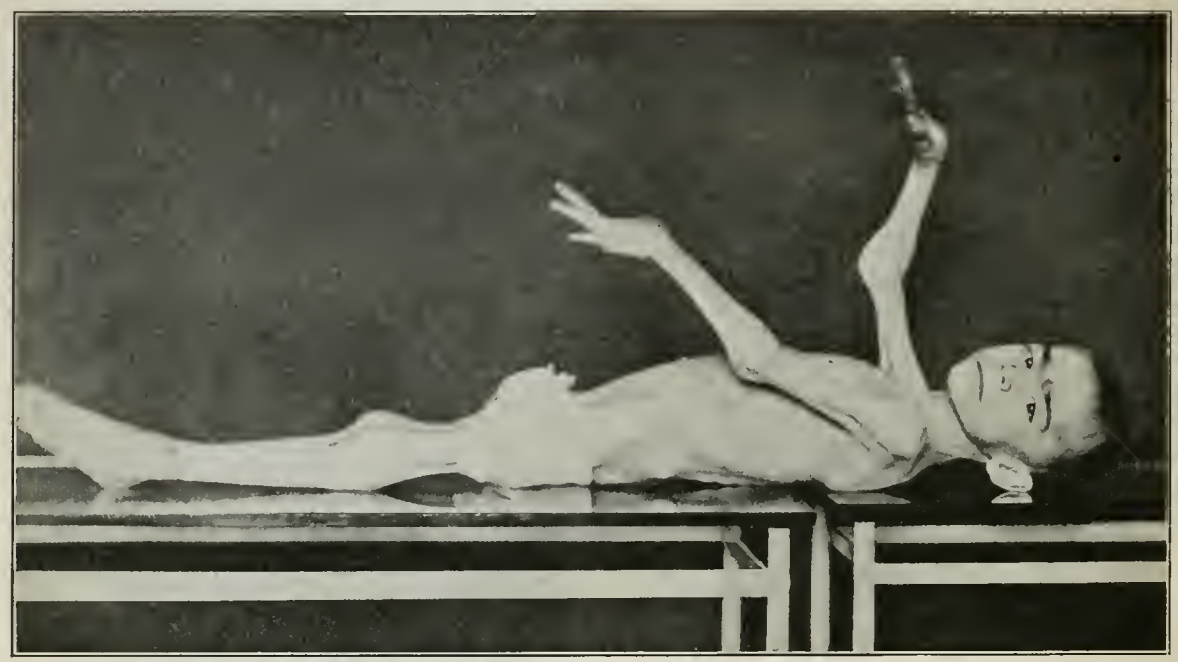

Fig. 4, Case 2.—A photograph, taken in the second year of the disease, about one year before recovery, showing the enlargement of the joints and the extreme emaciation.

of this character in which I removed the astragalus recently with the aim of restoring motion and relieving pain, I found complete anchylosis at the ankle-joint, the pain being due evidently not to joint motion but to recurrent sensitiveness in the thickened and infiltrated tissues covering it.

I may note in this connection that although it is often stated that arthritis deformans is uncommon in childhood it is certainly not particularly so in orthopedic practice. In my experience cases of this class are usually of the atrophic type (rheumatoid arthritis), yet the anatomical descriptions that one finds in the textbooks are usually of a disease accompanied by central atrophy of the cartilage, thickening at the periphery distortion of the joint surfaces and the like, a description that applies to the hypertrophic form (osteoarthritis).

Although from the clinical standpoint a case of rheumatoid arthritis in childhood is absolutely distinct from a typical case of osteoarthritis, such for example as the malum coxæ senile, yet there are many cases that it would be difficult to classify. For instance, the irregular enlargement of the bases of the terminal phalanges of the fingers with erosion of the cartilage may be classed as typical examples of the osteoarthritic process, yet these Heberden's nodes may be present in cases of rheumatoid arthritis, or they may be, and often are, present when the other joints are free from disease. So also the spine may become anchylosed in either form of disease, always apparently by a form of ossifying periostitis. The same process may be induced by gonorrhœal or other infection, and it may exist independently of any joint involvement and without evident cause (spondylitis deformans).

In cases of rheumatoid arthritis, as in the two cases described, the appearances suggest the effect of a continuous feeble irritation within the joint and a correspondingly feeble reaction. From this point of view one may explain the importance of supervision that would assure the individual from the depressing influences of over-exposure and over-work, and support his vitality by proper nourishment. And the value of local treatment to stimulate the circulation, such as massage, heat, light, the *x*-ray, and static electricity, both generally and locally. The advantage of the prevention and correction of deformity and of local support to relieve painful motion during the exacerbations of the disease are, of course, apparent.

As has been mentioned, one of these patients improved under daily exposure to heat and light, but apparently he improved even more rapidly after the attack of scarlatina. This favorable influence of contagious disease is often seen in ordinary rheumatoid arthritis of childhood, although in my experience the improvement is usually temporary. Whether it is an example of direct germ antagonism or, as seems more probable, it is simply the effect of a change in the general and local nutrition, is undetermined. This suggested to me the employment of Coley's fluid for the purpose of exciting the same reaction, and it was used in the case of the older patient, but only a short time before his death, when beneficial effect was hardly possible. No local change in the diseased joints was observed.

As far as the effect of operation is concerned, it may be stated that certainly no harm resulted and I should be inclined to repeat the procedure, especially if but one or two of the larger joints were involved, with the aim of exciting a local reaction that might stimulate the reparative process.

One can hardly conclude without mentioning the vexed question of etiology. As has been stated, the local appearances were indicative of feeble irritation and feeble reaction, but this does not imply

Fig. 5, Case 2.—Shows the swelling of the wrists, the finger-joints being unaffected.

that this form of disease, or rheumatoid arthritis in general, is not a painful affection. When the disease is confined to a single joint, which is therefore usually subjected to the strain of activity, it may be as painful as the ordinary form of tuberculous disease, but when the patient is disabled and has become habituated to discomfort, pain is usually less prominent as a symptom.

If rheumatoid arthritis is to be considered as of infectious origin, its distinction from ordinary forms of infection, whether local or general, is certainly marked. In the forms of infectious joint disease, which are commonly seen of the multiple type, such as may follow pneumonia, scarlet fever, and the like, the stage of invasion and progression is of comparatively short duration, and it is followed by repair. It is true that in gonorrhœa there may be successive involvement of joints at intervals, but even in such instances, the period of invasion is short compared with that of rheumatoid arthritis, which may extend over indefinite years. To account for this course one must presuppose a focus of infection within the body which is constantly active. Secondary osteoarthropathy is the only instance with which I am familiar in which such a source of infection seems to be fairly evident.

I find that disease of the nervous system still occupies a prominent place in the etiology as given in the textbooks, an hypothesis which is even more unsatisfactory than the last, because there is no known disease of the nervous system that is ever followed by joint disease such as has been described. It is true that disorganization of one or two of the joints may complicate locomotor ataxia and, in rare instances, certain other nervous diseases, and that the local conditions have been described as a caricature of osteoarthritis; but such joints neither in physical characteristics nor distribution, nor symptoms, resemble those under consideration. Even in the ordinary form of rheumatoid arthritis in older subjects, the symptoms ascribed to disease of the peripheral nerves, such as atrophy, change of nutrition, disordered sensation, and the like, accompany rather than precede the joint manifestations, and they differ in no particular from the symptoms caused by joint disease due to local infection.

Disordered metabolism as a cause of chronic joint disease, whether acting directly or indirectly through the trophic centers, is a theory so indefinite that it is hardly open to criticism, and it is of service therefore as an indication of our ignorance of the subject. This ignorance can be enlightened only by a better understanding of the various types of diseases that are now included under the term of arthritis deformans. To this end one should always make a primary distinction between the atrophic form of chronic polyarthritis and the hypertrophic form. The first is the common form in early life. The second is less common, less disabling, less general in its distribution, and is, relatively, infrequent in patients under middle age.

It can hardly be claimed that the cases reported as final results throw any particular light upon the etiology of this form of disease. To one seeing only the autopsy, the hypertrophied and degenerated internal organs, the general enlargement of the glands, the extreme emaciation and the abnormal color of the divided bones, would certainly have suggested some general disease to which the joint lesion was simply incidental; but the history shows that the disease of the joints was for a time at least the most important indication for treatment.

The recovery of the second patient from a condition as desperate as that shown in the photographs makes an interesting addition to the history of Still's disease, if it is to be considered as a distinct affection.

126 West Fifty-ninth Street.

The Treatment of the Autointoxications of Pregnancy by Thyroid Extract; the Anticipation of Impending Eclampsia.—H. Oliphant Nicholson reports the case of a woman on whom the thyroid treatment was tried during pregnancy, as her first confinement had been complicated by eclampsia. Labor was practically painless and a living infant was born, and the thyroid treatment was discontinued. On the sixth day after a severe eclamptic fit occurred, thyroid was administered in large doses, and recovery ensued. On the nineteenth day death occurred suddenly from symptoms suggestive of cardiac thrombosis. The authors report in detail the effect of the thyroid treatment on the elimination and composition of the urine. The most valuable action was a notable increase in the elimination of urea, because it is well recognized that the urea excretion fluctuates *pari passu* with the elimination of the toxic substances. Thyroid extract seems to possess a definite action in favoring the elimination of the solid constituents of the urine, which, for some reason, are locked up in the tissues, and in this way certain poisonous products of metabolism are also passed out of the body. These substances must be regarded as the cause of the autointoxication and subsequent convulsions. Even in cases of normal pregnancy, where slight symptoms of autointoxication may possibly develop under an excess of proteid food, it would seem rational to administer thyroid extract as a form of prophylactic treatment in order to anticipate more serious trouble. —*The Scottish Medical and Surgical Journal*, March, 1903.

"EYE-STRAIN" IN YOUTH AND ITS MODERN TREATMENT.

By AMBROSE L. RANNEY, A.M., M.D.,
NEW YORK.

Difficulties in using the eyes, accompanied by pain, and often by other symptoms of distress, may affect both the young and the old.

Thousands of children are taken from school yearly on the advice of some intelligent physician because of serious impairment of the general health. Yet thousands more are unfortunately compelled to use their eyes in both study and other vocations long after the evil consequences of "eye-strain" become manifest to a marked degree.

Sufferers from eye-strain are often fortunately restored to perfect physical health and are relieved of all eye symptoms rapidly by properly fitted glasses. The proportion that is so relieved is unquestionably enormous.

It is no longer infrequent, especially in large cities

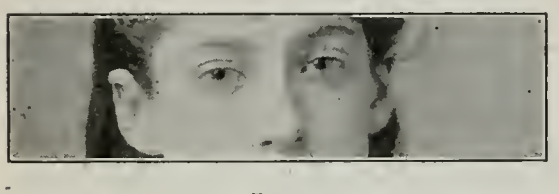

Fig. 1.

Fig. 1.—*A typical tilt of the head from "hyperphoria."* Notice that the right-hand side is much higher than the left. The high eye is very apparent.

and among the offspring of educated parents, to see glasses worn constantly by children of tender years.

Parents have begun to realize at last that it is wiser to endure what naturally seems to them to be a disfigurement to a child than to allow the general health of the child to gradually become undermined by defective eyes and to have its education seriously interfered with on account of uncorrected eye-strain. They have learned what some medical men seem to refuse to learn, viz., that a child or adult may suffer in many ways in consequence of eye-strain and still complain of no eye symptoms; and that headache, weak digestion, nervousness, and other evidences of physical debility may be but "flags of warning" that nature hangs out to tell that a leakage of nervous force exists from unsuspected eye-strain. Too much stress cannot be laid upon the fact that severe types of eye-strain often exist in connection with eyes that have the most acute vision and that cause no apparent discomfort.

Because a child can see unusually well, because the eyes cause no discomfort, because the eyes do not twitch or get inflamed, because the eyes will stand more than the average amount of work, it is natural, but still illogical, to argue that there is no basis to suspect that eye-strain may exist.

In spite of such statements on the part of a child

Fig. 2.

Fig. 2.—*The high eye in this face is easily detected.* Notice the tilt of the head from "hyperphoria."

or adult, clinical records show that the results of an investigation of eyes that are apparently perfect often shed much light on the causation of obscure nervous symptoms far removed from the exciting cause, viz., eye-strain.

Personally, I suffered for thirty years from terrific headaches, frequent attacks of uncontrollable vomiting, and extreme nervous debility at times. These attacks began in full severity when I was but four years of age. They persisted, in spite of all drugs, until I found, by accident, that eye-strain was the exciting cause. Yet, during all these years of acute suffering, that terminated finally in a complete physical collapse when I was still a young man, I

Fig. 3.

Fig. 3.—*Expression of a patient with extreme esophoria closely bordering upon convergent "squint" but maintaining binocular vision.* Notice the intense expression of the eye in this young face.

had never had an eye symptom of which I was conscious and I had remarkably acute vision. The correction of my own eye defects restored me, as if by magic, to health and a capacity for labor that I had never before known. My poor abused liver, that had been stirred up by drugs for years to abort the paroxysms of pain, must bless the day that revealed the actual cause; and the use of tobacco, to which many eminent men had attributed my sufferings, is still my solace and delight. At different times in my life, my headaches had been diagnosed as due to "nicotine poisoning of the retina," cerebral congestion, fermentation of food, insufficient bile secretion, and many other speculative conditions, while the actual cause was discovered by myself almost by accident, and my life's work became an outgrowth of my recovery and restoration to health. Had I lived as a child in the age of present enlightenment, I would have been spared weekly attacks of pain that frequently made suicide attractive to me, that robbed me of an ability to fill my engagements for nearly ten years (in the aggregate) out of thirty, that made me prematurely gray, and that in the end brought me to a condition of despair, without evidence of any organic disease to account for my collapse.

Three of the leading oculists of my own city had been asked by me to examine my eyes within one week. They had all used only the ophthalmoscope and test-cards. They had all differed widely in their diagnosis; yet not one had discovered a latent

Fig. 4.

Fig. 4.—*The intensity of expression due to esophoria.* Note the eyebrows, the wrinkles at the root of the nose, the peculiar, fixity of gaze, and the other evidences of excessive nervous expenditure in maintaining binocular single vision.

refractive error that existed, or had even suggested to me the wearing of glasses.

The use of atropine in my eyes (instilled by myself when in despair and desirous of ascertaining positively which of the three diagnoses was correct) revealed happily to me a refractive error of very high degree that had escaped detection by means of the ophthalmoscope in these three different examinations.

One of these examinations of my eyes was made by an author of a large work upon ophthalmoscopy;

yet even he closed his report by saying "that he could not find anything wrong in my eyes."

Is it to be wondered at, therefore, that I early made a determined fight against the use of the ophthalmoscope for accurate determination of refractive errors. It is a very useful instrument for many purposes; but, so long as the patient has not lost control of his accommodation by the use of a

Fig. 5.

Fig. 5.—*The peculiar blank expression due to "exophoria."* An approach to the so-called "wall-eye." Notice the contrast between this face and that of Fig. 4. Here is a total absence of wrinkles and an apparent lack of concentrated energy in vision.

mydriatic, the ophthalmoscope cannot be relied upon in any hands as an instrument of scientific precision when prescribing glasses.

Moreover, it is as unfortunate as it is true to-day that very careless and imperfect refractive work is constantly done by oculists of international repute.

The probable explanation of this statement, to my mind (and I see daily positive proof of the accuracy of my assertion), lies in the fact that many cases of physical suffering caused by those refractive conditions that rather enhance the acuteness of vision than impair it (especially in youth) are overlooked in the rush of office work and in public institutions because atropine is not generally employed. Again, it is extremely hard to "teach old dogs a new trick," and it is both easy and natural to find excuses for not doing what is theoretically right but of necessity a nuisance to the patient and a time consumer to the oculist.

Yet, on the other hand, sufferers from nervous diseases in consequence of eye-strain (like myself in the past) must continue to suffer until the cause is positively determined and scientifically corrected!

To have only a careless examination; to have a light thrown into the pupil, and to be then told "to run along and stop thinking of eyes" gives no relief to such sufferers.

Fig. 6.

Fig. 6.—*Eyes apparently normal in position, save for a slight tilt of the head*—suggestive of a hyperphoria.

Hasty advice and careless methods have their sad aspects!

Those who consult an oculist of great distinction naturally expect and have a right to expect all the information about their own eyes that the latest and most scientific methods can possibly reveal, and the diagnosis that they receive is generally regarded by the sufferer as final and positive. It is an inexcusable violation of good faith on the part of an oculist, as well as a gross injustice to the sufferer, to omit any step that may throw light on the diagnosis. It is a more serious matter still to such sufferers to be told that they may dismiss from the mind the question of existence of eye-strain as a cause of their symptoms; when the refraction of the eyes has not been determined under atropine, and when the eye-muscles have not been tested by modern instruments of precision.

I hold to-day, as a curiosity, a letter written by an oculist of international repute to the physician who sent a patient to him for examination, in which he states "that the patient has no eye defects and needs only constitutional treatment." Yet this patient who had suffered excruciating pain for many years had a most extreme mal-adjustment of the eye muscles; she had suffered for years from double-vision (at times) and most annoying confusion of letters on a printed page; and she made a complete recovery under my care, after the muscular error was radically corrected.

Such experiences certainly teach some valuable lessons—especially to those who have suffered!

Because a groundless prejudice still exists among some of the older oculists against all attempts to investigate or correct mal-adjustments of eye-muscles; because they refuse to accept conversion to methods which are generally employed to-day in

Fig. 7.

Fig. 7.—*Eyes apparently normal in position and normal head posture.* This patient had, however, marked refractive errors and some latent "esophoria."

spite of the fact that they are not venerable on account of their antiquity; because they may not yet be keenly alive to the deleterious effects of eye-strain upon the general health; these are not justifiable excuses for utter neglect to state their position of non-conversion to their patrons or for failure to investigate thoroughly the cases intrusted to their care with proper instruments and by modern methods. Sufferers (and their medical advisers also) have at least the right to decide whether they wish the eye-muscles tested as well as the refraction of the eyes; have the right to know whether anomalies of adjustment of the eye-muscles have or have not been sought for carefully and intelligently; and are certainly entitled to an opinion from an oculist based upon all the facts and not upon a partial and imperfect set of tests.

The sad aspect to which I have referred is not because a patient has wasted a consultation fee; not because a cursory and imperfect examination has been given in return for that fee; not because any damage has occurred from this unjustifiable negligence; but because an opinion has been given on

Fig. 8.

Fig. 8.—*The intense expression of "hypo-esophoria."* Notice the slight tilt of the head and the fixity of the gaze.

insufficient data; because that opinion is apt to be construed as a final one, on account of the reputation of him who gives the opinion; and because the sufferer (unlike myself in the past) may never again have the chance to learn how his symptoms can be relieved and what was the cause.

If tests for refraction and anomalies of the eye-muscles were not purely mechanical, there might be a wide latitude for differences between oculists regarding the results of a series of such tests. But, fortunately for suffering humanity, modern instruments of precision used to-day by all progressive oculists in making eye-tests are so accurate, that any number of observers who are familiar with their use cannot fail to agree upon the facts disclosed. To detect "latent" or hidden muscular mal-adjustments in the orbit, however, and to decide definitely upon the steps that are to be taken for their correction requires often frequent tests and carefully kept records.

Regarding such obscure eye-problems, I take the liberty of quoting from a recent brochure of mine upon the eye treatment of epilepsy.*

"So it is with many cases of epilepsy, chorea, insanity, and kindred nervous affections. These patients have, as a rule, acquired and constantly practised from birth certain faulty combinations of the various eye muscles in order to enable them to use the eyes together.

"They are often able by the aid of such unnatural combinations to simulate a condition of apparent equilibrium of adjustment of the eyes; although a very serious expenditure of nerve-force may be demanded of them in order to do so. They are naturally unconscious of the eye-strain, because they think everybody does as they do, in order to see. They often have no eye symptoms. They practise these "tricks of adjustment" instinctively, not as an act of volition; and they have generally to be taught, by the aid of prismatic glasses and other recognized steps, to abandon them, and thus to disclose the actual mal-adjustment of their eye muscles which has entailed upon them this long-continued leak of nerve-force and, later on, an abnormal reflex excitability of the nerve centers.

"They are not unlike a tortuous and difficult channel in which the hidden difficulties to surmount do not always disclose themselves upon the surface. They demand and generally repay a careful and scientific scrutiny into the adjustment of the ocular muscles and latent errors in refraction. They require time and great patience on the part of the observer, as well as skill.

"The old and crude methods of testing the eye muscles will have to be totally abandoned at no distant date. A phorometer, a tropometer, some form of clinoscope, square prisms, an assortment of interchangeable prisms and spectacle frames, and various other scientific devices are to-day essential to all accurate work. The separate muscles must be individually tested and their power accurately measured; the arcs of rotation of each eye upward, downward, inward, and outward carefully determined; the presence or absence of any declinations of the vertical and horizontal meridians must be made certain; and the presence or absence of latent muscular anomalies of the orbit must be most carefully investigated by means of prismatic glasses (worn by the patient) before any examination of the eye muscles is to-day complete."

Some time ago a prominent physician called upon me for an examination of his eyes, as a possible factor in a serious physical break-down.

He was astounded, markedly annoyed, and extremely incredulous when I told him that he was on the verge of a double cross-eye; more so when I demonstrated to him that he had unconquerable diplopia when a plain red glass was held over either eye; and he became very much disturbed when a graduated tenotomy upon both interni was suggested as the most satisfactory way of correcting the defect.

To relieve his anxiety and incredulity, I furnished him with two printed blanks; and I then sent him to two other oculists that I knew were familiar with modern methods of testing eyes. I instructed him to say to each of these oculists that I wished the blank that I had given him filled up with great care and accuracy. He returned to my office with each blank filled out, and identically alike with my own. He had then no doubts as to the accuracy of the diagnosis. The results of treatment made the discovery a fortunate one for him.

There is hardly a day in which I do not see in my office some evidence of the utter neglect of marked and important eye factors in varying types of nervous disturbances.

In the case just referred to, the patient had been given by an oculist some weak prisms for near work (incorporated with his reading-glasses). These prisms only corrected about one-tenth of the manifest muscular-error disclosed; and then only for about one-fifth of his hours of daily activity. No prisms had ever been suggested for constant use, to aid his weak muscles; in spite of the fact that the eye-strain was ever present and the patient constantly on the verge of seeing-double (diplopia), even at distant points.

That eye-strain can produce its evil effects upon the physical health long before adult life has been reached is clearly shown to the lay mind, by the large number of children who break down rapidly when sent to school, and who immediately rebound into a better physical condition when study is no longer demanded of them. But intelligent parents do not yet appreciate (as they should) that a large proportion of children who suffer from headaches, car-sickness, weak digestion, St. Vitus' dance, and epilepsy owe their physical ills to some eye-defect.

The time is not far distant when legislative enactment will require in every State and county a thorough test of the eyes of every child before education is begun, as a requirement for admission to the public schools. Even to-day, rough tests of vision are being made upon scholars by teachers themselves in some schools. Letters of warning are to-day forwarded by many teachers to the parents of such pupils as are found to have very imperfect vision, with a request to have complete tests made by some oculist.

No greater punishment can possibly be inflicted upon a child, or a more positive cruelty enforced, than to subject an unwitting sufferer from some severe type of eye-strain to the daily routine of a class-room without the proper glass to relieve that strain. Yet this cruelty is practised to-day unconsciously upon children by thousands of parents and teachers, and the results are recorded in the list of those children who collapse physically sooner or later if their powers of endurance are unequal to the burden they have to bear without aid.

There are certain rough tests of vision that can and should be made by parents or teachers upon every child as soon as it knows its letters, before systematic education is attempted. These tests are as follows:

1. Various forms of test-cards are made to-day and sold by all opticians with letters upon them which are mathematically drawn for normal vision at certain distances.

Such a card should first be purchased. It should be then hung in a good strong light with the child at a distance of twenty feet from the card.

2. The child should then be asked to read each

*_New England Medical Monthly_, November, 1902.

line of the test-card with each eye separately—one eye being covered with a small opaque object (such as a visiting card) held in front of it, while the other eye is being tested.

If either eye fails properly to see the letters on the line of the test-card made to correspond with the distance of the child's eye from the card, that eye is defective. For example, if a child is exactly twenty feet from the test-card, and the right eye alone reads correctly the twenty-foot line, the right eye has normal vision; if the left eye can read correctly only the forty-foot line, the left eye has only $^{20}/_{40}$ of normal vision, or one-half of normal vision. In such a case the two eyes are unlike in focus. This should be investigated by an oculist.

3. It should be impressed strongly upon parents and teachers that normal vision in each eye does not necessarily mean that the eyes are normal. They may be and they may not be.

Some of the most severe types of nervous disturbances occur in children, as well as in adults, from what is known as the hypermetropic eye, or "far-sightedness."

Such eyes may be likened to a half-closed opera-glass. They are more shallow than the normal eye. They have to be artificially focused every moment in order to get normal vision—just as an opera-glass has to be focused by its adjusting wheel. Every second during the busy day such eyes demand unceasing muscular efforts; every second in about sixteen hours of each day unnatural and unnecessary expenditure of nerve-force is going on to focus the eyes; every hour while awake the possessor of such eyes is suffering from this unnatural leakage of nerve-force; and sooner or later (as in my own case) the sum total of this constant leakage is liable to bring about physical and nervous derangement.

It is this type of eye that is not detected, as a rule, by the test-card. This type of eye usually has the "vision of the hawk," because the "focusing muscle" has become, like the arm of the blacksmith, enormous and unnaturally developed by adjusting constantly for the eye deformity.

It is this type of child that too frequently is found on the front bench of the class-room nearest to the blackboard—the place where the eye-strain is greatest, because the adjustment is greater for near points than for distance—while the "near-sighted child" is apt to be seated in the back row of the class-room, viewing the blackboard through a fog, as it were, because no muscular effort can help his special eye-deformity.

4. When parents find the vision of either eye in their children to be more acute than normal, there is ground to suspect that the "hypermetropic" or "far-sighted" eye exists, and it is wise to have that point settled positively by an oculist.

For example, if either eye alone, or both eyes together, enables a child or adult when placed twenty feet from a test-card to read the ten-foot line with accuracy and ease, the vision is then $^{20}/_{10}$, or double the normal power. This is as unnatural as is the example previously, quoted in which an eye had only $^{20}/_{40}$ vision, or one-half the normal power. Both probably point toward some congenital eye deformity.

5. To test the eye-muscles requires more apparatus and knowledge of optics than to test the visual acuteness of the eyes. It is therefore needless to enter here into a field too complicated for the layman or general practitioner in medicine.

There are, however, two rough tests that a parent or teacher may employ as a step toward determining whether the eye muscles are capable of controlling binocular single vision at all points. I refer to the "red-glass test" and the "exclusion test." To use these, a candle flame is commonly employed as a test object; placed at a distance of twenty feet from the eyes.

The Red-glass Test.—Hold a piece of plain red glass over one eye. Instruct the child to look at a candle flame with both eyes open. Ascertain whether the child sees one white candle flame or two candle flames (one red and one white). Now instruct the child to turn the head slowly toward the right and the left, while looking at the candle flame with the red glass still held over one eye. Ascertain while doing so if the child sees a double image at any point.

If the *child sees a double image* (diplopia) at any time or at any point during these tests, there is a decided tendency to crossed-eye, which should be investigated by modern methods and instruments (preferably before education is attempted).

The Exclusion Test.—This is a very simple and valuable means, in some instances, of discovering if the two eyes are working together properly.

Many children and adults have such extreme mal-adjustment of the eye muscles that only one eye is frequently used at a time—instead of both eyes together, as Nature has intended. They may not exhibit to a casual or untrained observer the characteristic deformity of a typical crossed-eye; but, at times, a cast is apt to appear in either eye, and the sufferer may be unable to look steadily with both eyes at any near point without extreme effort. How often do we hear the remark made that because some person "does not look you straight in the face, when talking to you, it is not safe to trust him"! Yet the true explanation of this unfortunate habit may be that the person suspected suffers from the very defect that is now being discussed here; and which makes it impossible to look steadily for any length of time without shifting the eyes to obtain rest. It is a very common habit for an extremely far-sighted person to avoid looking steadily into the eyes of a companion during a conversation—and the same may be said of those who suffer from extreme mal-adjustment of the eye-muscles, for which they have to make unnatural adjustments.

The "exclusion test" may be employed by the parent or teacher upon anyone suspected of difficulties in adjustment of the two eyes. It is made as follows:

Place the child twenty feet from the test object (preferably a candle flame), and instruct the child to gaze fixedly at it with both eyes, while a visiting card or some opaque object is held in front of one eye so as to shield the candle flame from view. Observe behind the shield if any deflection or trembling of the covered eye appears. If so, it indicates a weak or mal-adjusted eye-muscle.

Now shift the card (or shield employed) rapidly to cover the field of vision of the opposed eye. Note carefully if the eye moves (inward, outward, upward, or downward) when it is suddenly uncovered. The "jump" observed on shifting the shield is due to an effort on the part of Nature to regain a lost visual impression of the test-object. Repeated shifting of the shield from one eye to the other will show if both eyes jump or only one; also in what direction each eye moves when shielded and when uncovered.

A jump inward (at the moment the card is shifted) indicates that the eye when covered tends to diverge from its fellow (*exophoria*), and when uncovered has to be moved inward to get a visual image; a jump outward indicates a marked tendency toward convergence (*esophoria*); a jump in the vertical direction points strongly toward a marked difference in level between the eyes (*hyperphoria*), provided that

the two eyes jump in opposite directions. If both eyes jump upward or downward when uncovered, the two eyes may tend to assume too high a plane or too low a plane in the orbit (*anaphoria* or *kataphoria*). These terms are explained in a subsequent table.

Normally balanced eyes should show no tendency to move when the shield is shifted from one to the other.

It is not uncommon to see some eyes deviate behind a shield from one-quarter to one-half an inch from the position which each should maintain normally, and make a corresponding jump in the opposite direction when the shield is shifted. In many instances, the "exclusion-test" becomes a most valuable aid in solving complicated eye-problems—such as are frequently encountered in connection with epilepsy, insanity, chorea, etc.

In my work entitled "Eye-Strain in Health and Disease."* I devote one entire chapter to the various tests employed to determine and measure anomalies of adjustment of the eye-muscles and errors of refraction. I would refer my readers to this work for more complete information on these tests, and the modern instruments employed for that purpose. Many pictorial illustrations are employed by me in that work to aid the general practitioner in this field of diagnosis.

Finally, I deem it wise to call professional attention here, as I have repeatedly done in the past, to the diagnostic importance of certain facial expressions and peculiar attitudes in children and adults that tell of visual perplexities. These are oftentimes of great scientific interest and value.

There is no field of surgery that is to-day complicated with greater difficulties, and in which greater precautions against mistakes have to be taken, than in scientific attempts at the solution and correction of extreme cases of "cross-eye."

The time has fortunately passed when all that sufficed for a cross-eyed child or adult was to completely sever the muscles that appear to be holding the eye in a wrong position. Such crude work frequently accomplishes nothing; again, it is too often followed by a horrible over-correction; and, in quite a large proportion of cases, it caused the patient to suffer later from the results of a severe type of eye-strain which never existed before the operative bungling.

I lately saw, with horror, a conjunctival wound of at least one-half inch in length first made by an eminent surgeon on a cross-eyed patient; then all the delicate connective-tissue attachments were "loosened up" without regard to what these delicate fibers were designed by Nature to do; and finally the so-called "tight-tendon" was completely severed after being pulled out by means of a hook far beyond the limits of the gaping wound. The result was an awful deformity; far worse than the original one, and (what is worse) almost impossible to correct after such a wholesale dissection. Criticism is unnecessary. The surgeon, apparently, knew nothing of the results of modern research in the field of mal-adjustment of the eye-muscles or the scientific correction of such conditions.

The following table will explain to the general practitioner in medicine the meaning of certain terms that are used in connection with anomalies of refraction of the eyes and mal-adjustments of the eye-muscles:

Terms related to the focus of the eye (*refractive terms*):

HYPERMETROPIA (*far-sightedness*). A *shallow eye* (from the front to the back), causing an imperfect focus of objects.

MYOPIA (*near-sightedness*). An *elongated eye* (from the front to the back), causing an imperfect focus of objects.

ASTIGMATISM. An *irregularly-curved cornea* or *lens*, causing distortion of images on retina.

EMMETROPIA. A *perfectly constructed eye.*

Terms related to the muscles which move the eyes (*muscular terms*):

ESOPHORIA. A tendency of one or both eyes to deviate toward the nose.

ESOTROPIA. An actual turning of one or both eyes toward the nose (*convergent squint*).

EXOPHORIA. A tendency of one or both eyes to deviate toward the temple.

EXOTROPIA. An actual turning of one or both eyes outward (*divergent squint* or "wall-eye").

HYPERPHORIA. A tendency of one eye to rise above the level of its fellow.

HYPERTROPIA. An actual turning of one eye above its fellow (*vertical squint*).

ANAPHORIA. A tendency of *both eyes* to assume too high a plane.

KATAPHORIA. A tendency of *both eyes* to assume too low a plane.

HETEROPHORIA. Abnormal adjustment of the eye-muscles.

ORTHOPHORIA. Normal adjustment of the eye-muscles.

ADDUCTION. The power of the internal muscles of the eyeballs. *It varies in health between 25° and 60°.*

ABDUCTION. The power of the external muscles of the eyeballs. *It should be 8° in health.*

SURSUMDUCTION. The power of the vertical muscles of the eyeballs. *The right and left should be alike.*

Various forms of glasses employed by oculists:

SPHERICAL. Ground upon a *convex or concave sphere.* Used to correct hypermetropia and myopia.

CYLINDRICAL. Ground upon a *convex or concave cylinder.* Used to correct astigmatism.

PRISMATIC. *Two plane surfaces of glass meeting at an angle.* The thick side is termed the base of the prism. Used to relieve mechanically errors of adjustment of the eye-muscles.

Diagnostic Attitudes of the Head and Peculiar Facial Expressions Caused by Mal-adjustments of the Eye-Muscles.—For many years, in connection with my office work, I either took or had taken cabinet-size photographs of all of my cases that had extreme eye-defects. I was extremely particular to have these pictures taken with the patient facing the camera; and I was equally careful to allow of no retouching of the negative.

My object in taking these photographs was a double one. In the first place, these pictures gave me incontrovertible proof of the accuracy of my statements during a period when the results of modern work upon mal-adjusted eye-muscles were more frequently sneered at than accepted by medical men.

In the second place, a series of such pictorial records of each important case taken at intervals during treatment were most interesting to me and to others who were willing to study them.

It was therefore vital that each series of such photographs of the same patient should be taken in as nearly the same position and size as possible—in order to contrast them with each other, and to observe changes in the expression and pose of the head.

During that very interesting period when the antagonism of almost all of the leading oculists and neurologists to this new line of investigation and treatment of headaches, neuralgias, epilepsy, insanity, chorea, and other severe types of nervous diseases, was very active, I frequently exhibit such a series of photographs of the cases reported by me before medical societies. I was therefore compelled to omit any retouching of negatives, because it might tend to change the facial expressions, and thus bring into the fight a claim on the part of the enemy of manufactured evidence in support of my views and assertions.

The changes in facial expression that followed a readjustment of eye-muscles were shown to a most

* F. A. Davis & Co., Philadelphia.

startling degree in some of these photographs. With the gradual improvement in nervous tone on the part of the patient came, in some instances, a typical shortening of the face, an obliteration of certain abnormal lines and wrinkles, a brighter expression to the eyes, and a decided modification in the pose of the head. So marked were these changes in some patients that it seemed hard to realize that the first of the series of photographs when contrasted with the last of the series were those of the same individual.

To anyone interested in the investigation and correction of mal-adjustments of the eye-muscles, I would suggest the use of photography as a most valuable aid in studying certain diagnostic attitudes of the head and peculiar facial expressions created by congenital defects of the eye-muscles. Furthermore, such pictorial records of cases constitute a most valuable addition to the ordinary pen-records usually kept by medical men. The photographs reproduced in this article illustrate their diagnostic value. The few hints that I give here may, I trust, aid the reader.

1. *Peculiar and persistent attitudes of the head* often materially assist an expert in making a diagnosis of some abnormal condition of the eye-muscles that may at first appear obscure.

(*a*) A *persistent tilt of the head to one side* usually justifies a suspicion that one eye tends to rise higher than its fellow—the condition known as "hyperphoria."

Strange as it may seem at first to the reader, the tilting of the head is toward the side that corresponds to the lower eye. This is because the low eye tends to see an image higher than it should be, and the high eye tends to see an image lower than it should be. By tilting the head toward the side corresponding to the low eye, sufferers from hyperphoria or hypertropia are enabled to bring the visual images of both eyes more nearly on the same plane, and to fuse them with les ffort.

This peculiar attirude of thc head is shown in some of the photographic reproductions given here (Figs. 1 and 2).

(*b*) The *forehead may be persistently thrown forward and the chin drawn in closely to the chest*, in consequence of eye-defect.

This peculiar attitude gives to the sufferer from "anaphoria" (see table of terms) the appearance of looking out from underneath the eyebrows.

The necessity of pulling eyes down constantly to the normal position (when both eyes tend to rise too high in the orbits) is greatly relieved by this peculiar attitude—which has great clinical significance.

The compression of the larynx and trachea that follows the persistent pulling the chin toward the chest and throwing the head and shoulders forward has been quite extensively discussed as an important predisposing factor to throat affections and lung diseases.

(*c*) The *chin may be persistently protruded*, whenever the eyes tend to assume too low a plane in the orbits.

The condition termed "kataphoria" (see table of terms) is often accompanied by this peculiar attitude of the head. It allows the eyes to look at objects from a lower plane in the orbit than the normal one, and this relieves the superior recti muscles.

2. *Diagnostic facial expressions associated with eye-strain* often tell their own story, as well as unnatural attitudes of the head.

I know of nothing in medicine that has greater attraction than the study of physiognomy from the eye-standpoint. My own leisure moments are frequently employed, while in public conveyances or at social entertainments, in detecting those whose eyes (either constantly or at momentary intervals) tend to assume positions in one or both orbits that are incompatible with binocular single vision.

Certain facial expressions are peculiarly diagnostic, moreover, of eye-strain—in spite of the fact that no abnormal attitudes of one or both eyes can be detected.

A few selected photographs reproduced throughout this article will illustrate some of these expressions better than words:

(*a*) When the eyes tend to deviate toward the nose (esophoria) to a degree that makes binocular single vision extremely difficult, there is usually a peculiar intense expression of the face.

This is extremely difficult to describe. The open, frank expression of the normal eye seems to be absent; and in its place comes an expression that tends to create rather a feeling of distrust. (See Figs. 4, 5, and 9.) To such sufferers whenever the esophoria is so extreme as to make them liable, a slight cast in either eye or to momentary attacks of confusion in maintaining binocular single vision, it often becomes extremely difficult to look steadily in the eyes of any one conversing with them without looking off or dropping the eyes. It is because of this peculiar physical disability that the character of these persons is often misconstrued.

The hard and disagreeable expression that often accompanies extreme "esophoria" is frequently entirely dissipated by its radical correction.

The tendency of the eyes to deviate toward the nose (esophoria) is unquestionably one of the most common and too often a totally neglected factor in causing extreme headaches, neuralgias, digestive ills, chorea, epilepsy, and nervous prostration. I have seen many house-confined invalids restored, as if by magic, to perfect health after relief from esophoria—hence its presence cannot be recognized too early in life, or its relief ignored with safety to the sufferer.

(*b*) When the eyes tend to deviate from the nose (*exophoria*) the face has a peculiarly blank expression. Whenever such a sufferer is not looking very intently, one eye may often be observed to wander off toward the outer part of the orbit, only to return again to its normal position, when the gaze becomes more intent upon any object.

The typical "wall-eyed" expression is only observed in extreme cases of divergent cross-eye.

Genuine "exophoria" is far less frequent than either "esophoria" or "hyperphoria"; yet, in my experience, I meet more frequently in my office patients who are wearing prismatic glasses (prescribed by oculists) for this supposed defect than for any other mal-adjustment of eye-muscles. The antiquated method of testing the eye-muscles at the reading point (instead of at the distant point) probably accounts for these frequent errors, both in diagnosis and treatment.

General Summary and Conclusions.

1. Eye-strain cannot be recognized too early in youth.

2. Its scientific investigation by modern methods and its radical correction may favorably modify both physical and mental development.

3. The neglect of an existing eye-strain may in time allow it to exhaust the reserve nerve capital of the sufferer and produce untold ills both of body and mind.

4. No child should ever be allowed to begin education until it is known that its eyes are properly fitted for the work.

5. Legislative enactment should, and surely will

in time, compel an eye examination of every child before it enters the public schools.

6. Teachers should also be instructed in the rudimentary steps of vision testing.

7. Tests for mal-adjustment of eye-muscles should be made upon every child as thoroughly and intelligently as tests for errors of refraction are made prior to its education.

8. A knowledge of the possible effects of eye-strain upon mental and physical development cannot be too widely disseminated among parents and teachers.

9. The direct causal relationship between "eye-strain" and nervous diseases is too well established to-day to require further proof, or even to justify further discussion.

10. The modern methods of testing for anomalies of adjustment of eye-muscles are the only ones that can furnish us with scientific and accurate information.

The time has happily passed when any oculist can instruct a patient to simply follow some object held before the eyes with the eyes; and then on that test alone give a final decision as to whether mal-adjustment of the eye-muscles exists or does not exist. Two decades ago this was about all that anybody knew about eye-muscles. To-day, the mere tyro would not dare commit himself on such tests.

11. The cure of disease to-day is intelligently based on *the search for its cause* rather than on an indiscriminate use of drugs; and the prevention of diseases is rapidly becoming more important to the medical mind, and also to the laity, than its cure.

12. The detection of "eye-strain" in youth is an important step in preventive medicine, and the arrest of a nervous leak may save many a child from a permanent break-down when an adult.

13. The study of facial expression and head posture is destined to become an important aid in diagnosis.

14. The governing boards of institutions for the feeble-minded, the epileptic, and the insane will sooner or later be compelled to investigate more carefully and earnestly than in the past the eye conditions of their inmates.

345 Madison Avenue.

TUBERCULOUS (BASILAR) CEREBROSPINAL MENINGITIS AND DELUSIONAL INSANITY COMPLICATING PULMONARY AND LARYNGEAL TUBERCULOSIS.*

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My reason for reporting these two cases to the medical profession is, firstly, because tuberculous meningitis in adults is rather uncommon. Out of 178 cases under my care in the sanitarium since May 1, 1900, and sixty-five cases in my outside practice, only two presented themselves, which would make three-quarters of 1 per cent. Secondly, this report will corroborate the accepted opinion that this disease afflicts men more often than women, and that it occurs between the ages of twenty and thirty-five years.

Case I.—Mr. T. F. C., kindly referred to my care by Dr. H. of New York. The patientetne red sanitarium March 10, 1902. He is twenty-six years old, married five years, has three children, all well. Born U. S. A. Clerk by occupation.

Family History: One brother died of "scrofulosis" —other brothers and sisters, as well as his parents, are well. Felt healthy till last October, when he had an attack of pneumonia on the left side. Was in bed nine weeks, due to a relapse. He was in the mountains a year ago, because he was run down. Since convalescence was not able to do much work, felt weak, was coughing, had night sweats, lost about twenty pounds in weight, coughs considerably now, with little expectoration. Appetite variable, bowels regular; is very hoarse.

Inspection: He is undersized, his height five feet one inch, chest measurement thirty inches. He is very anæmic and nervous. Has slight tremor in his wrists, and on walking exhibits an ataxic gate, dragging the left foot. Complains of severe headaches. There is the typical sparkle in his eyes, and the fingers are slightly clubbed.

Physical Examination: Temperature 100°, pulse 90 beats per minute and of jerking character, arteries slightly sclerotic. Weight, 86.75 pounds.

Chest examination: Consolidation of the right lung anteriorly from apex down to third rib. Many moist sibilant râles, posteriorly; suppressed respiratory murmur. Left lung normal. Disturbed cardiac action, though no murmur detected. Ulceration of the larynx and tumefaction of the vocal cords. Urine examination is negative. Is very emaciated and very nervous. He was put at once under hydropathic treatment, which seemed to benefit him remarkably. He felt stronger, his appetite improved. Medicinally, he took hypophosphates and malt, and had local applications to his ulcerated larynx of lactic acid in 25-per-cent. solution.

March 16.—During the week past he felt pretty good. Was able to take nearly full meals, swallowing with very little pain. But he was always sleepy and complaining of headaches. His temperature was 99°, pulse 82, weight 86.

March 18.—Would not come down to breakfast, saying that he did not sleep during the night, and remained in bed till noon. Laryngeal pain increased and could partake only of liquid food. Spent the whole day in the open air, but his somnolent condition increased and tremor was more marked. Appetite poor. Bowels sluggish. Temperature 100°, pulse good.

March 19.—Would not leave his bed, complaining of severe occipital headaches; anorexia was complete. He had to be urged to take some nourishment. We have just learned the fact, which was later corroborated by his wife, that he was addicted to alcohol. Not being allowed to indulge in any liquors, because of his nervous condition, he would ask of his fellow patients who were directed to use some stimulants. When at home he used to drink wines, which he exchanged later on for whiskey.

March 20.—Hardly coughs at all, unable to get out of bed, rests on his back, head buried in the pillows. Opisthotonus taking place. When not asleep stares at vacancy. Hardly able to talk above a whisper. Respiration shallow, but no dyspnœa. Pulse normal, temperature 100°. Toward evening became restless. Was tossing around in bed and muttering incoherently. He did not move his bowels for thirty-six hours. Refuses food. At 10 P.M. he became violent, jumped out of bed, and when responding to the nurse's call for assistance I found her struggling with him trying to put him back to bed. A remarkable superhuman strength was exhibited by this small frail body. It took the combined efforts of the two of us to replace him in bed, and then considerable strength was required to keep him quiet, when in bed already. Bromides, in quite large doses, had not the desired effect, and resort ought to be had to the hypodromic use of

*Read before the meeting of the Eastern Medical Society of New York City, February 13, 1903.

morphine, which gave him the much-needed rest for the whole night. The nervous explosion once started did not cease. The next day, March 21, the nervousness continued. He would toss around, pick the bed-clothes, manipulate the genitals, bringing on priapism. The looks were wild, had his mouth open, yet he seemed to be conscious of what was going on around him. He would lock his jaws when offered food, yet when asked if he would take some port wine (his favorite drink) he would nod assent, and when given would drink eagerly, apparently without pain on swallowing. An enema was administered, which relieved his bowels, and he passed a large quantity of urine. After that he lost control of both sphincters, and seemed not to notice what he was doing. He had during the day three violent attacks, trying to jump out of bed. Was tossing around, gesticulating. Pupils dilated. Temperature 101°, pulse commenced to weaken. We administered concentrated food with his port. At 10 P.M. his wife arrived. He did not know her. Had a fourth violent attack, and again morphine was resorted to, and he slept quietly during the night, and the ice-bag was retained on his head. Next morning, March 22, he seemed to feel much better. His look was more normal, and though he did not recognize his wife, yet he seemed to appreciate her presence, as he would take nourishment from her hands quite readily. About 10 A.M., as if awakened from a deep slumber, he sat up in bed, spasmodically embraced and kissed his wife, his face radiating with gladness; after a few minutes he fell back exhausted, but would not let her hands go. Her nearness had a soothing effect upon his disturbed nervous system; he would take his nourishment readily, his pulse improved and was resting quietly, but his bowels moved involuntarily, he could not control the vesical sphincter. At times he would close his eyes and twitch the muscles of his face as if in pain.

March 23.—Improvement continues. He could be induced to urinate in a bed-pan, would take his nourishment regularly, would answer questions rationally, though not above a whisper. Hope of full recovery was gleaming in the poor wife's mind. His temperature was 100, pulse 90 and strong. Yet opisthotonus continued and so did the semi-consciousness or the comatose condition. Pupillary reflex gone. He would look, but did not see. He has never yet spoken a word to anybody, nor made any voluntary motion. Mrs. C. and his brother, who arrived by this time, were determined, at all hazards, to take him home as soon as he becomes a little stronger.

March 24.—Same condition, with slight improvement as regards his restlessness, which was rather controlled at the start by his wife's caresses and soothing words.

March 25.—Hardly any change noticeable in his condition. Semi-conscious. Rolls his eyes constantly, picks his lips and tongue, but when asked whether he would like to go home he smiled assent. In compliance with his wife's urgent solicitation, I consented to escort the patient to New York. He stood the carriage drive from the sanitarium to the railroad station, a distance of nearly two miles, pretty well, but when at the station his brother wished to take him down to the cars, he showed fight, just as if he did not care to leave the carriage. It was again a hard struggle between a powerfully-built man and this little exhausted trace of humanity. Nothing untoward happened during the journey, which continued more than four hours. Having been made comfortable on a lounge, he laid quietly, took his nourishment and stimulants without contradiction, but did not sleep. He seemed to appreciate my presence near him. He would take some medicine from me as if obeying my orders. We safely arrived at Weehawken, when he was rolled in a chair into the waiting-room for rest. He looked up straight into my face, as if to express his gratefulness for his safe landing. For the first time he took the glass of wine I offered to him with his own shaking hand and drank from it. Not deeming my presence necessary for the night, and instructing them to call in the morning their family phyician, I bent down to my patient to bid him good night, when, unexpectedly, he stretched out his arm, and grasping my hand. shook it spasmodically and in a friendly way. He died the next morning.

My diagnosis in this case would be cerebrospinal meningitis, induced by toxins of tubercle bacilli, which infested the pulmonary and laryngeal tissues and traveled upward and downward, carrying destruction through the channels of the lymphatic system. The invasion of the bacilli or their toxins into the cerebrum, causing exudation into the ventricles, inaugurated the cerebral coma by pressure upon the cerebral substance. Knowing well the accepted theories that spinal meningitis is mostly epidemic, yet I venture to entertain the opinion that in this case the spinal meninges were involved, as well as the roots of the nervous trunks issuing therefrom, as evidenced by paralysis of the vesical and anal sphincters, by the priapism which is caused partly by the involvement of the sympathetic nervous system and partly by the spinal nerves (genitocrural) and sacral plexus. I am aware of the opinion that sexual function and desire depends upon a center located somewhere in the brain proper, some think it is the cerebrum, an opinion denied by others, and by some in the spinal cord between the second and third lumbar vertebræ, but in our case in whom volition was deadened, and there could not be any instinctive, even sexual desire, the priapism was the result of the irritation of the spinal meninges, the nerves, and terminal filaments in their intercommunication. The direct cause of death in this case would be exhaustion of nerve force supplying the heart muscle, and consequent paralysis of same.

Delusional and Maniacal Insanity.—CASE II.—Mr. A. B., thirty-one years old, Russian, sweatshop tailor by trade; married four years, has one child. Wife and child well. Father died twenty-four years ago, cause unknown; mother, one brother and four sisters alive and well. He was kindly referred by Dr. J. I. B. and admitted to sanitarium March 4, 1902.

Personal History. Was well till one year ago, when an abscess near the anus appeared, for which he was operated upon and was sick seven months. He recovered and returned to work. Five weeks ago he commenced to cough; had "caught a cold" in the shop. On the third night he had a severe pulmonary hemorrhage, which did not subside for a week Night sweats set in, also frequent irregular chills. Had diarrhœa for the last week. Vomits after eating meat. Appetite poor.

Inspection: Body fairly nourished, slight recession under right clavicle; on walking he drags his left foot rather than walks on it. His look is apathetic. Patellar reflex exaggerated. Considerable dyspnœa. Very anæmic.

Physical Examination: Temperature 101.2, pulse 90 and thready; weight 133.5 pounds. His weight in health 148 pounds. Chest examination shows on percussion, considerable dulness on right side anteriorly and posteriorly from apex down to liver. On auscultation, many moist bubbling râles all over

right chest, obscuring the vesicular murmur entirely; in a few disseminated spots, near to clavicle bronchial breathing with prolonged expiratory sound was discernible. Slight pleuritic friction sounds in the right axillary region. Left lung also in a catarrhal condition.

Diagnosis: Tuberculous broncho pneumonia with pleurisy right side, anteriorly and posteriorly; apex catarrh left side.

Treatment: Put to bed in a large room with both windows wide open day and night. Frequent sponging with friction. Medicinally, small doses of digitalis strychnine and quinine as antipyretic. Fluid diet, milk and broths.

March 10.—Temperature 102, pulse 80. Not so many râles anteriorly, feels stronger. Able to spend twelve hours during the day on the upper veranda. Is given solid food, as his bowels became regular and appetite improved. But while feeling stronger, yet he would hardly talk to anybody, always keeping to himself. A few days later was able to come down to general dining room, eat a hearty meal, but had attacks of high fever. Had also chills.

March 16.—Temperature 101.5, pulse 78, weight 129.5 pounds. Right lung, clearing up of the moist râles, but there were numerous friction râles in the axillary region extending toward the sternum. There having been occasional chills, and with those râles and rather flatness on percussion, I suspected empyema and performed paracnetesis, but the syringe did not bring up any pus, but a few drops of serum were withdrawn. His nervous state attracted our attention by this time. Though taking his meals regularly, yet when sitting outside he would have his eyes half open and muttering to himself. He seemed delirious. He hardly spoke to anybody, though when addressed would answer rationally. His wrist tremor continues, though his feet ceased trembling and seemed stronger. His loss in weight I attributed to high fever, temperature would run up sometimes as high as 104.5°; continues his rest cure and says that he feels well.

March 18.—Confiding to nurse that he received letters from his friends (which he never did) from New York that his wife was very unfaithful to him. He knew it long ago. He doubted whether the child born to him was his. He never ceased talking about it. This delusion seemed to torture him considerably. His appetite became poor and would sleep but little, otherwise he was rational. Believing that the presence of his wife would dispel his morbid thoughts, I ordered his wife to come.

March 22.—He was glad to see his wife, his suspicions were gone. She thought first of staying a few days with him, but her refusal to enter into intimate relations with him caused quarrels between them and excited him greatly, and we deemed best to cut her visit short. After she was gone another illusion entrapped him. This time in his business line. He assured everybody around that his partners (which he never had) are robbing him right and left, that he is going to remain a poor man. And when not speaking on this only subject he would sit and talk to himself or dose with eyes half open. Yet he would mind the bells calling for meals and partake of everything put before him. On the morning of the 23d, about 2 A.M., the night nurse met him in the main hall, fully dressed. To her query where he was going he replied in plain words that he was going to fetch a car and run up to his shop. Without much resistance he was made to return to his room and go to bed. Special guard was put on him since.

March 24.—He was up and about Went down to his meals, but walked with difficulty. This nervous explosion or somnambulistic attack seemed to be the evil herald of his nervous break down. He was not the same man since that night walk He would talk to nobody. His lower extremities commenced to become œdematous, and he would walk up a small flight of stairs with great difficulty. Yet he would not stay in bed, nor would he accept extra services from the nurse. He would rather apply to other patients to assist him to the toilet room. It was noticed toward evening that he is losing control of both anal and vesical sphincters, though his mind, except for his special hallucination, seemed yet rational.

March 24.—Was kept in bed with ice to his head. Temperature 104, pulse 90. He hardly coughed at all, no dyspnœa, breathing shallow. He would take his meals with avidity and then fall into semi-consciousness. He did not sleep, but would stare at vacancy. It was not coma, but a nervous exhaustion. Toward evening his bowels moved involuntarily. He was unable to move. Complains of headache. Slept a few hours during the night.

March 26.—Temperature 103, pulse 100; semi-comatous. Takes his nourishment without relish, lower extremities very œdematous, pupils dilated. Doesn't complain of anything, does not toss around, drinks a good deal of water.

March 27.—Coma deepens; pulse 110, temperature 102. Bowels moved again involuntarily. Took his broth for dinner, drank down a cup of milk, and rested quietly. At 4 P.M. Cheyne-Stokes' respiration set in. Pulse small and 120 per minute. At 5 P.M. he was dying, yet looking up to me as if begging for assistance; at 6 expired. Respiration ceased first, heart last.

The salient points in this case we would consider: (*a*) the two kinds of illusions following one another; (*b*) the attack, or probably attacks (few escaped notice, maybe) of somnambulism, which were the starting points of his nervous exhaustion; (*c*) the swelling of his lower extremities not due to any palpable lesion in the heart nor in the kidneys. Certainly due to obstructed venous return in the lungs, yet there was not any appreciable dyspnœa. (*d*) Direct cause of death would point to paralysis of the respiratory center rather than to the inhibitory nerves of the cardiac mechanism.

There being no necropsy, our reasoning in reference to the two cases cited must necessarily rest upon theoretical grounds; therefore, in contrasting them I venture to state that though there is some similarity between them, inasmuch as both of them exhibited abnormal mental phenomena, yet the first case I would delegate to the category of meningitis with positive organic lesions in the brain substance: softening of the brain, exudation into the ventricles with involvement also of the spinal meninges and nerves issuing therefrom, hence my diagnosis tuberculous cerebrospinal (basilar) meningitis—the second case belongs, in my opinion, to the functional disorders of the brain without any special lesion in the cerebrospinal system. It was certainly insanity of the delusional variety.

The Imperial Health Board of Berlin has issued the following statistics regarding the mortality from phthisis in Europe: Russia has more than 4,000 deaths per 1,000,000; Austria-Hungary and France more than 3,000 per 1,000,000; Sweden, Germany, Switzerland, and Ireland more than 2,000 per 1,000,000; Netherlands, Italy, Belgium, Norway, Scotland, and England more than 1,000 deaths per 1,000,000.

RESECTION OF INTESTINE, WITH REPORT OF THREE INTERESTING CASES.*

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The cases presented herewith are not unusual from a general point of view, but each presents some features worthy of note and comment. The three are consecutive cases of intestinal resection for different conditions, done within a short time, and ending in recovery. The first two serve to demonstrate how uncertain the diagnosis of acute appendicitis may be even when the symptoms are apparently clear, and what unusual conditions may be found when least expected. Besides the diagnosis, another point of interest in the first case is the length of gangrenous gut included in the intestinal strangulation, twenty-three inches.

The second case presents two points worthy of note. One is that the usual ligation and amputation of the appendix may be ineffectual in closing the appendical orifice, and may result in fecal fistula, as it did in this case, in which circumstances were favorable to this outcome. Mere ligation of the appendix only brings its mucous surface together and union is hardly to be expected except if the mucous layer be destroyed by disease. What really closes the orifice in this method, is the union of the raw edge of the stump where amputated, or where ligated, if the ligature be tight enough to strangulate the distal portion, with the serous covering of the adjacent viscera. In this case there were no adjacent viscera to become adherent to the stump as arising from its unusual position in front of the cæcum, it presented in the open wound.

The second point of interest in the case is the demonstration of the amount of operative interference tolerated by some persons. The patient was a boy only eight years old, and he successfully withstood five severe laparotomies within a period of five months, coming out apparently none the worse for his experience except for the presence of scars and the possibility of future hernia.

The third case was a strangulated femoral hernia so far advanced that sloughing of the constricted gut with suppuration in the sac had already taken place. In spite of the lowered vitality due to the condition, in a woman normally of poor physique, and in spite of the necessarily septic field to work in, she made a very prompt and good recovery.

Case I.—Frank S., age fifty-two, pedler, admitted to the Beth Israel Hospital, July 18, 1902. Has had right inguinal hernia for the past twelve years, that never caused him any trouble. Two days before admission, he was taken suddenly with general abdominal colic, persistent vomiting and constipation. After six or eight hours the pain became localized to the right iliac region. Character of vomitus became changed to brown, ill-smelling fluid, and constipation complete. Also retention of urine. Was sent to the hospital with diagnosis of appendicitis. Examination then showed right inguinal ring patulous, hernia reduced. Distension of abdomen, extreme tenderness in right iliac region. Lying with right thigh flexed, and abdominal rigidity so great as to make it impossible to find whether a tumor was present or not. Pulse 90, temperature 102.6°.

Vomiting continually. Enemas brought on no movement of the bowels nor flatus. Diagnosis of acute appendicitis made, but patient refused operation and would not submit till the next day. Under ether anæsthesia, the usual right-sided incision was made. Adhesions were found between the cæcum and small intestine. Separating these a gangrenous coil of intestine was encountered deep in the cavity, showing that the appendix was not the cause of the trouble, but that it was an intestinal strangulation. The incision was considerably enlarged to be able to deal with the condition, and the gangrenous gut was separated and drawn out little by little till there was nearly two feet of it. It was found to have gotten under and become strangulated by a small band that seemed to be connected with the bladder. This band divided, relieved the constriction, but the gut was hopelessly gangrenous and had to be removed.

What this constricting band was would have been very interesting to have ascertained, but the patient's condition and the severity and length of the operation as it was, would not allow of taking the additional time necessary for the purpose, especially when there would be plenty of opportunity at an expected post-mortem which, fortunately, did not come. The tedious work of separating such a length of gut from its mesentery took considerable time. End-to-end anastomosis was made with a Murphy button. The redundant mesentery was folded on itself and held so with stitches. Appendix was not encountered during manipulation, nor for want of time was it looked for. Incision closed by layers, leaving small opening for drainage. Anæsthesia lasted two and three-quarter hours. First movement of bowels twenty-six hours after operation. Button passed July 28, nine days after operation. Discharged cured in four weeks.

Case II.—This little boy, Max Gold, age now eight years, was seen by me at his home on April 10, 1902, through the courtesy of Dr. Lowenkopf. He had then been complaining of abdominal pains for some days, which at first were general and mild, but gradually became more intense and limited to the right lower quadrant. He had fever and constipation. There was quite a distinct tumor very painful to the touch between the umbilicus and right anterior superior iliac spine.

All the symptoms were those of an acute attack of appendicitis with local suppuration, and I sent him to the Beth Israel Hospital for operation. The hospital records show that on admission his temperature was 101.8°, pulse 84. He was prepared for operation for the next day, April 11. Before operation his temperature had dropped to 100.80, but the pulse had gone up to 120. Under chloroform anæsthesia, an incision was made over the tumor, and in opening the peritoneum, to our surprise, there was the whole appendix, as healthy-looking as any appendix could ever be expected to be, lying freely almost in front of the cæcum, a very unusual position, and a position that had a bearing on the future course of the case, which I shall refer to later. Just above the appendix was the tumor which consisted of omentum and cæcum inflamed, adherent, and matted together with the parietal peritoneum. The temptation to excise the appendix was too great to be overcome, and it was ligated with catgut and removed. After the usual protection of the peritoneal cavity with gauze packing the adhesions of the tumor were separated till a large abscess was found posterior to the cæcum or ascending colon. Exploring the abscess, it was found to come from the spine. A lumbar abscess that, in place of working its way down along the psoas muscle to the groin, forming the common psoas abscess, or pointing through the lumbar fascia, forming the ordinary lumbar abscess, took the very unusual course of working its way forward

*Cases presented at a meeting of the Eastern Medical Society, November 14, 1902.

through the abdominal cavity, and pointing toward the site of the usual appendicitis abscess.

The wound was partially closed, allowing sufficient opening for drainage, and treated in the usual way. Recovery was uneventful, until May 1, three weeks after the operation. It seems that on that day his visitors smuggled in a lot of fruit, which he ate. At any rate he began to have severe colic. Laxatives, followed by an enema, moved his bowels slightly, but did not relieve him. Next morning he began to vomit and bowels could not be gotten to move. Condition became progressively worse, Next day, May 3, extreme abdominal distension, fecal vomiting, pulse very bad, at times uncountable, was taken to the operating-room for an exploratory laparotomy.

Under chloroform, followed by ether anæsthesia, abdomen was opened in the median line. The gut was so distended that nothing could be done until it was punctured and relieved of a very large quantity of fecal matter and gas. Gut was sewed up again, and that part of it relieved of its distension by the puncture explored and returned, nothing so far being found to account for the obstruction. The gut, at a distance from the first puncture, was as yet so distended that a second incision in it was necessary to allow of further exploration. This allowed the exit again of a very large quantity of fecal matter and gas, and of a further exploration. The patient's condition becoming extreme, to finish the operation as soon as possible, the second incision in the gut was sewed into the abdominal wound to form a fecal fistula and relieve his intestinal obstruction in this way.

His condition after this operation remained critical for a couple of days, but he rallied and gave us another surprise, when two days after the operation, besides fecal discharge from the fistula, he passed flatus and fecal matter from the rectum in response to a rectal enema. From this time on he began to improve. The only explanation I can find for the obstruction that was the cause of this second operation is that it was a volvulus, or possibly an intussusception, brought on by active peristalsis during the colic caused by the fruit that he ate, and that this volvulus or intussusception was unknowingly reduced during the manipulations of the operation.

Two causes prevented the patient from regaining his strength after the operation, both due to the location of the fecal fistula, which seemed to be very high up in the small intestine. One cause was that the continual discharge from the fistula was of such an irritating character that in spite of everything tried to overcome it, the whole surface of the abdomen and sides became eroded and inflamed, causing continual suffering. The other cause was that though he had appetite and ate, whatever he took came through the fistula, undigested, almost as he took it. This lack of nourishment, in spite of nutritious rectal enemata, brought his general condition so low that he hadn't enough vitality to stand any operative interference to close the fistula. I decided to make an attempt to close it without opening the peritoneum, and on June 2 he had his third operation, under partial chloroform anæsthesia. It consisted in separating the skin from the gut adherent to the deeper structures and sewing up the two layers separately. The peritoneum was opened during the manipulation. This held the fistula closed for four or five days, when it gradually opened again. But the effect of these four or five days' closure of the fistula was wonderful in the difference it made in the condition of the surface, and especially in his general condition. The improvement was so great that I decided to do a laparotomy and resection of that portion of the intestine containing the fistula.

On June 9, under chloroform anæsthesia, he had his fourth operation. Incision again in median line, above and below the fistula, adherent gut gradually separated, though with very great difficulty, and about five inches resected. Ends brought together with a Murphy button, mesentery stitched up, wound closed layer by layer, except a small opening for drainage.

First movement of the bowels two days after the operation. Uneventful recovery. The Murphy button, not having been seen by the 24th day after the operation, *x*-Ray examination was made, but no trace of it could be discovered. It must have been overlooked by some negligent nurse, and thrown away with his stool. On the 27th of July, seven weeks after this operation, he was temporarily discharged to spend a month in Rockaway Sanitarium, before submitting to the last operation for a fecal fistula, due in part to the peculiar situation of his appendix, which I mentioned in the earlier part of this report.

As I said then, the appendix lay almost in front of the cæcum. After its excision the stump presented almost perpendicularly in the wound. This part of the wound was open and packed. As it granulated up the stump of the appendix remained sticking up there in the center of the wound. The complications of intestinal obstruction, etc., coming on, and being of more importance than this condition, it was left alone, with the result that in the contraction and cicatrization of the wound the tip of the stump remained projecting above the surface. About the fifth week after the first operation, it was noticed that some few drops of fecal matter would occasionally come through this stump. A probe inserted, entered the gut. Later on the gut began to prolapse through this small fistula. That is, the central wall of the fistula (mucous surface) would protrude and fold back on itself like a collar, and could be reduced. After all his other troubles were attended to, he was taken to the hospital again on August 27, for his fifth operation. The original incision was reopened, the fistula, practically the elongated stump of the appendix, isolated, the redundant portion of it excised and the edges turned in and sewed over with Lembert sutures. The layers of the abdominal wall were sewed separately above, leaving a small gauze drain in. Prompt and uneventful recovery. Discharged October 1, 1902.

Case III.—Mrs. Ella L., age fifty-six, widow, mother of nine children, youngest now sixteen years old. First she knew of femoral hernia was during an attack of abdominal colic about a year ago. Noticed swellings in both groins, which were both easily reducible till the beginning of her present trouble. On admission to the Beth Israel Hospital, all symptoms of intestinal obstruction and femoral hernia in left groin were present.

Was operated on at once. Incision enlarged upward into abdominal cavity, cutting through Poupart's ligament. About six inches of gut, including the gangrenous portion, was resected, and open ends approximated with Murphy button. Sac removed and wound closed, except sufficient for drainage.

First movement of bowels occurred on the second day. The patient made an uneventful recovery. The button was passed on the seventeenth day. The patient was discharged on September 7.

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THE USE OF SALICYLIC ACID AND BORIC ACID AS PRESERVATIVES IN FOOD.

THE question as to whether preservatives should be used in food is one which has been agitating the general public and the medical profession for the past few years. There are some—mainly those who are interested in the matter from a pecuniary standpoint—who aver that certain preservatives are not harmful to health, or if so to such a slight extent that their use is of little consequence. Others contend that preservatives should not be used at all, or when mixed with food, a label should be attached to the compound, indicating the nature and quantity of the preservative. A commission was appointed in Great Britain some time ago to look into the matter, and has recently handed in its report. The commission generally condemned the employment of preservatives in food, and recommended that the law should be altered so as to require manufacturers to state the nature and amount of the preservative, whatever it may be, which is present in certain articles sold. The commission would allow the use of salicylic acid, but would limit it to one grain per pint.

In the *Lancet*, March 14, is an article by Drs. Macalister and Bradshaw who join issue with the findings of the commission, and as the result of experiments made by themselves endeavor to show that the presence of salicylic acid in food, even in comparatively large quantities, has no injurious effect on the health of consumers.

The writers of the article lay down the postulates that salicylic acid is considered injurious to health for the following three principal reasons: (1) That it is an antiseptic and anti fermentative, and is, therefore, liable to interfere with the digestive processes by destroying the digestive ferments; (2) that after absorption it is apt to injure the general health and to interfere with nutrition, and (3) that it is an irritant and is, therefore, apt to injure the mucous membrane of the stomach and intestinal canal. The conclusions which they came to were these: They found—by means of painstaking and exhaustive experiments—that the digestive processes will proceed in the presence of salicylic acid, even in a solution of one in five hundred, which is practically saturated. It was further ascertained that salicylic acid in neutral solutions has absolutely no retarding effect whatever on the conversion of starch by the amylolytic ferment of the pancreatic juice. In short, they found that salicylic acid exerts about the same retarding influence on the digestive processes as do many articles, such as kitchen salt, which are always present in a mixed diet. In order to solve the next problem, viz., the effect of salicylic acid upon nutrition, laboratory experiments being more or less useless, the authors put into practice the only practical method of investigation, that of taking the acid themselves and giving it to others. The result of this experiment also was, that no injury to health seems to have been done. It is pointed out too, that insects do not appear to be harmed by taking salicylic acid dissolved to saturation in syrup. Lastly, with regard to the question whether salicylic acid causes an injury to the gastrointestinal mucosa, the authors write thus: "In the first place it is well known that in the early days of the treatment of acute rheumatism with the salicylicate preparations, large doses of the acid were employed, but no indications of irritant poisoning are recorded. Kolbe, for instance, while directing attention to its strongly antiseptic qualities, states that it is not poisonous to human beings, and in proof of this he himself took and gave to other persons from fifteen to twenty-three grains a day for nine months together, without apparent injury."

Another objection put forward to the use of preservatives, the writers reduce to the form of a syllogism, as follows: Antiseptics kill protoplasm (in bacteria); the human cells are protoplasm. Therefore, antiseptics kill the human cells. And they answer the implication thus: "It might be sufficient to reply that when the antiseptic enters the body it becomes so diluted that its action on the protoplasm of the body would become infinitesimal, but a more complete answer is found by pointing out that there is a fallacy in the assumption that a substance which has a deleterious action on one kind of protoplasm must act detrimentally on all kinds."

The article by Drs. Macalister and Bradshaw is, in a way, a whitewashing of preservatives in food and of salicylic acid in particular. Their experiments go to show, perhaps, that the harmfulness of salicylic acid in food has been exaggerated, but at the same time they do not carry conviction that the food containing it is not more injurious to health than that without. Preservatives, to some extent, may be necessary in food, but the majority of persons will be inclined to think that a limit should be placed on their use, and that the recommendations of the British Commission are based on sound views.

With regard to the use of boric acid as a food preservative, the *Lancet* of March 14 had an apt quotation. Quotation was made from an article contributed by Dr. G. Merkel of Nuremberg to the *Münchener medicinische Wochenschrift*, January 26, in which he refers to the injurious effects of boric acid as an internal medicine, and also as a food preservative. Dr. Merkel is of the opinion that boric acid taken internally in medicinal doses produces irritation of the gastrointestinal tract. His conclusions are founded upon observations made on eleven patients suffering from various slight ailments, but in whom the gastrointestinal tract was normal. The use of the drug is contraindicated, declares Dr. Merkel, in the case of invalids or persons in delicate health. It should not, he thinks, be used as a pre-

servative for milk or "canned" foods. Food "preserved" with it may be taken sparingly by healthy persons, but such food should never, in his opinion, be given to invalids.

The Medical Record has treated the subject more than once editorially, and has championed the cause of those who are against the use of preservatives. There are, undoubtedly, times when canned food cannot be dispensed with, and a certain amount of preserving material must be employed to keep such eatables in condition fit for human consumption. But on the other hand, preservatives are frequently used when not absolutely necessary, and in quantities more or less injurious to health. Despite the assertions made by some that neither salicylic acid nor boric acid are harmful, it would be well if the amount of these drugs as preservatives was strictly limited by law.

THE MICROCOCCUS OF ACUTE RHEUMATISM.

Dr. E. W. Ainley Walker, Gordon Lecturer, Guy's Hospital, London, writes in the *Practitioner*, February, on the infective agent of acute rheumatism. He endeavors to show that one and the same microorganism as is found in rheumatism is obtainable from cases of malignant endocarditis, and from chorea; and, on the other hand, that the organism isolated from a simple rheumatism may produce in animals malignant endocarditis, and probably, at times, chorea also; thus adding to the strong clinical and hygienic evidence that acute rheumatism is an infective disease. Malignant endocarditis terminates a group of cases which, at certain periods of their course, cannot be definitely marked off from acute rheumatism, and these, asserts Dr. Walker, must of necessity be taken into account in a consideration of the etiology of the latter condition. The same remarks apply with less force to chorea.

In the first instance the author argues ably in favor of a single and determinate infective agent being the cause of acute rheumatism, and declares that the "mixed infection" theory has absolutely nothing to support it. After giving a brief history of the result of previous investigations, Dr Walker describes at some length the outcome of researches into the etiology of acute rheumatism undertaken by Dr. Beaton and himself. These workers agree with the opinion expressed by Poynton two years ago, that a particular microorganism, and no other, is constantly associated with acute rheumatic lesions, and is their causal agent. Poynton and Payne have obtained this diplococcus, from some eighteen cases of acute rheumatism, and have by its inoculation produced in animals the following lesions: Polyarthritis, percarditis, myocarditis, endocarditis, pleurisy, nodule formation, fungating endocarditis, with visceral infarctions, and probably chorea. It was with the view of verifying these and similar results arrived at in Europe by other investigators that Drs. Walker and Beaton began an investigation of the bacteriology of acute rheumatism. They have succeeded in obtaining the particular micrococcus from rheumatic patients in fifteen cases, and have examined the action of four different specimens of the organisms in healthy rabbits with positive results Among the cases were eight of acute rheumatism, three cases of chorea, and four of malignant endocarditis in rheumatic subjects.

The organism is described as follows: A tiny micrococcus, which is usually found in ordinary films from artificial cultures, arranged in pairs and chains. When growing in the tissues, as, for example, in a cardiac valve, it shows marked pairing of the elements, but also the arrangement into streptococcal chains; and in artificial culture, in particular media, it can be made to exhibit chains of quite remarkable length. It stains well with ordinary dyes, such as carbol, methylene-blue, carbol, thionin-blue, and fuchsin; and it retains the stain when treated by Gram's method, or, by the Weigert modification of this method, Beaton and Walker grew in the following culture media: bouillon, peptone, water, dextrose, saccharose, glycerin, lead and nitrate bouillon, gelatin (stab, streak, and shake), agar-agar, glycerin-agar and blood-agar, blood-serum, milk, and potato. In their opinion it is in culture indistinguishable from an ordinary streptococcus. It forms a considerable amount of acid, no gas, no indol, no hydrogen sulphide, and no nitrites in nitrate media. It grows anaerobically as well as in aerobic culture. On potato there is no visible growth, but growth takes place in cultures made in sterile urine.

Upon the question as to whether this organism is an ordinary streptococcus or specific, hangs the whole argument for the specificity of rheumatism. Gustav Singer holds that the infection of rheumatism is caused by an attenuated streptococcic septicæmia.

The only way in which specificity can be established, is by the discovery of some characteristic difference in either the microorganism or its products sufficient to distinguish it with certainty from the other members of the "streptococcus" group. No differences of this kind have as yet been found.

Dr. Walker considers that the points which urgently demand investigation are these: First and foremost, the question of specificity, and when the bacterial specificity of rheumatism has been accepted, the problem of its toxic specificity must be attacked.

So far as the investigations in regard to the microorganism of acute rheumatism are concerned, they may be said to have been attended with a fair measure of success, and to warrant to a large extent the opinion of Dr. Walker that acute rheumatism is caused by a specific infective agent. Until, however, the organism can be distinguished from an ordinary pyogenetic streptococcus, the matter must remain unsettled with, perhaps, a leaning toward the views so eloquently advocated by Dr. Walker.

THE LIVER TEST FOR SUDDEN DEATH.

In the *Wiener klinische Wochenschrift* for February 26, 1903, Prof. J. Seegen criticises Martin and Lacassagne's test for sudden death based upon the condition of the liver as regards the absence of sugar and glycogen, the presence of sugar and glycogen, or the presence of sugar with absence of glycogen. The absence of sugar and glycogen Martin and Lacassagne consider evidence of death preceded by

a long agony; the presence of sugar without glycogen, evidence that a disease was cut short by a sudden, intercurrent cause; and the presence of both substances, evidence that death occurred without preceding disease. If this test be reliable, its importance for legal medicine is evident. Martin and Lacassagne direct that a piece of finely cut liver be boiled a short time and the decoction mixed with animal charcoal and filtered. Milkiness of the filtrate betokens the presence of glycogen; a clear filtrate, its absence; precipitation on heating the filtrate with Fehling's solution, the presence of sugar. Seegen criticises this method, which has some appearance of a "while you wait" process. In particular, the charcoal can extract sugar from the solution, and, indeed, Modica, by omitting the charcoal and by using the phenilhydrazin test, reached conclusions different from those of Martin and Lacassagne; and, further, Verwaeck obtained very different results in two series of cases, in one of which he used Martin and Lacassagne's, and in the other, Modica's method. Strohe also obtained results similar to those of Modica and Verwaeck, while Brown and Johnston, using the method of Martin and Lacassagne, confirmed the results obtained by them. By more refined chemical methods Seegen found in one case of death from asphyxia, one of death from carbon monoxide poisoning, and one in which death probably occurred from asphyxia after breathing of carbon monoxide, both sugar and glycogen present invariable amounts. He also found those substances in large amount in the liver of a dog killed suddenly after one hour of asphyxiation, and in that of two others dying after six hours of asphyxiation, but in one of the last cases the glycogen was present only in traces. Seegen concludes that, on the basis of physiological considerations to which the findings of Modica, of Verwaeck, and of others are entirely conformable, and upon the important results ascertained in the cases of asphyxiated individuals, the conclusions of Martin and Lacassagne do not correspond to the facts and are not justified. It is, on the whole, true that in healthy individuals dying suddenly the liver in most cases contain sugar and glycogen in abundance, and that in cases of individuals dying of disease the amount of the substances named is diminished; but from these facts, which hold only within wide limits, it is entirely unjustifiable to draw an "indubitable proof" that death was slow or sudden.

The Widespread Increase of the Cocaine Habit.

A grand jury recently sitting in Chicago, for the purpose of probing into the question of the sale of dangerous drugs, came to some rather alarming conclusions. Representatives of the Illinois State Board of Pharmacy had testified that in their opinion the sale of dangerous drugs was carried on in Illinois, and especially in Chicago, to a large extent. The grand jury confirmed these opinions and declared, in its final report, that there was an alarming growth in the sale and use of cocaine. Druggists in Chicago and in other parts of the State of Illinois were known to dispense the drug without a physician's certificate, and the grand jury recommended that legislation and police activity should be evoked to break up the dangerous practice.

The London *Speaker*, commenting upon the same matter, says, "Even the most casual of newspaper readers must have noticed how many have been the cases of cocaine poisoning during the past few years. Either the drug has been prescribed in the first instance by a physician, or, what is more common, has been an ingredient in some patent medicine, to relieve nerve pain. Its value as a local anæsthetic, and its immediate tonic effect upon the nervous system, are so marked that the patient grows more and more to depend on it for relief. The cocaine habit is induced, and the victim soon becomes a physical and mental wreck. The dangers attaching to the indiscriminate use of the alkaloid of the cocoa plant and its fascination for neurotic subjects are now well recognized among physicians of repute; but it forms a too-frequent constituent in many popular medicines, for it is a cheap drug, and, unhappily, there are—at least so far as America is concerned—no restrictions or laws regulating its sale."

The cocaine habit is undoubtedly on the increase, and is more prevalent in this country than anywhere else. The American, by incessant work and by the continued strain on the nervous system necessitated thereby, frequently finds himself run down and suffering from dyspepsia, neuralgia, and various other ills and pains—symptoms that the body is rebelling against its abuse. Instead of endeavoring to recuperate by rational, sane methods the sufferer drugs himself into insensibility by means of drugs, such as cocaine. He does not understand that pain and lassitude are merely the red flags hung out by nature to show that there is danger ahead, and that to resort to drugs to bring forgetfulness or to deaden pain is to run counter to the dictates of commonsense. Laws are needed everywhere to restrict the sale of dangerous drugs and of patent medicines containing the same, so that temptation may not be placed in the way of the perverse and neurotic inhabitants of this and other lands.

Laboratory Diagnosis and the General Practitioner.

Dr. B. M. Randolph, Jr., Dean of the Philadelphia Polyclinic, contributed to the *Old Dominion Journal of Medicine and Surgery*, January, 1903, an article on the above subject. The writer argues that the general practitioner can and should make use of laboratory methods for diagnostic purposes. The medical man in general practice is too apt to regard such work as lying out of his province, and belonging to that of the worker in the clinical laboratory.

Dr. Randolph, however, asserts that the general practitioner with a microscope, a small quantity of apparatus, and a few reagents and stains can do nearly all the essential diagnostic work, and do it without the expenditure of a great amount of time. Of course there are many tests which cannot be undertaken unless elaborate apparatus is at hand, and which require close attention and much time. The first need for most of the tests that are of positive value and constantly in demand, says Dr. Randolph, is an ordinary physician's microscope. A table two by four feet, having a small drawer, will give ample room and place for all necessary stains, reagents, and apparatus. Half a dozen stains, the ordinary simple chemical reagents, and a few special mixtures will make up the complement. With these the physician can examine urine, sputum, blood, pus, exudates, fæces, stomach contents, and obtain much valuable information.

Indeed, there are few diseases or conditions which cannot be tested and valuable aid afforded by making a diagnosis by these means.

There is no doubt that the clinician is becoming

more and more dependent on the laboratory, and, as Dr. Randolph truly says, "No man can afford to ignore the question of equipping himself to do clinical microscopy and chemistry unless he is so situated that he can have such work done for him. Competition is keen and getting keener, and the standard of medical attainment is becoming too high for any physician to fail to make use of every aid to diagnosis possible."

Toxæmias from Spirit Drinking.

Although there is yet much difference of opinion as to the action of alcohol on the human system, the preponderance of evidence goes to show that the value of the spirit either as a food or as a therapeutic agent is very limited. It is agreed on all hands that drinking to excess is extremely harmful.

Dr. T. D. Crothers, who is, of course, strongly opposed to spirit drinking in any form whatever, and who is one of the most earnest advocates of strict temperance in this country, contributed an article dealing with the matter to the *Albany Medical Annals*, January. He holds that many of the complaints from which persons frequently suffer and termed bilious, malarial, or rheumatic, characterized by dull pain, slight fever with general exhaustion, and wandering neuralgias and myalgias, are simply toxæmias from spirit drinking. Dr. Crothers' conclusions are as follows: (1) Alcohol in any form, taken into the body as a beverage, is not only a poison, but produces other poisons, and associated with other substances may develop toxins. Alcohol is also an anæsthetic and not a tonic, or so-called stimulant. It increases the waste products of the body and diminishes the power of elimination. It also destroys the phagocytes of the blood, and thus removes and lessens the protective power of the blood cells. (2) Whenever alcohol is used continuously as a beverage for its medicinal effects, favorable conditions and soils for the cultivation of and growth of poisonous compounds are created. These may be neutralized by other conditions, and not be apparent in the derangements of the functional activities which follow. When disturbance and derangements of the nutrient and functional activities of the body are associated with the use of alcohol, their transient character and disappearance by the removal of spirits suggest the causes. (3) The functional and organic symptoms of derangement appearing in those who use spirits in moderation or excess, which quickly disappear by abstinence and eliminative measures, are clear indications of autointoxications from this source. Obscure symptoms of the nervous system in persons who use spirits should always be examined in relation to the toxic origin from this source. Also grave nutrient disturbances should suggest the same cause with the same treatment. (4) The treatment of all such cases, in which alcohol is used in any form, should be by antiseptic and eliminative measures, and the supposition should always include the possibility of poison by chemical products formed in the body.

Trachoma in the United States and in Egypt.

The *Practitioner*, February, contains an article by Mr. E. Treacher Collins, F.R.C.S., one of the best known British authorities on ophthalmology, entitled "A Review of Recent Work on Ophthalmology," the greater part of which is taken up with a consideration of trachoma and the methods for the prevention of its spread. Mr. Collins highly eulogizes the measures taken in this country for preventing the dissemination of trachoma, and quotes extensively from the *Boston Medical and Surgical Journal* and the Medical Record to show that the enforcement of the law prohibiting the entrance of immigrants afflicted with trachoma, and the passage of "The Act for the Better Preservation of the Health of Children in Institutions" by the New York Legislature in 1886 have greatly lessened the prevalence of trachoma in the United States. With regard to the article on the subject by Dr. Derby, in the Medical Record, of July 5, 1902, it is noted that the writer in question complained that at the present time there is no hospital in New York City adequate for the reception and care of all cases that would be found by school inspection, though fifteen years ago he advocated the erection of such a building.

As to the prevalence of granular ophthalmia in Egypt, Dr. Collins contrasts the active measures being taken here to check its spread with the sad description which MM. Morax and Lakah give of the affection in Egypt, where for ages practically nothing has been done to limit its spread. Their paper is entitled "Clinical Investigations on the Etiology of Trachoma in Egypt," and is published in the *Annales d'Oculistique*, November, 1901. After stating that in Egypt it is quite the exception to find a native who, when the lids are everted, does not show signs of either past or active trachoma, they proceed to demonstrate that it is in childhood that the infection is most frequently contracted. MM. Morax and Lakah examined ninety-five foundlings and orphans at an institution, whom they divide into two series: (1) The older children between twelve and seventeen years of age comprising more orphans than foundlings; of twenty of these, seven presented typical granulations, thirteen had no conjunctival disease. (2) Children between twelve and two years of age; of seventy-five of these, fifty-six had granular ophthalmia. The average number of cases of granular ophthalmia among the children in several native schools which they examined was 93 per cent.

As a result of their observations, the authors do not think that climatic conditions or race have any influence in the development of the disease. Dr. Alfred Osborne, however, who has had five years experience in a large polyclinic in Alexandria, in an article "On the Relation of Epidemic Conjunctivitis in Egypt to Climatic Conditions," in the *Archiv für Augenheilkunst*, Vol. XLIV, No. 2, says that the increase in eye diseases in the hot months from April to August or September follows a curve approximately like that of all the plagues of Egypt—light, heat, dust, the overflow of the Nile, and flies.

The Diseases of Organic Demineralization; Plasmatic Anæmia.

In the *Bulletin Général de Thérapeutique* for December 23 and 30, 1902, Dr. Albert Robin calls attention to a nutritive disturbance of the highest importance which appears to have escaped attention hitherto. Gaube has shown that each tissue has its dominant mineral, which plays a very significant rôle in the nutritive processes of that tissue. If one endeavors to ascertain the relation which exists in a healthy man between the mineral components and the total residue of the urine, it is found that the figures vary within narrow limits, from 28 to 33 per cent. of the total dry residue, the average (the coefficient of demineralization) being 30 per cent. A study from this point of view of numerous cases has led Robin to the following conclusions: A group of morbid states exists, which have as one of their conditions, if not of their causes, either a demineralization of

the organism, or an inaptitude of the plasma and of the tissues for fixing the inorganic principles of the food. Among these diseases Robin's studies enable him to indicate the following types as the first terms of the series, namely, phthisis pulmonalis, chronic phosphorus poisoning, a special variety of hæmoglobinuria, various albuminurias (such as the phosphaturic and the dyspeptic), which, at first functional, can end in Bright's disease; and an important group of anæmias, certain of which present all the clinical appearances of chlorosis. The last is not a morbid entity, but certainly a symptomatic *ensemble*, which depends upon very dissimilar morbid conditions, and requires altogether different treatments, inasmuch as it is necessary to treat the morbid processes which end in the chlorosis or anæmia rather than the symptomatic expression of them. Organic demineralization is one of these processes. The chlorotic and anæmic victims of it show certain clinical peculiarities which lead one to suspect its presence, but to render the diagnosis certain it is necessary to undertake a comparative analysis of the urine and of the blood. The demineralization is proved by an increase in the mineral residue of the urine and of the coefficient of demineralization, and by a correlative decrease in the mineralization of the blood. The analysis shows that this demineralization affects the blood plasma, the saline equilibrium of which is broken, and as an immediate result we have either an alteration of the red corpuscles, or a retardation in their renewal, or a diminution of their activity. In fact, in a typical case, the number of red corpuscles fell to 2,329,000, with a globular value of 72 per cent. This variety of anæmia then deserves the name of plasmatic anæmia. In order to treat and to cure it in a, so to speak, mathematical manner, it is necessary to restore the saline equilibrium of the plasma, a result which is attained rather rapidly by the use of a combination of the salts of the blood with different organic principles. This mineral reconstitution of the plasma requires from fifteen to fifty days, according to the case. It shows itself by an increase in the mineralization of the blood and by a diminution of in the inorganic residue of the urine, in spite of the daily ingestion of the mineral salts. When the saline equilibrium of the plasma is reëstablished it is proper, as a second therapeutic step, to institute a course of iron, which then acts with a surprising rapidity on the external signs of the chlorosis. One may, however, associate the iron directly with the saline medication. The diagnostics and the treatment of plasmatic anæmia furnish a proof of the certainty of therapeutic measures when these are founded upon the exact processes of pathological chemistry.

Quinine and Malaria.

Dr. Cartaz, a French physician, discusses in *La Nature* (Paris), February 7, and quoted in the *Literary Digest*, the question as to how quinine acts in malaria. Dr. King, an American physician, has advanced the argument that the property of fluorescence which quinine possesses, is probably one of the causes of its ability to destroy the malarial parasite. The argument is somewhat as follows: Malaria is due to the presence of a parasite in the blood; it has been discovered that this parasite gains access to the human body by means of the bite of an infected mosquito. The parasite of malaria scarcely ever develops except in darkness. Is it the red color of the blood that favors its life and the violet rays that interfere with its evolution? According to Dr. King, quinine is a fluorescent substance, and it is through this fluorescence that it acts as a destroyer of the malarial parasite. Dr. King points out that two vegetable substances, already employed as remedies for malaria, esculin and fraxin, the active principles of the horsechestnut and the ash, give blue rays. Iodine, which is not fluorescent, finds in the system starchy substances with which it combines to form an intensely violet-blue combination. Methylene blue, recently prescribed in forms of chronic malaria, and in inveterate neuralgia, would also act by emission of rays hurtful to the parasite. Again, it has been long recognized that the absorption of quinine increased the fluorescence of the blood, and that this is lessened or increased, according to the doses prescribed, and to the lapse of time since the ingestion of the salt. The parasite, then, like many microbian agents, must be disagreeably influenced by the violet rays. Dr. King admits that there are cases of malaria that resist quinine salts, but then, he asserts, the attacks are due to the undeveloped and not to the complete parasite. The undeveloped parasite is bound especially in the deep organs, and the more obscure parts of the body. Under these conditions the destructive action of quinine cannot take place, for its fluorescent power is then nearly absent.

Dr. King's theory is an ingenious one and, furthermore, sounds plausible. Until the cause of malaria was known it was impossible to discuss the manner in which quinine exerted its influence upon the malady. Now, however, that the secret of the origin of malaria has been cleared up, the question of how quinine acts comes within the province of practical research.

A Model Sanatorium for Consumptives.

Dr. Arthur Latham, the winner of the first prize in the competition for the best essay as to how the sanatorium for the treatment of indigent consumptives in Great Britain, given by Sir Ernest Cassel, should be built and managed, gives some useful advice on these points. He first draws attention to the fact that the accepted methods of treating tuberculosis are by no means new, but were laid down by English physicians a century ago. English physicians then believed in the efficacy of unreserved exposure to fresh air for consumptives, and they also recognized the importance of a scientifically regulated diet. But these men were in advance of the times, and were generally regarded as mad enthusiasts whose teachings if carried into practice would soon result in death to their patients.

Dr. Latham does not believe that altitude affects to any appreciable degree the microbe of tuberculosis. Be the situation high or low the organism is destructive if other conditions favor its activity. The surest safeguard against infection is to be in a perfect state of health. When the vitality is lowered by any cause, there is danger of infection. The victim of phthisis should be removed as quickly as possible to an open air sanatorium.

The following is a description of what Dr. Latham thinks an ideal sanatorium: (1) The buildings are so situated and of such a nature that the formation of all dust is, as far as possible, avoided. (2) The dust which inevitably collects can be readily removed. (3) All infected material can be readily and effectually destroyed or disinfected. (4) The atmosphere of the building is free from all source of contamination and rivals the outside air in point of purity. (5) The number of recreation rooms and other places of assemblage is limited and everything avoided which is calculated to tempt patients to stay indoors. Dr. Latham further lays down these rules: (1) The bedrooms of the individual sexes should, as far as possible, be in separate blocks. (2) The accommodation for visitors should be strictly limited. (3) No special provisions should be made

for exciting amusements, but a well-stocked library and other forms of harmless recreation should be provided. (4) The means of heating employed should be easily regulated and of such a kind that they do not interfere with the humidity of the air. (5) Although there must be free circulation, draught should not be encouraged. (6) Efficient shelter should be provided against wind, sun, and heavy rain, not only in the sanatorium itself, but in the grounds.

News of the Week.

Medical Practice Act for New Jersey.—The State Board of Medical Examiners of New Jersey has secured amendments to the Medical Practice Act of that State by which the academic standards for admission to the State examinations have been raised from a competent common-school education to a diploma issued after four years of study in a normal, manual training, or high school of the first grade in that State, or its equivalent. The medical requirements have been increased from three to four courses of medical lectures of at least seven months each, in different calendar years, prior to receiving the degree of Doctor of Medicine. The amendments go into effect on July 4 next. After that date candidates for examination, or for the endorsement of a license issued by a recognized examining board of another State, will be obliged to comply with the new standard of requirements for a New Jersey license.

State and County Civil-service Examinations.—The next general examinations for the State and county service will be held on May 9, 1903. The following positions are included: apothecary, trained nurse, library assistant in State library, clerk and statistician in department of labor. Applications will also be received for medical interne in State hospitals and institutions. Application blanks and information regarding salaries and requirements of examinations may be obtained by addressing the Chief Examiner of the Commission at Albany.

A Preliminary Note on a New Nitrous Oxide and Ether Inhaler.—The apparatus is designed to give air, then gas, and finally ether to the patient, with the minimum of inconvenience and the maximum of speed in anæsthesia; and to be operated with one hand, leaving the other free. It consists of a metal cone, shaped much like the conventional one, with a compartment above for ether, and below a mixing chamber or face portion. On the side, and conveniently operated by three fingers, are three sliding valves for the ingress of air, gas, or ether, as required.—Nathan W. Green, M.D., Assistant Surgeon, Roosevelt Hospital, O. P. D.

Dr. Paul Garnault Here.—Dr. Paul Garnault arrived in New York on April 11. Dr. Garnault, it will be remembered, attempted to prove the fallacy of Koch's assertion that bovine tuberculosis could not be transmitted to man, by a practical experiment upon himself. The Parisian physician caused himself to be inoculated with the bacilli of tuberculosis in June last, and claims that he became locally infected with the disease.

Proposed Congress on Consumption in New York City.—Dr. Robert Taylor, according to the New York *Tribune*, has written a letter to Mayor Low suggesting an American Consumption congress. In the course of his letter he says: "In such a cause as the present popular war waged against pulmonary tuberculosis, all who have real scientific knowledge of successfully tested preventives or remedies should contribute that knowledge for the general welfare. What should be—and the time is right and ripe—is to call and organize in New York an American consumption congress. To this national convention the delegates should include general medical practitioners and specialists, bacteriologists, microscopists, sociological experts, persons with hospital and sanatorium experience, representatives of charities and municipalities, and all whose testimony or advice could aid in arriving at the truth, and the best plans for a grand campaign for the victorious rescue of all humanity throughout the world from consumption."

Mumps at Columbia College.—There is a small epidemic of mumps at Columbia College. A dozen or more students have been affected, most of whom were in the Law School.

Music as a Therapeutic Agent.—The Society for the Culture of Musical Therapeutics has been inaugurated under the patronage of Dr. Egbert Guernsey. Miss Augusta Viscelius will deliver a series of lectures on the relation of music to medicine. The first is to be given at Dr. Guernsey's apartments, the subject being "History of Music as a Healing Power." Other lectures will be "The Musical Gift; How to Develop It for Healing," and "Choice of Songs and Instruments in Healing."

Sanatarium for Actors.—It is intimated, says the New York *Tribune*, that on or about May 1, a committee of doctors will decide on a place for the proposed sanatorium for consumptive actors, and that the work of building it will then be started. Mr. Robert E. Bell of Denver, who planned this scheme, has organized an executive committee to carry on the work—comprising the Rev. Walter Bentley of the Actors' Church Alliance, chairman; Mrs. Eldridge of the Woman's League, Albert Borie of the *New York Clipper*, Charles Burnham of Wallack's Theatre, and Peter McCourt of Denver. Benefit performances, beginning about April 20, are to be given in New York, Chicago, Philadelphia, Boston, St. Louis, Denver, and other cities. Many actors and managers have promised to coöperate in the work, and it is expected that a fund of at least $75,000 will be accumulated in a short time.

Powers of Boards of Health.—A decision has just been handed down by the Appellate Court which is of interest to boards of health. A man by name of Van Fredenburg collected refuse and garbage from hotels and other resorts in and near Liberty, N. Y. with which he fed hogs. The Board of Health of Liberty issued an order forbidding him to use the sanatorium refuse. On his refusal to comply with the order, he was arrested, brought before a justice, tried in the County Court, convicted and sentenced. Van Fredenburg appealed, and the Appelate Court in reversing the judgment, laid down the principle that boards of health must keep within legal limits or they cannot enforce their orders. The Court summed up as follows: "The gist of the crime which the defendant is said to have committed is the disobedience of a lawful order of the Board of Health. Unless, then, the order disobeyed was one lawfully made by the Board of Health, defendant had been guilty of no crime. There is no proof that this refuse from the sanatorium for consumptives is any more dangerous than the refuse from any hotel, and we cannot assume such to be the fact in sustaining this conviction."

Lectures to State Alienists.—Dr. Adolf Meyer, director of the Pathological Institute of the New York State Hospitals on Ward's Island, has reported to the Commission in Lunacy that he has just finished the third course of instruction to the physicians of the fourteen State hospitals. These three courses of lectures and clinics have been given

by himself and his assistants at Ward's Island during the past winter. Sixty-one physicians belonging to the staffs of the State Hospitals at Buffalo, Utica, Gowanda, Middletown, Rochester, Ogdensburg, Poughkeepsie, Brooklyn, Central Islip, Kings Park, Matteawan, Dannemora, and New York have attended the three sessions.

The Late Prof. T. Gaillard Thomas.—At a meeting of the Medical Association of the Greater City of New York, held on April 13, 1903, a committee on the death of Dr. T. Gaillard Thomas presented an elaborate sketch of the distinguished career and eminent services of Dr. Thomas. The conclusion of the report was as follows: "In the death of Dr. Theodore Gaillard Thomas this society recognizes the loss of one of its most distinguished and most valued members. Its memory of Dr. Thomas will be of a man of keen intelligence, wide cultivation and accomplished skill; a man of purity of character, broad humanity, and strictest honor."

(Signed) HENRY FREEMAN WALKER,
EDWIN B. CRAGIN,
S. BEACH JONES,
} Committee.

Reduction of the Salary of State Medical Inspector.—Governor Odell has caused J. B. Conkling's bill providing for a State medical inspector for the State insane hospitals to be amended so that the salary will be $3,500 yearly instead of $5,000 and expenses.

Pupils of Catholic Schools Exempt from Vaccination.—Attorney-General Cunneen has come to the decision that the State health law does not compel the authorities of parochial schools to exclude unvaccinated children from attendance, but that the local board of health may, if it deems it necessary, issue an ordinance directing general vaccination and placing a penalty for non-compliance. The issue arose in Dunkirk through a fight on the question of vaccination between the local and State health officials and the Dunkirk parochial schools. An order was made some time ago, excluding a large number of non-vaccinated pupils from the public schools, many of whom entered the parochial schools. Those at the head of these latter schools refused to comply with the law, the result being an appeal to the State board, and thence to Attorney-General Cuneen. It is the first time the matter has been passed upon.

Diseased Beef Sent to New York.—From information received State Agricultural Commissioner Wieting ordered to be seized a carload of cattle shipped from Newport, Herkimer County, to New York. The report of officers of the State Agricultural Department states that a post-mortem examination of the cattle showed that the beasts were badly diseased and wholly unfit for human consumption. The Commissioner intends to have the case followed, and the shipper of the cattle prosecuted if possible.

Rabies Prevalent in New York.—Owing to the number of cases of hydrophobia which have occurred in New York within the past few years, it is proposed that a new system, or a more efficient manner of carrying out the present law, shall be initiated in the city. The duty of keeping the streets free from stray dogs lies with the Society for the Prevention of Cruelty to Animals, and it is asserted that the society is lax in fulfilling this function. There is no motive to look after ownerless dogs, as no fine can be inflicted, and the society, in the case of the owner of a stray dog without a license, caught by its agents, being fined, receives a portion of the fine. All stray dogs should be carefully looked after, as such animals are the chief means of spreading rabies.

Charbon Attacks Human Beings in Louisiana.—In the parish of Acadia, Louisiana, some 225 head of cattle have died recently from charbon. The farmers, ignorant of the infectious nature of the disease, skinned some of the dead animals and sold their skins. As a result thirteen human beings have contracted charbon. The police jury of Acadia has been called together to take steps to stamp out the disease.

Philadelphia County Medical Society.—At a stated meeting, held April 8, Dr. Barton Cooke Hirst read a paper entitled "The Surgical Treatment of Pruritus Vulvæ; with the Report of a Case Cured by Resection of the Genito-Crural Ilio-inguinal, Inferior Pudendal and Superficial Perineal Nerves." The patient had suffered greatly for several years, despite the employment of a large number of therapeutic measures in the hands of many physicians. Six weeks had elapsed since the performance of the operation without return of the symptoms previously present. Dr. Wm. S. Wadsworth presented a communication entitled "Some Reflections on the Causes of Sudden Death," in which he referred especially to the influence upon the heart of various factors, particularly of a toxic nature.

Pathological Society of Philadelphia.—At a stated meeting, held April 9, Dr. F. S. Pearce reported a case of hemiplegia with tuberculoma and extreme atrophy of the right cerebrum." The lungs were the seat of tuberculosis and the cerebral vessels were atheromatous, the right middle cerebral being occluded by a thrombus. Dr. M. H. Fussell exhibited specimens from a case of interstitial nephritis. In the failure to discover tube-casts in the urine the case was clinically believed to be one of hyperæmia of the kidneys secondary to disease of the heart, but the occurrence of uræmic convulsions corrected this misapprehension, and the post-mortem examination disclosed the lesions of contracted kidney. Dr. Fussell exhibited also a specimen of carcinoma of the œsophagus and the stomach. The patient was an old man, aged seventy-three years, who presented symptoms of œsophageal obstruction which eventually became impermeable. Gastrostomy was performed and the patient lived for several months, suffering during this time greatly from thirst. After death, in addition to the new formation in the œsophagus, a large neoplasm was found in the stomach, and which was believed to be secondary to the œsophageal growth. All of the other organs were free. Dr. W. M. L. Coplin presented a communication entitled "Myositis Ossificans," and showed sections of tissue removed from a patient in whom the muscle at the site of a traumatism of the thigh had undergone ossification. Dr. George M. Mueller exhibited a series of card-specimens, comprising dilatation of the heart, with nephritis, perforating ulcer of the duodenum with abscess-formation beneath the liver, perforating ulcer of the stomach with fatal peritonitis, carcinoma of the cervix of the uterus, a dermoid cyst of the pelvis. Dr. C. L. Kieffer exhibited a portion of intestine showing ankylostoma *in situ*, and also a series of specimens illustrating the varied lesions of tropical dysentery of both bacillary and amœbic origin.

Department of Public Health and Charities for Philadelphia.—The Pennsylvania Legislature has passed, and the Governor has signed, a bill establishing in the city of Philadelphia a department of public health and charities to be under the charge of a director and an assistant director appointed by the Mayor of the city and entrusted with the care, maintenance, administration, and supervision of the public health, charities, almshouses, hospi-

tals, and other similar institutions under the control or government of the city. The director shall have the appointment, supervision, and control of all of the subordinate officers and employees attached to the department and the appointment of all vaccine physicians and health-inspectors. He shall also have immediate care and supervision of all hospitals belonging to the municipality in which provision is made for the care of contagious diseases.

To Encourage Large Families.—Alderman Jonathan Buxton of Chicago, in pursuance of the policy to avert "race suicide," will introduce into the Council an ordinance subjecting to a fine of $100 every landlord who rejects a tenant on account of children in his family. But, as a concession to people with "nerves," Alderman Buxton shows how the landlord can escape prosecution. If he can establish the fact that the children of the tenant's family are boisterous and likely to disturb the quiet of the apartment building or flat, he may reject them.

Obituary Notes.—Dr. William A. Durrie of East Orange died on April 8, aged eighty years. He practised in Jersey City before moving to East Orange, but had been out of active practice for many years.

Dr. Guy Bryan Miller, late house physician to St. Luke's Hospital, died on April 7 in Paris, in his thirty-first year. Dr. Miller was a graduate of Yale University and of the College of Physicians and Surgeons in 1898.

Dr. William S. Whitwells of 37 West Eleventh street, died of Bright's disease at Fishkill Landing on April 8. He was fifty-seven years of age.

Dr. Chauncey Ayres died on April 14 at Stamford, Conn., aged ninety four years. He was born in New Canaan, Conn., on August 14, 1808. He was the oldest graduate of the Yale Medical School. He was in the class of 1831. After graduating he began the practice of his profession in Greenwich, but soon went to New York, and was one of the physicians in charge of the cholera hospital during the epidemic in that city in 1832. He was the surgeon of the United States Coast Survey. Dr. Ayres was a resident of Stamford for sixty-four years, and held the office of borough clerk when a young man.

Dr. Frederick Nehrbas died on April 14 at 190 Clarkson Street Flatbush. He was formerly on the medical staff of the King's Park and Flatbush hospitals.

Dr. Albert Huntington Chester, professor of chemistry and mineralogy in Rutgers College, died on April 13 of heart disease. He was for several years connected with the New York State Board of Health as chemist.

The Identity of Human and Avian Diphtheria.—F. C. Harrison states that, from the evidence adduced in literature, from the isolation of the causal organisms (the roup bacillus and the bacillus pyocyaneus), and the production of typical fowl diphtheria by the inoculation of cultures of both of these bacteria into healthy birds, it is evident that the theory of the identity of human and avian diphtheria is unsound. He is unable to state the possible danger of the roup bacillus to man; but we know that the bacillus pyocyaneus produces abscesses and occasionally gives rise to an epidemic of blood poisoning, but neither of these bacteria has the same pathogenic power as human diphtheria.—*Dominion Medical Monthly*, March, 1903.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HOSPITAL REMOVALS—ST. GEORGE'S—DEBATE ON DIABETES AND GLYCOSURIA—ARSENICAL POISONING—THE LATE DR. MACLAGAN—CHARGE AGAINST A HEALTH AUTHORITY—THE REGISTERS.

London, March 27, 1903.

"Great alterations and improvements, involving a large expenditure, are necessary to bring the hospital up to the requirements of modern medical and surgical science." These words—probably true of all the hospitals—were used by Mr. Timothy Holmes when presiding at the meeting of the Governors of St. George's. He and others were in favor of purchasing four houses close by, now available, in order to carry out additions. Most of the staff seemed desirous to sell the present site and buy a larger one, on which to build an enlarged new hospital, and the meeting accepted this plan by fifty-one to thirty-two votes, and appointed a committee to negotiate. It seems a pity to sacrifice the finest position in London, and the hospital which was large enough for John Hunter, merely to gratify the craving of the staff for more beds. The hospital is big enough for its proper work; contains 356 beds, according to the school prospectus—and, of course, it can be improved and brought up to date. But all the hospitals are boasting of their size, and the demand on their beds, and their innumerable patients. Their rivalry leads them to desire enlargement, and this, again, appeals to the charitable public. The appeal is further enforced by the cry that everything must be brought up to date, as if this could not be done just as well for 300 as for 600 beds. Another representation of the advocates of removal of several hospitals, is their unequal distribution among the population. There is something to be said on both sides of this question. With reference to St. George's, one point is of special significance. To remove is to throw away a site which it is impossible to match, which also is big enough for its work. If Fulham wants hospital accommodation, a small one could be built there. In fact, it would probably, in all cases, be better to provide more hospitals—of say 100 or 200 beds—in localities needing them, than to agglomerate enormous numbers of patients in one building. But that plan would not gratify the pride of managers.

The Chelsea Clinical Society holds a set debate once a year on some important subject, and usually manages to get some of our leaders to take part in it. This year the subject of the debate was diabetic and non-diabetic glycosuria, and Dr. Hale White of Guys opened the discussion, which extended over two evenings. He commented on most of the points on which we are in need of more information, and asked many questions, concluding with the important one whether under the word diabetes we do not describe more than one disease, *e.g.* are some cases due to disease of the pancreas and some not? Are those that have so-called fatty blood different from those that have not? are those in which glycogen is present in the liver different from those in which it is absent? Among the other things that we want to know Dr. White specified information about the occurrence of other sugars than dextrose in the urine, especially lævulose, lactose, and pentose, and suggested that when we know we might speak of dextrosuria, lævulosuria, lactosuria, and pentosuria. He also asked for a more accurate use of the word diabetes. The addition of the word mellitus does not help, for many speak of alimentary glycosuria as diabetes mellitus, so that hearing a patient has diabetes does not tell whether he has the comparatively harmless alimentary glycosuria or the dangerous one in which he is liable to coma, and passes oxybutyric acid and its derivatives. If we cannot now restrict the word diabetes to the severer disease, we might, perhaps, adopt Dr. Pavy's phrase, "composite diabetes," for cases passing oxybutyric acid and its derivatives, of which aceto-acetic acid is recognized by the ferric-chloride reaction. The detection of acetone is less important, as it is sometimes present in cases which are not diabetes. No case of glycosuria has been properly examined until the ferric chloride test has been applied.

Dr. White thinks that many patients with alimentary glycosuria are really in the early stage of the graver disease, though others never pass into the composite form and so do not exhibit its serious metabolic phenomena. He mentioned the fact pointed out by Pavy many years ago that a patient on strict diet may, if only a little carbohydrate is taken, excrete more sugar than that ingested. No explanation of carbohydrate metabolism in diabetes is satisfactory, unless it accounts for this. The same may be said of the strange disappearance of sugar when coma comes on.

Passing over some other interesting points I will give you some of Dr. White's remarks on treatment. Of course, he puts diet first. We must forbid carbohydrates, for without them patients gain weight and strength, while sugar and oxbutyric acid decrease. But dieting may be too strict. Milk may often be given. Just as much carbohydrate may be allowed as will not increase the sugar. Lævulose is best for this. Inulin may be given in dahlia tubers cooked like potatoes. It is a pernicious error that toast may be taken instead of bread. Many cases do not take enough fat. Large dose of alkalies seem best for coma—100 gr. of sodii bicarbonate dissolved in a pint of milk may be given when a patient feels drowsy, and repeated three or four times in twenty-four hours. Such a dose may be given in a severe case with abundant ferric-chloride reaction and no coma. Codeine, like morphine, will diminish sugar but seems less trusted than formerly. Aspirin has been reported to be useful. This salicylate will give a ferric-chloride reaction—a fact to remember. Dr. White had tried feeding on pancreas and injection of liquor pancreatic us without effect. Professor Starling's secretion seemed also of no benefit in diabetes.

Dr. Pavy defined diabetes as "a more or less persistent defective assimilative power over the carbohydrates of food, resulting in glycosuria." To decide if a case were diabetic or non-diabetic he recommended a test-meal of bread and butter and marmalade, and testing the urine after it. Weakness of assimilative power would then be brought out. Great variations would occur in diabetics in relation to time; they did not live constantly in the same condition. There was no doubt that traces of sugar were present in normal urine, so that everyone might be said to have glycosuria to a trifling degree. But in diabetes it was in proportion to the carbohydrates of the food which reached the blood as sugar and passed into the urine. This resulted from defective assimilative power, as seen in alimentary diabetes. In addition to this source in composite diabetes there was the breaking down of proteid tissue. He considered non-diabetic glycosuria as independent of assimilation of food. It might arise from asphyxia from any obstruction to respiration, even paroxysms of whooping-cough. In convulsions or coma there might be sugar in the urine; so also in connection with lactation, or as a result of poisoning by carbon monoxide. An anæsthetic might throw a little sugar into the urine. Lager-beer glycosuria is recognized in Germany.

Dr. Saundby impressed on the meeting that alcohol should not be overlooked in considering any case of glycosuria, which often appears after immoderate use, and in some alcoholics is persistent. He thought a clinical grouping practical—where they knew the cause and could remove it he would not call it diabetic glycosuria. Where they could not find the cause, and the sugar persisted, it was probabl diabetes.

Dr. Rose Bradford said it must now be recognized that sugar may be present in small quantity in health, and also that it may appear in the urine as a result of morbid conditions, not diabetic. He added to those already named in the debate injuries and perhaps functional disturbances of the central nervous system, and perhaps muscular fatigue, and some toxic substances. He though five varieties of diabetes might be described, though in the present state of our knowledge, they could all be separated clinically. They are alimentary, hepatic, pancreatic, renal, and lastly, cases arising from a primary disintegration of the tissues. From these groups he omitted the nervous as experimental evidence points to glycosuria, not diabetes as produced by nerve lesions.

Dr. Robert Hutchinson resumed the debate on the second evening—the 17th inst. He laid down that the object of treatment was to rid the blood of the sugar, which was itself a danger, for it produced the thirst and caused complications. Obstinate ulceration, sloughing cellulitis, pruritus, etc., would begin to heal when the sugar was got rid of. Moreover, the power of assimilating carbohydrates got less and less as long as their ingestion was unrestricted, but tended to return, and might almost sometimes quite reach the normal after a period of dieting. Sugar-free milk could now be obtained, so could casein-breads and dieting was accordingly easier. A little alcohol, he said, helped the patient to take more fat, the most important thing for every diabetic.

Dr. Hector Mackenzie spoke of glycosuria in reference to insurance. He emphasized the fact that sugar might appear in the urine more than once or twice and et the p rson not be diabetic; about 33 per cent. of corpulent people had glycosuria. If taken in time and dieted it disappeared, and the corpulency was lessened. Some gouty subjects would occasionally pass a little sugar.

Dr. Ewart remarked on the unsatisfactory results of drug treatment, particularly opiates.

Dr. C. C. Gibbes (President) referred to the common statement that in chronic nervous congestion sugar was found in the urine, but in 200 consecutive cases he had only found it once, and then it was due to alcoholic excess. He had watched that patient for three and one-half years and sugar followed every excess.

Dr. White, in reply, referred to a number of the points which had been brought out in the discussion.

A verdict of death from arsenical poisoning, due to error on the part of the patient, was returned on Friday, in a case which seems by no means clear. Dr. Fawcett made a post mortem at Guy's and found no ulceration or irritatioin of stomach or intestines, and thought ptomain po soning the most probable cause of death. The appearances, he said, were altogether negative, so he did not believe death was due to arsenic, although the patient had been taking it medicinally. Coroner Troutbeck directed a post-mortem to be made by Dr. Freyberger, who said he found traces of arsenic and bismuth in the heart, kidneys, and blood, and the cause of death was collapse from excessive vomiting and diarrhœa, produced by the arsenic, which he also found in the medicine bottle in his room. He believed the death might have resulted from the patient taking the same doses he had left off with formerly. The stepmother said the young man had formerly taken medicine which she was told contained arsenic, but had left it off for six weeks. He then began again,and took it night and morning for three days before he died.

Dr. T. J. Maclagan died on the 20th inst., aged sixty-five years. He took his M.D. at Edinburgh in 1860. He practised in Dundee, and was so appreciated that he was appointed to an examinership in the University of Aberdeen. In 1875 he published his first contribution on salicin in rheumatic fever—a subject which he followed up with energy, as seen in his work on "Rheumatism: Its Nature, Pathology, and Successful Treatment," which appeared five years later, followed by a second edition in 1826. He came to London before the first edition (1880 or 1881) and rapidly acquired a high-class practice. He was appointed physician to the Prince and Princess Christian of Schleswig-Holstein, and was greatly esteemed by many distinguished patients and all his confrères, who had the pleasure of knowing him. His health failed about a year ago, and cancer of the stomach became obvious. A laparotomy was done, and only gastroenterostomy could be carried out, which was a relief to him, but he sank about a month afterward.

The High Court has for three days been occupied with the subject of the spread of smallpox in connection with a claim against a health authority of negligence. The case is still unfinished and cannot, therefore, be discussed. But one bit of evidence may be quoted. The medical superintendent of the smallpox hospitals of the Asylums Board said out of 700 nurses and scrubbers employed, all but one were revaccinated, and all steered clear of smallpox except that one.

The *Medical Register* is out and shows an increase in the profession of 320.

The *Dentists' Register* has also been issued. It contains 4,617 names.

OUR PARIS LETTER

(From Our Special Correspondent.)

STATISTICS OF THE NEW PASTEUR HOSPITAL—QUENN'S OPERATION FOR FRACTURE OF THE PATELLA—DE LAVARENNE, THE EDITOR OF THE "PRESSE MÉDICALE" CRITICISES THE REPORT OF ROUSSELLE, A MUNICIPAL COUNSELLOR ON THE LABORATORIES OF RADIOLOGY—THE CRUSADE AGAINST ALCOHOLISM.

PARIS, April 7, 1903.

THE statistics and financial statement of the new Pasteur hospital have just been published. The expense for food for each patient is only eighteen cents a day. The total expenditure is five francs. Five hundred and twenty-two cases of smallpox were treated with a mortality of 18 per cent. There were 285 cases of diphtheria treated, with only 13.9 per cent. of mortality, or 10 per cent. if the patients dying in the first twenty-four hours are eliminated. There were ninety-one cases of measles with no deaths, fifty-four cases of scarlet fever with only one death.

Dr. Quénu described, at a meeting of the Society of Surgery, the method he uses in suturing the patella in fracture of this bone, and his report gave rise to a discussion which shows how different the views of well-known surgeons may be on the same topic. Professor Berger, who is considered in Paris as an authority on questions of this sort, declared that in some cases most serious results ha occurred after this operation. Suppuration in two cases, amputation being necessary in one, and death taking place in the other. One of his own patients suffered from necrosis of the patella, with subsequent ankylosis. If perfect asepsis cannot be obtained, it is best to content oneself with holding the fragments together with diachylon, and instituting massage and mobilization after

twenty-five days. Dr. Lucas-Championniere has carried out suture of the patella without a single accident sixty-eight times. He does not believe in massage unless there is considerable atrophy, but he insists upon mobilization from the fourth day. With patients who are old or cache tic, the best treatment is massage and mobilization as soon as possible. Lastly, Dr. Lejaes, who is of the younger school of surgeons, said that he favored "cerclage of the patella," with massage and mobilization after the twentieth day.

The physicians of the Paris hospitals have sought to have a laboratory of radioscopy and radiography established in each hospital of some importance, and their efforts have been opposed by a member of the municipal counsel of Paris, Henri Rousselle, who presented a report by which he endeavored to have one special laboratory favored, which was under the direction of Contremoulins, who is not a medical man. De Lavarenne, the editor of the *Presse Médicale*, wrote an article on the subject, in which he criticised severely this project, and called attention to the favoritism shown toward this one laboratory. This called forth a most virulent answer from Rousselle, which the editor of the *Presse Médicale* was obliged to publish in the same part of his journal as that where his own article had appeared. In this reply, Rousselle seems to indicate that radiology is to be a method by which the errors of diagnosis of physicians may be controlled and exposed, and in the latter part of his diatribe, he seems to consider that the physicians of the hospitals are manœuvring for their interests against those of the public in insisting on radioscopy, which does not leave any indication of the result obtained. The medical society of the hospitals has been drawn into the discussion, and it seems likely that the physicians will carry the day. In connection with this the following incident took place at the Broca Hospital when President Loubet visited it a few weeks ago. Dr. Brocq, the celebrated dermatologist, drew the attention of the President to the fact that the sum put aside for the electrical laboratory had been suppressed for the current year. The President promised Dr. Brocq that the matter should be seen to.

Another subject which has caused a good deal of discussion is the question of alcoholism. The experiments carried out recently in America by Atwater showed that alcohol could serve to produce heat in the human body, and the advocates of alcohol have sought to find in them an argument tending to show that alcohol is a food. Dr. Duclaux, the director of the Pasteur Institute, has published a species of manifests, in which he seems to indicate that alcohol has been unjustly accused, and that it can certainly render certain services. Just before this a large white poster had been posted up all over Paris, in which the dangers of alcoholism were described in a most emphatic manner, and this was signed and countersigned by M. de Lelves, the prefect of the Seine, and Professor Debove, the dean of the medical faculty. This was a direct attack, which was not allowed to pass unnoticed, and it seems that an action will be brought against the printers and signers of this proclamation.

Two more posters have appeared on the walls of the city, one of them of a humoristic nature and the other giving different extracts from the writings of eminent men, in which they describe the ill-effects of alcohol. This is certainly an important question in France and the Academy of Medicine was asked to give a list of the essences which were dangerous, the plan being to tax heavily the latter. There was a long discussion at the Academy, it being finally voted that all essences were injurious, and no special distinctions being made.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

INSANITARY CONDITIONS IN MANILA—DISPOSAL OF EXCRETA—INDIFFERENCE TO SMALLPOX—ABATEMENT OF CONSTANT BELL-RINGING—CIVIL-SERVICE EXAMINATION FOR MEDICAL APPOINTMENTS.

MANILA, February 25, 1903.

THE most serious obstacle to the sanitary regeneration of Manila is undoubtedly found in the absence of proper drainage and sewerage, and of any provision for the suitable disposal of household wastes; and in the absence of these prime sanitary essentials much of the work of the sanitary officials must be nullified. Until these deficiencies are removed Manila can never hope to become a healthful city—and to remedy these defects means, not only almost the reconstruction of the city, but a total change in certain customs of life on the part of the great mass of its inhabitants. The improvements urgently needed are far-reaching and costly, and will require a long time for their complete establishment.

The Spaniards made practically no effort to solve the problem of the disposal of excreta and house wastes in this city of more than 300,000 inhabitants, and as a consequence the site upon which it is built is saturated with the organic filth of centuries, and it is no wonder that epidemic diseases, once introduced, take root and flourish. The Filipino native, left to himself, makes no special provision for the disposal of excreta and house refuse. His flimsy house, elevated from four to six feet above the ground on bamboo poles, has neither piped water supply nor sewerage. Usually a hole is cut in the floor through which the excreta are passed and the wastes are thrown to the ground below, whence the solid parts are removed by the pigs, dogs, and chickens that act as scavengers to every true Filipino household. The native never troubles himself to do any cleaning up around his domicile, the vicinity of which is soon foul and malodorous. In some instances a neighboring bamboo thicket or clump of banana plants is resorted to in attending to the calls of nature, but even this is not commonly the case. Such a thing as the provision of a covered privy never occurs to the average Filipino, and soil pollution, with probable ultimate contamination of the water supply, goes on unchecked except for natural processes of purification. In most of the old houses of Spanish construction the disposal of excreta is equally insanitary. In these, on the low-lying site of Manila, a privy vault of masonry is usually constructed above ground in the basement of the house, and connected by a chute with the privy seats on the floor above. Usually this surface vault or cesspool is built in a corner, so that two of the basement walls of the house may serve also as the walls of the vault. These vaults are made large, so as to avoid the necessity of frequent emptying, and their bottoms are made of loose stones, so as to facilitate the removal of liquids by soakage into the soil. In many instances these vaults extend as high as the second story of the house and contain the dejecta of an entire family for many years. This vault, in conformity with the invariable Spanish custom, is always in close proximity to the kitchen. As the horses are usually stabled on the ground floor, such houses are always malodorous, and bad smells are especially offensive in the rainy season. These vaults are frequently in close proximity to the household well, the water of which is soon contaminated. This Spanish system has the advantage of keeping the excreta in one place instead of strewing it broadcast, but the disadvantage of greatly interfering with the natural processes of purification by sunshine and fresh air. The walls of the closet chute soon become smeared with fecal matter and saturated with urine, and the whole putrifying mass gives off mephitic gases of light specific gravity, whose only avenue of escape is through the house.

In a few of the better class Spanish dwellings, where a watercourse is convenient or a roomy leaching cesspool has been built, an attempt is made to remove the excreta by water carriage. In these instances the plumbing is usually badly installed and the fixtures are of an insanitary pattern. The first essentials for a proper sanitary installation are ignored. Sometimes there is no water flush, and usually there is no water seal to prevent the return of malodorous gases. When a water seal does exist, the distal side of the trap is not usually vented. At the time of the capture and occupation of the city by the United States troops the main water-closet in the palace discharged into a tight cesspool through an unvented trap, and the pressure of the confined gases periodically spattered the filthy water from the trap over the floor of the closet. There is no general sewerage system, and only a very small proportion of the houses of Manila have water carriage.

As the best method of securing immediate improvement over existing insanitary conditions, with the funds at their disposal, the sanitary authorities are installing the bucket system for the disposal of excreta. Already some 12,000 buckets are in use. This system is undoubtedly inferior to the earth-closet system, but the latter could not be installed because of the practical impossibility of securing a sufficiency of dry earth in the rainy season, and the greater cost and difficulty of disposal. The buckets are of wood, tarred inside, heavily hooped, provided with handles, and having a lid which can be screwed tightly in place by means of thumb-screws, for removal. These buckets are collected at frequent intervals, taken out to sea, emptied, washed, and disinfected. At present scows are used for this purpose, but a dumping barge of special pattern is now being constructed to take their place. In the native districts there are public bucket latrines, separate for men and women, which the natives are forced to use. This bucket system, while far from satisfactory, is yet a great improvement over conditions as they formerly existed

Water carriage is, of course, the only satisfactory method for the removal of excreta, but to be thoroughly

satisfactory there must be a sufficiency of water for flushing at all times, and sufficient fall to insure proper scouring of the pipes. Also the sewer pipes should not be liable to injury or disturbance, and the sewage should be discharged so as to avoid the creation of a nuisance. These desiderata cannot be obtained in Manila. The piped water supply, even without sewerage, is insufficient for the needs of the population of the city, though this deficiency can be remedied. During half the year practically no rain falls, while during the remaining six months the rain falls daily in torrents. Any combined system of sewerage large enough to carry off the storm water with the sewage during the rainy season must necessarily be so large as to be imperfectly flushed during the dry period. A separate sewer system will, therefore be necessary. Serious engineering problems are also presented with reference to securing a fall sufficient for proper flushing; for the city of Manila lies on an almost level site, only a few feet above high-water mark, and with a level of the ground water, which, in the rainy season, almost coincides with the surface of the ground. Without the installation of expensive pumping stations on the Liernur system, and endeavoring to rely upon the natural fall to secure water carriage, it will be necessary to divide the city into many districts, each with its separate sewer system. To do this, means that certain of these systems must discharge their sewage in localities and under conditions which render it inevitable that nuisances of a more or less offensive nature will be created. Finally, the frequency of earthquakes in Manila, and their destructive effects upon any underground system of piping, must receive the most serious consideration. It is evident that, for the above reasons, the sewerage of Manila becomes a most difficult sanitary and engineering problem, and one which must be attacked most intelligently, in order to secure even fairly satisfactory results.

While the Liernur system would seem to promise the best results, several pumping plants would be necessary, and the cost would be great. In the Philippines, with so many improvements urgently needed, the cost of any undertaking must be carefully considered. Manila is cut in two by the Pasig river, and is further subdivided by numerous tortuous esteros, or sluggish creeks, which ramify from the river in all directions. At present these receive much sewage and filthy wastes, and are little better than open sewers. All of them are tidal, and are fairly well emptied at low water. At present many of them are obstructed, and their sluggish current impeded by a heavy growth of rank vegetation, which strains out and retains the solid particles to putrify and pollute the air, even in some of the best residential portions of the town. The stench which arises, from this cause, from the moat which encircles the "walled city" is frequently almost sickening on a warm, quiet night. These foul esteros not only give rise to serious nuisances in their present condition, but are pestilential, and furnish ideal breeding-places for mosquitos, which are one of the plagues of Manila and have much to do with the elevation of its sick rates. Breeding by millions along the boggy shores of these esteros, these mosquitos make life a burden in some parts of the city after nightfall. At present Manila has no proper drainage system for the removal of storm water, and the construction of this, and the sanitary improvement of the esteros should be accomplished together. Rain leaders from the houses are not provided for storm water, the ground is not underdrained, and surface trenching is not provided for the conduction away of the rainfall. A part ultimately finds its way to the river, but much collects in slight depressions and only disappears as a result of evaporation and soakage. A stagnant pool of filthy water usually stands under each native house during the rainy season, and even the better class of dwellings is not exempt in this respect. In view of these facts and that no sewer system could provide for the proper removal of storm water, a general plan of surface drainage, with these esteros as the main arteries, would seem to be desirable. For this purpose, and to destroy the breeding-places of the mosquitos, these esteros should be converted into open drains, their present crooked channels straightened and their bottoms dredged to a uniform fall. To do away with their present marshy surroundings and the appearance of foul-smelling mud flats at low water, the sides of these esteros should be walled up with stone—an abundance of readily quarried stone, hardening on exposure to the air, being available a few miles above the Pasig river, or the stone in the walls of the "walled city" which now interfere with the sanitation and commercial expansion of Manila, could, with advantage, be used for this purpose. To prevent interference with the free flow of water through these esteros a thorough removal of existing vegetation and other obstructions is required. Any slight depressions in the surface of the ground should be filled up or drained by trenches into the nearest estero, so as to secure the ready removal of storm water. As the tidal variation at Manila is about three feet, this rise and fall would insure the evacuation of the contents of the esteros at low water, while during the rainy season the heavy rainfall would be of great value in keeping them scoured out. Under such improved conditions of construction, it would seem that house sewage might be safely run into these esteros without the creation of any serious nuisance, and that disposal in this way would be very much less expensive, though probably not so ideal from the sanitary standpoint, as the establishment of the Liernur system of sewerage. The proposed system, if open drain, would require relatively small amount of attention, and would not be liable to serious injury as a result of earthquakes. Of course the constant discharge of suspended matters into the Pasig would add to the bar continually forming at the mouth of that river, and this obstruction would have to be dredged out a little more frequently than has been required in the past. It is certain that only by this improvement of the esteros can Manila be properly drained and the mosquito pest be eradicated.

Smallpox has developed in the provinces to a considerable extent. In the last six weeks 210,000 units of vaccine virus have been sent out from the government laboratory. The disease is most prevalent in Isabella province, in northern Luzon, though many cases have occurred in the other provinces and in the southern islands. In Manila more than 200,000 vaccinations have been performed in the last three months, and the disease has consequently failed to get a foothold in that city. One fatal case of smallpox has recently occurred in an army officer who had never been vaccinated, had freely expressed his disbelief in the efficiency of vaccination, and had evaded compliance with orders requiring all persons in the military service to be vaccinated before arriving in the islands. As the natives have been accustomed to regard the disease as inevitable, they take no precautions to prevent its spread, and numerous foci of infection are continually present. The proportion of pock-marked faces among the natives is quite large, and shows how prevalent this disease must have been among the Filipinos before the wholesale vaccinations instituted by the Americans. A large proportion of the numerous blind mendicants in the Philippines owe the loss of their eyesight to an attack of smallpox.

As an instance of native indifference to this disease, an instance was lately reported in which, after the public burial of a case of smallpox the mourners rode home on the open coffin—coffins here are rarely interred, but the corpse is tumbled into the grave and the hired coffin used over and over again—sitting on the edges with their feet inside. Soldiers are constantly exposed to the smallpox infection, a common method of transmission being through clothing returned to the barracks by native laundresses. In view of the greater prevalence of the disease, the troops are largely being revaccinated, nearly 11,000 units of vaccine virus having been used in the military service during the past month.

The ringing of the many church bells of Manila, at all hours of the day and night, with the many "fiesta" days, which seem to be largely celebrated by bell-ringing, has caused the passage of an act by the Commission for the abatement of loud and unusual noises. Hereafter the jangling of bells at unseemly hours in Manila, which has been a source of great annoyance to the nervous and those desiring to sleep, will be stopped. The bell-ringing for the early mass, which is celebrated before daylight, has been a special cause of complaint from foreigners.

In order to advance the plan now being agitated for establishing a general hospital in Manila, Commissioner Ide has headed the subscription list for that purpose with a donation of $10,000, the income of which is to be applied to the permanent endowment of free beds. In his letter of transmittal he states that large subscriptions had been obtained for the construction and maintenance of the defunct Cosmopolitan Hospital, and that these could probably now be secured for the projected institution. It is likewise probable that donations could be secured whereby the land on which the hospital could be located may be acquired without cost. It cannot be expected that the government will do all without the aid of those who are especially to receive the benefits of the new establishment. The new hospital is to charge for the nursing and care of those able to pay, but will provide these for the indigent, irrespective of race, without cost.

The Manila Maternity Asylum, an old institution which has done much good in times past, has recently been about to close its doors for lack of financial support. Mrs. Taft, the wife of the Governor, has undertaken to revive interest in the institution, and a strong society of American, English, Spanish, and Filipino ladies has been organized in its behalf. Much interest is being shown in the work

of securing funds to enable the asylum to continue its existence and good work.

The Civil-service Board in session in Manila announces that an examination will be held for candidates desiring medical positions under the civil government of the Philippines, in which the compensation is about $2,000 per annum. This is done for the purpose of establishing a register from which appointments can be made in the future; existing vacancies having been filled by the appointment of candidates approved by the Civil-service Commission in the United States. Owing to the needs of the service, this examination will be held in the English language, a fact which will bar from the examinations any Filipino or Spanish candidates. As the professional qualifications of these men are, with a few exceptions, not of a high order, their practical exclusion from competition will not work any especial hardship to the service.

The Board of Health has lately been brought under the civil-service rules, and the former volunteer army surgeons, who are now on duty with it will leave the service on June 30. Their places will be filled by men who have recently passed the civil-service medical examinations held in Washington, but who are untried as to their efficiency in practical sanitary service. The necessity of breaking in at one time a number of green men composing the entire medical service of the Board of Health will not conduce to the highest efficiency of the latter, especially as this is a time when the very best services are urgently required. As the pay of the new civil-service physicians is to be but $2,000 per annum, this sum will attract only very young and undeveloped men, or else those of more mature age who have not made a success of civil practice. Neither class is what is desired in order to cope properly with the tremendous sanitary problems constantly being presented in these islands.

News has just come from the island of Jolo that the Mohammedan Moros of the town of Tando, on the east coast of the island, recently made an attack with guns and bolos upon a party of sailors from a United States gunboat engaged in surveying the coast. The attack was due to a belief that the Americans had poisoned the wells of the Moros, cholera being very severe in the town of Tando and its immediate vicinity, and as many as fifty deaths now occurring there daily. The ignorant and superstitious natives do not understand the nature of the disease, and believe they are being poisoned. The many deaths and apparent inability to stamp out the epidemic up to the present time has greatly excited the people, and has made the authorities apprehensive of a general uprising of the Moros on the island. For this reason the attack was made on the naval party, and several naval signal stations, the erection of which the natives believe to have had some connection with the present epidemic, have been destroyed. Up to the present time the thorough sanitary precautions taken in the walled city of Jolo, where the American garrison is stationed, and the enforcement by strong guards of a quarantine against the surrounding country, has kept the cholera out of the city. The fact that no Americans have contracted the disease while they themselves are dying off by hundreds, has had a strong influence in convincing the Moros that they are being deliberately poisoned. It is such beliefs as these that stand in the way of the progress of sanitation in the Philippines, and which only time, civilization, and education can remove. Sanitation in the United States is child's play as compared with sanitary work in the Philippines, which everywhere is hampered by ignorance, religious superstitions, and racial dislike.

MOSQUITOS, QUARANTINE, ETC.

A REPLY TO DR. O. KOHNKE.

To The Editor of the Medical Record:

Sir: Dr. Kohnke, in the Medical Record of March 14, states that one should store knowledge rather than try to make knowledge for himself. My idea of progress is to strive to make knowledge. As to the statistical table, my belief is that my figures are the correct ones.

Dr. Kohnke does not reply to the point of my paper.

I contend that the eradication of yellow fever in Havana was due much less to the destruction of the mosquitos in Havana than to efficient quarantine.

He explains how he thinks quarantine protects, thereby agreeing with me that quarantine is the true protecting agent But to explain how quarantine protects is another question and not the one at issue.

Dr. Kohnke's criticisms do not disprove my contention that it was the improvements in the quarantine methods at the time which kept yellow fever out of New Orleans.

He does not disprove that it would not do to direct all efforts to destroying mosquitos ashore and do away with quarantine stations and their work.

He does not show that the present exemption of Havana from yellow fever is not due to efficient quarantine, but to the destruction of the mosquitos in that city.

I do not say in my paper that quarantine against yellow fever need not consider the mosquito.

Dr. Kohnke has introduced this point in the discussion, but he confuses matters. I make a distinction between mosquitos on non-infected fruit vessels and mosquitos on infected vessels; also between mosquitos on board of fruit vessels and mosquitos ashore, in the houses.

I contend that the Stegomyia on board of non-infected fruit vessels from ports quarantined against yellow fever are an unimportant factor in the transmission of yellow fever, because these mosquitos are very few in number and because they are not infected.

The investigations made on fruit vessels last summer show that on these vessels the number of the Stegomyia is 2½ per cent. That is because the Stegomyia is especially a house mosquito. Investigations also show that during fifteen years only one case really of yellow fever on fruit vessels not traceable to infection ashore was stopped at the Mississippi River Quarantine Station.

If the mosquitos on board were infected there surely would have been more than one case in fifteen years on more than one thousand fruit vessels that came from the fruit ports during these years.

Reed and Carroll do not believe that infected mosquitos reach vessels. In the Medical Record of October 26, 1901, they say: "In our opinion, the chances of infection of a vessel by contaminated mosquitos coming aboard from a house and ship in close proximity are very slight.

Therefore, it is really not necessary to fumigate the holds of non-infected fruit vessels to destroy mosquitos, especially after laborers have been in contact, for hours, with the vessel.

It is closing the door of the stable after the horse has escaped.

It is equally unreasonable to believe that the fumigation of the holds, after all this exposure, is what has preserved this city from yellow-fever epidemics for so many years.

The investigations of Dr. Grubbs at the Gulf Quarantine Station show one vessel only out of eighty-two on which the Stegomyia were numerous, and that was due to their breeding in the water barrels during the voyage, the captain said. Besides, the progeny of the mosquitos does not inherit infection, even supposing the parents to be infected.

Dr. Grubbs cites one case of yellow fever at Vera Cruz on one of the vessels with Stegomyia on board; but there was no evidence to show that the infection was not due to communication with the shore; no other case developed on that vessel. The other vessels with Stegomyia had no case of yellow fever on board.

Edward Souchon, M.D.

New Orleans, La.

Metastatic Carcinoma of the Choroid, with Report of a Case and Review of the Literature.—E. L. Oatman, after reviewing the literature on this subject, states that there are thirty cases on record which are considered genuine. The average age was 44.37 years. Twenty of the primary growths were situated in the breast, three in the lungs, two in the liver, one in the stomach and liver, one in the thyroid, one in a dermoid cyst of the suprarenal body, and two not located. There were twenty-two female and eleven male cases (due to the greater frequency of carcinoma of the breast among women). Twenty right eyes and nineteen left eyes were affected. Both eyes were involved in ten cases. The deposit always occurs posteriorly near the point where a short ciliary artery enters the globe. It appears in the corresponding region of the second eye when the latter is attacked. This indicates that the second eye is not invaded by way of the lymph channels of the optic nerve and chiasm. The typical shape is a flat discoid thickening of the choroid with a central elevation of 2 or 3 mm., gradually sloping off to a thin periphery. It spreads laterally, being an infiltration of the choroidal lymph spaces with epithelial cells which naturally follow the path of least resistance. Sarcoma, on the contrary, is a growth of the fixed tissues. The time from the first eye symptoms until vision is destroyed varies between two and eight weeks. The rapidity is due to an early and extensive detachment of the retina. Tension is increased in one-third and normal or diminished in two-thirds of the cases. The average duration of life after the first eye symptoms is six and one-half months. Enucleation is not advisable unless the eye is very painful, or glaucomatous. When a metastasis has occurred in one eye its removal does not prevent a similar deposit in its fellow.—*The American Journal of the Medical Sciences*, March, 1903.

Progress of Medical Science.

The Boston Medical and Surgical Journal, April 9, 1903.

Death from a Single Vaginal Douche.—G. DeN. Hough reports two cases. The first was a miscarriage, in which a douche of 1 to 1,000 corrosive sublimate, one quart, was given by an old negro nurse thoroughly accustomed to giving douches. Symptoms of mercurial poisoning followed, and the patient died fifteen days after receiving the douche. In the second case there was a sarcoma of the uterus. Vaginal hysterectomy was performed, and three days later a douche of peroxide of hydrogen was given. The following day the packing of the vagino-peritoneal wound was removed, and a douche of a dilute formalin solution was given. It was impossible to ascertain the exact strength of this solution. It caused the patient severe pain, and soon after it was given she passed into a condition of collapse, and in spite of vigorous stimulation, died in a few hours. At autopsy nothing was found to account for her death. The author believes that the irritant action of the formalin on the peritoneal surface (there can be no doubt that the formalin solution penetrated to the peritoneal cavity) caused the pain, and pain so severe that the patient, in her weak condition, was thrown into the condition of shock, from which she died.

The Rôle of Atmospheric Pressure in the Hip-joint.—Seabury W. Allen states that in 1836 the experiments of the Brothers Weber went to show that air pressure played an important part in the mechanism of the hip-joint; that when the joint was opened the letting in of the air made it possible for the head of the femur and the acetabulum to separate; that on replacing the femur in its former position and covering the opening into the joint with the thumb, the then air-tight condition prevented the separation of the bones. The author, doubting the truth of this statement, instituted a number of experiments which he describes. He found that on the cadaver, whether air was or was not let into the joint made no difference in the relative position of the bones. If negative air pressure does not exist in the cadaver, it seems even less likely that it would be present in life, when the tonicity of the muscles and the elasticity of the ligaments are certain factors in maintaining the integrity of the joint. It would seem from the results obtained, that what holds the bones together is primarily the cotyloid and secondarily the capsular ligaments (of course in life the elasticity of the surrounding structures helping them out), and that "air pressure" need not be considered.

Dry Hot Air as a Therapeutic Agent, with Demonstration of the Body Treatment.—Clarence Edward Skinner says that this therapeutic measure affects physiological function in two ways: First, by a direct stimulation of cell metabolism in the part treated, due to the raising of its temperature *en masse*, and, second, by a reflex acceleration of cell nutrition set up by the stimulating influence of the heat upon the numerous nerve endings in the skin. In true rheumatism pain is relieved, the disease is shortened in duration, the liability to cardiac involvement is lessened, and there are no vicious after-effects produced. Sprains are cured in a few days, arthritis deformans is greatly benefited, although it may require some time for a complete cure. In pneumonia a local treatment applied over the affected lung will relieve the pleuritis at once and remove all signs of consolidation in from two to five days. The patient begins to improve after the first treatment, and although the course of the disease is not shortened, the severity of its symptoms is very greatly decreased. Local septic infection, proceeding from ordinary traumatism or surgical operation, responds most kindly to dry hot air. The symptoms of chronic and acute nephritis are frequently very amenable to thermotherapy. The author mentions a number of other diseases in which this treatment is of value, but he is careful to state that he does not consider it a panacea for all ills, to the exclusion of other remedial measures. He goes into the question of the physiological action of the measure, and describes its action very thoroughly.

Medical News, April 11, 1903.

An Operation for Paronychia, or "Run-around."—Sinclair Tousey describes his operation, which consists in separating the attachment of the cuticle to the dorsal or exposed surface of the nail to a sufficient extent to permit the escape of the pus and the introduction of a stick of nitrate of silver to disinfect the sulcus. There is not a drop of blood drawn, and a rapid cure may be expected, most cases being entirely well in three days. Incision into the flesh is always radically wrong.

Eye Affections Complicating and Resulting from Rheumatism.—Ralph Opdyke says that there may result from an attack of acute articular rheumatism, an inflammation of well-nigh any of the tissues in or about the eye, and that these same structures frequently show a peculiar susceptibility toward the rheumatic poison. Also, these textures, when involved, quickly respond to the recognized rheumatic remedies. As a result of the blood and fibroserous changes resulting from rheumatic poison, we may have any or all of the diseases that the eyelids are liable to, and these will depend, in their character on the severity and duration of the original rheumatic attack, and will be equally liable to recurrence. It is the eye itself that is especially liable to the constitutional rheumatic diathesis. The cornea and sclera are often affected. Keratitis is often rheumatic. In the consideration of these troubles, constitutional treatment should not be overlooked. As to the eye muscles, the external rectus is the one most often affected in rheumatism. In these affections both the general practitioner and the specialist are necessary in arriving at a correct diagnosis, and this diagnosis is of the greatest importance.

Lung Surgery: Historical and Experimental.—Benjamin Merrill Ricketts states that abscess is the most frequent surgical lesion of the lung, and recovery more certain in the acute form, when operated upon. Gangrene is rather frequent, and due to many causes, such as injury, syphilis, abscess from any cause, foreign bodies, and the acute inflammatory diseases of the respiratory system. The treatment is much like that for abscess. All gangrenous portions should be removed and free drainage established. As to œdema, the surgical treatment is the same, essentially, for bronchopneumonia, hydrothorax, and œdema. Benign tumors require no interference, except when troublesome on account of size. The treatment of malignant tumors of the lung, thus far, is very unsatisfactory, as the malignant tissue cannot be entirely removed. The writer believes that more definite knowledge of conditions and symptomatology is necessary that surgery of the lung may be perfected and made more aggressive and general. Abnormalities must always be considered in dealing surgically with the lungs. Hemorrhage due to pulmonary tuberculosis should not be allowed to become fatal without opening the bony chest and the application of pressure by forceps, gauze, or otherwise. Silk, silkworm-gut, and animal tendons are the most desirable materials for lung surgery.

Journal of the American Medical Association, April 11, 1903.

Post-operative Pulmonary Complications.—R. Peterson reports six cases, their nature being indicated by the following titles: (1) Bilateral Salpingo-oophorectomy for Cystic and Atrophic Appendages. Appendectomy. Lobar Pneumonia on Second Day. Death on Eighth Day. (2) Vaginal Cœliotomy; Vaginal Suspension of the Uterus by the Round Ligaments. Bilateral Trachelorrhaphy. Perineorrhaphy. Acute Lobar Pneumonia on the Third Day; Recovery. (3) Vaginal Hysterectomy for Foul-smelling Submucous Polyp, the Size of the Fist, Projecting from External Os. Septic Vaginal Discharge. Serofibrinous Pleurisy, Right Side; Recovery. (4) Bilateral Salpingo-oophorectomy for Hydrosalpinx and Pyosalpinx in a Patient with General Miliary Tuberculosis. Bilateral Septic Pleurisy with Effusion. Death on the Fifth Day from General Suppurative Peritonitis. (5) Abdominal Hystero-salpingo-oophorectomy for Chronic Disease of the Uterus and Appendages. Left-sided Dry Pleurisy on the Fourteenth Day after Operation; Recovery. (6) Hystero-salpingo-oophorectomy for Chronic Disease of Uterus and Adnexa. Bronchitis Following Operation; Recovery. In case of an ordinary cold the author does not believe it especially dangerous to administer ether, but if there are influenza germs about, or if pneumococci should gain access to the system during a mild inflammation of the upper air passages, this infection plus the added irritation of the ether may introduce an element of danger. Hence a most careful examination should be made before anæsthesia, and it is safer unless the operation is one of emergency, to postpone intervention in the presence of even a slight cold.

Iodoform Dermatitis.—W. A. Bryan calls attention to a dermatosis from iodoform distinct from the usual condition attended with constitutional symptoms. Clinically this dermatosis appears about twenty-four to forty-eight hours after application of the remedy, and resembles at first the condition following rhus toxicodendron poisoning, but there is not so much redness of the skin, for it is obscured by the formation of vesicles. The latter may gradually involve several inches of skin around the focus. They diminish in size as they spread. They may coalesce and form blebs of considerable size, which finally burst. On removal of the cuticle the true skin appears as a thick, red, œdematous, uneven surface, often filled with little pockets of serum resembling vesicles but for the absence of the cuticle. The chief symptom is

intolerable itching. The poison, whatever it is, seems to spread through the cellular tissues of the skin, whereas blisters from iodine alone, when peeled off, leave a smooth surface, and, moreover, they are limited to the area of application and do not spread as do the vesicles from iodoform. When the latter appear, the remedy should, of course, be at once discontinued; the surface should be thoroughly cleansed with peroxide, to loosen up any adherent iodoform and specks if the latter should be picked off. Then we should apply carbolized vaselin or watery solutions of carbolic acid. It is well at each dressing to immerse the part in an astringent solution in hot water for from ten to thirty minutes. If dry dressing or dusting powders are used, they must be applied freely and repeated frequently, as they become early saturated with the exuded serum.

A Case of Typhoid Perforation with General Peritoneal Infection.—The history of the case is given by J. B. Murphy, who adds the histories of five other consecutive cases of general suppurative peritonitis. All six cases recovered. The outcome in any given case of this condition depends on the following factors: (1) The type of infection; (2) the period of time elapsing between infection and operation; (3) the tension under which the products of infection are retained in the peritoneal cavity; (4) the diffusion of the material through the cavity; (5) the administration of antitoxins and other substances to antidote or dilute the immediate depressing effect of absorbed poisons; and (6) the length of time the patient is kept under the anæsthetic and the extent to which the bowels are manipulated. Concerning the type of infection, he notes that if it be a violent streptococcus type, with little pus formation, the peritoneum is rapidly denuded of the epithelial covering and becomes a "blistered surface," through which absorption rapidly takes place. Death in these cases is caused by the large quantity of the products of infection rapidly absorbed. If the poison be diluted or the pressure under which the infective products are retained be reduced the patient may pass over the critical period to a convalescence. If it be a staphylococcus or colon bacillus infection, the denudation of the peritoneum is slower, the danger of immediate overpowering of the patient by the absorbed toxins is diminished and the fatal termination is often postponed to four or six days, until such time as the fibrinous exudate which covers the peritoneum is exfoliated, taking with it the peritoneal endothelia. A rapid and fatal absorption may then ensue.

The Treatment of Traumatic Gangrene of the Extremities.—Van Buren Knott gives the following directions: Estimate as exactly as possible the line between the healthy and diseased soft parts, and having first made, under anæsthesia, a most careful and complete disinfection and cleansing of the skin, puncturing all bullæ and removing all discharge, envelop the gangrenous area in a sterile towel up to the line selected, and at this point make a circular amputation, cutting through soft tissues and bone at the same level. Ligate carefully all bleeding points, including none of the perivascular tissue in the bite of either the forceps or the ligature. Leave the wound absolutely open, not introducing a single suture, and apply moist dressings of gauze saturated with salt-solution. The dressings to be changed two to four times in twenty-four hours, as the circumstances of the particular case demand. After seven to ten days, if the wound is perfectly clean and the condition of the patient favorable, the classical circular amputation may be made by dissecting up the flap already outlined and sawing the bone at the proper level. The advantages of this plan are summarized as follows: (1) By it we may speedily, and with the minimum of shock, remove from an enfeebled and exhausted patient the source of the infection, namely, the gangrenous tissue. (2) We may frequently make the amputation at a lower point than would be possible by the old method, because soft tissues whose vascular connections are left undisturbed are less apt to slough. (3) The freest possible drainage is provided for a sufficiently long time. (4) If the disease stops at the line first chosen no unnecessary sacrifice of tissue has been made, as the flaps have been defined at the lowest limit of safety, and the bone would necessarily have to be sawn at the same point as at the second operation. (5) If the limits of the disease have not been placed sufficiently high, the same procedure may be repeated with less danger to the patient than a typical reamputation. (6) Patients too weak and prostrated by sepsis to withstand a typical amputation may endure this much shorter procedure and be built up during the interval before the second operation is necessary

American Medicine, April 11, 1903.

Congenital Absence of Both Inferior Recti Muscles.—Edward Stieren reports this rare case. The patient was a well-developed boy of six years. When asked to look down, the patient flexed his head upon his chest, his eyes not making the slightest movement below the horizontal plane. The flexion was not accomplished in one movement, but in several jerky nods, until the line of vision was sufficiently depressed to include the object sought, when the last nod centered his vision upon the object. The lower ocular conjunctiva was freely incised and retracted in a bloodless field, revealing a total absence of the inferior rectus in the right eye. Undoubtedly the same condition existed in the left.

Glycerol of Iodine.—T. W. Williams, from his experience during a practice of forty years, is convinced that there is not in the entire range of the materia medica a more valuable therapeutic agent in strumous affections than iodine, provided it can be brought into conjunction with the diseased tissues in an assimilable form. Therein lies the whole secret of its curative powers. Glycerin is less volatile than iodine, and is a perfect solvent. It holds the iodine in such minute division as to render its particles absorbable, and they are absorbed by the venous and arterial radicles of the skin along with the glycerin, and in this way reach and enter into the tissues. The writer applies from 4 to 8 c.c. of the glycerol of iodine over the chest, in a streak along the sternum two or three inches wide, from the junction of the clavicles to the lower end of the sternum (in chronic bronchitis) or over the entire side, from the spine to the sternum (in old chronic thickened pleuras); and he repeats the application night and morning until symptoms of iodism appear, usually two or three days, then he omits a day, and resumes with about the same dose once daily.

Degeneration of the Erythrocyte.—John C. Da Costa gives the following deductions: (1) The viscosity of the erythrocytes is influenced by cellular and plasma alterations, the nature of which is obscure. The viscosity is exaggerated by the direct influence of various toxic agencies, and is diminished in many anæmic states. This phase of cellular pathology is interesting from an experimental point of view, rather than as a finding of clinical application. (2) Simple decoloration illustrates the earliest retrograde change affecting the erythrocytes, and its intensity generally corresponds to the severity of the anæmic process by which it is excited. The change may exist alone, as in the milder forms of anæmia, or it may be combined with gross necrotic degeneration of the cells, in anæmias of greater severity. (3) Deformities of shape and size are common to all pathologic blood, the degree to which such changes develop being related to the intensity of the blood impoverishment. Megalocytosis is a more serious sign than microcytosis. (4) A typical staining of the erythrocytes betrays an impairment of function, and, as a rule, is found most commonly in corpuscles the hæmoglobin content of which is subnormal. It is most striking in anæmias of the primary type. (5) The prevalence of mageloblasts indicates a fetal reversion of the bone marrow, and stamps the blood changes as pernicious, except in anæmias symptomatic of bothriocephalus latus infection and of nitrobenzol poisoning. The presence of megaloblasts indicates a severe anæmia, but not necessarily one of fatal outcome. (6) Granular basophilia, whatever may be its exact origin, should be interpreted as a sign of degeneration. It is a constant blood finding in but a single condition—lead poisoning—but is associated with many diseases involving a variable degree of blood deterioration. The experimental basophilia excited by the administration of preparations of hæmoglobin warrants a doubt as to the wisdom of using such medicaments as substitutes for iron in the treatment of anæmia.

The Philadelphia Medical Journal, April 11, 1903.

Some Remarks on the Treatment of Croupus Pneumonia.—C. S. Bradfute believes that the pneumococcus seldom or never attacks an organism in standard physical condition. Pneumonia is a self-limited disease and tends to recovery without medication. It is not a systemic disease, but a localized infection, characterized by secondary systemic disturbances, the general systemic involvement being due, primarily, to exaggerated reflex influences and, secondarily, to toxæmia. At present the therapy of this disease is purely symptomatic. The writer earnestly protests against the use of digitalis. It lessens the circulatory area without a compensatory rapidity of movement. In cases with a violent onset, aconite is indicated. It must be given very carefully. At the beginning of the treatment the bowels should be opened, but not forcibly. The principal drugs that meet the indications are cocaine, strychnine, ammonium, and alcohol. Cocaine is a general nerve stimulant of peculiar efficacy. Strychnine promotes the general activity of the spinal nerve centers and sustains the physiological functions of the end-organs. Ammonium should be given in the form of the carbonate—preferably in the

aromatic spirits. The control of the temperature is imperative. The best means is the use of cold compresses after Baruch's method. Nourishment should be constantly and frequently administered. From the onset to convalescence only liquid food is permissible. Alcohol is employed as a food and not as a stimulant. Every pneumonia patient should receive an ample supply.

A Plea for the Use of Less Drugs in the Treatment of Typhoid Fever.—J. K. P. Bowen states that castor oil is the best laxative in the beginning of typhoid fever if much solid or semisolid accumulation is suspected. Its continuance throughout the case is advisable in most instances. Salines are preferable if the intestines are distended with much fluid. Quinine is injurious in most all cases of typhoid fever. Usually no food should be given during the first week or more, unless there is some relish for it. Fewer carbohydrates and fats should be used till apyrexia or convalescence. The writer does not find sweet milk the best diet for the majority of adults or children with intestinal diseases. Casein often irritates the diseased intestine. Calomel may be given in the beginning if indicated by a pale, coated tongue and constipation. Atropine may be given in case of much intestinal congestion, and pale skin, but not for long. Turpentine is used internally for meteorism and externally with hot water to abdomen for pain, also in enemata. Strychnine may be indicated. Morphine and atropine may be given for sleeplessness in some cases, also for pain, hemorrhage, or delirium. The patient should be put in the horizontal position, and in weak patients the position should be regularly changed. There should be cleanliness, abundance of pure air and light, and cheerful and quiet surroundings. After the period of anorexia from one to three pints of buttermilk may be given daily, and plenty of pure water. Warm sponge baths with massage of skin and muscles, hot water to abdomen for pain, cold pack for hyperpyrexia and delirium in some cases. Enjoin mental rest. The physician should inspire confidence and never show any anxiety. Success in the healing art depends upon a knowledge of the principles, and clinical experience.

New York Medical Journal, April 11, 1903.

On the Physiological Action of Silver Sulphoichthyolate.—This question is discussed by H. C. Wood, Jr. He says of this remedy, known as ichthargan, that it is less irritant than the nitrate. Injected into the posterior lymph sac of the frog it causes motor weakness, and finally complete paralysis. In general, the effect is precisely similar, at least qualitatively, to that of the other silver salts. As a substitute for the familiar nitrate it is locally less irritant and decidedly less poisonous.

Methods Which Render Some Therapeutic Agents More Palatable.—S. E. Farp gives the following suggestions as to disguising unpalatable remedies: To give castor oil in one dose as a purgative, probably the "castor-oil sandwich" is the best method. It is made as follows: In the bottom of a glass put a small quantity of glycerin, then the oil, lastly half an ounce of sherry wine, and take at one draught. This will also apply to the single dose of cod-liver oil. For disguising quinine he advises the use of one grain of tannic acid to each three grains of quinine in a vehicle of syrup of tolu. Iodide and bromide of potassium and salicylic acid may be given in milk. In case copaiba and turpentine are not used in gelatin capsule form, an emulsion flavored with gaultheria comes next in order. For chloral hydrate he thinks peppermint water superior to cinnamon. Equal parts of peppermint water and simple syrup make the best solution for salicylate of sodium. Unless there is an objection to the intensely sweet taste, the syrup of glycyrrhiza answers best for sodium salicylate. If the mouth is flushed quickly with a small quantity of whiskey, the medicinal oils may be taken immediately afterward, and the disagreeable taste if not so perceptible. A few grains of table salt taken upon the tongue will produce a copious flow of saliva, and then, if swallowed with medicine which has an objectionable taste, it may in a measure be disguised. Care should be taken, however, that no chemical incompatibility exists.

Deutsche medicinische Wochenschrift, March 19, 1903.

Microscopical Diagnosts of Malaria.—Reinhold Ruge reports the satisfactory use of the Ross method, but advises that the smear be fixed for a few minutes in a two-per-cent. solution of formalin, to which ½ to 1 per cent. of acetic acid is added. By so doing the blood smear becomes firmly fixed, and is not liable to be washed off in the subsequent manipulations, as frequently occurs when no fixing is resorted to, as recommended by Ross. Since the formalin somewhat reduces the ability of the plasmodium to take up the dyes, it is necessary after having submitted the smears to the eosin and methlene-blue to stain them with dilute Manson's solution. In this manner the most delicate crescents and rings are made perfectly plain.

Bacteriological Researches in Dysentery and the Variability of the Bacteria.—Kruse, after reviewing the history of the bacteriological researches in dysentery, says that the bacillus of diphtheritic epidemic dysentery was first discovered and described by him, under the name of the "bacillus dysentericus." Shiga had a few years previously discovered the bacillus of Japanese dysentery, but had described it in such a manner that its identification according to his description was impossible. Since then it has been made plain that Shiga's bacillus is very closely related and perhaps identical with that isolated by Kruse. In addition to the chief form of epidemic dysentery there exist in Germany other diphtheritic forms of the disease, which are probably caused by pseudodysenteric bacilli. It is yet to be ascertained how widely such pseudodysenteric bacilli are disseminated. The dysenteric bacilli which have been described by French and Italian authors are in no way related to Kruse's bacillus, and it has not as yet been decided whether they possess pathogenic properties or not.

Munchener medicinische Wochenschrift, March 24, 1903.

Myopia as a Symptom of Diabetes Mellitus.—Sigmund Neuburger draws attention to the fact that myopia is often associated with diabetes mellitus and frequently, outside of the urinary changes, is the sole symptom present. Two cases are reported. In one of these the diabetic condition was first suspected through the myopic symptoms, and for one and a half years thereafter no other eye symptoms appeared, although other general diabetic appearances developed. There is no doubt but that when myopia first appears in persons of middle age or thereabouts, the presence of diabetes should be suspected and careful urinary examinations at once instituted.

Parenchymatous Syphilitic Nephritis.—F. Muhlig reports another case which shows that a parenchymatous nephritis caused by syphilitic virus may develop in the secondary stage of the disease. The patient was a male, twenty-six years of age, and the nephritis first appeared fourteen days after the detection of the hard chancre and about five weeks after the suspected coitus. The other secondary symptoms first appeared eight or nine weeks after the development of the primary sore. The fact that the nephritis was of syphilitic origin is demonstrated by the non-effect of the initial treatment (hot baths and milk diet), and its rapid disappearance upon the administration of mercury.

Influenza.—Wilhelm Ebstein reports his observations in three epidemics which occurred in Göttingen, from 1889 to 1893. In the first epidemic (1889–1890) there were observed 196 cases; in the second (1890–1891), 141; and in the third (1892–1893), 40. The clinical types of the disease were (1) a nervous, (2) a catarrhal, with especial involvement of the respiratory tract, and (3) a catarrhal with especial involvement of the digestive tract. In practice these forms are not always easily differentiated and frequently occur together, the form being assigned according to the most prominent symptoms. Frequent complications are cutaneous eruptions, middle-ear affections, and diseases of the lungs, heart and nervous symptoms. The sequelæ are also varied, and are composed of various affections, relating principally to the organs involved in the complications. The frequency and type of the complications and sequelæ vary greatly in the different epidemics, according to their severity and form. Kidney complications are infrequent as compared with other infectious diseases. It is not certain whether influenza is to be regarded as a contagious or miasmatic disease. Perhaps it is conveyed along both of these lines. The bacteriology of the disease is not as yet definitely settled. Pfeiffer's bacillus is found in the sputum in many cases, but by no means in all, and the demonstration of its absence in no way negatives a positive diagnosis. It is not unlikely that eventually it will be proven to be bacteriologically a protean disease. The treatment is non-specific and entirely symptomatic. The prophylaxis consists in the thorough disinfection of the sputum and all articles coming in contact with the patient.

Infantile Scorbutus.—Comby reports cases in which the diagnosis was not clearly made for three months. Articular rheumatism, infantile paralysis, Pott's disease, etc., were thought of. Finally, the diagnosis was made, and, although a little late, the patients rapidly recovered. After stopping the sterilized milk, fresh boiled milk, potato purée, and orange-juice were given, and the symptoms of scurvy rapidly disappeared. Recovery took place in fifteen days. The milk given at first was not a modified milk, but simply sterilized milk. It is known that under certain circumstances, sterilized milk will produce scurvy.—*Le Bulletin Médical*, March 28, 1903.

Society Reports.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, Held April 8, 1903.

Dr. William Hallock Park in the Chair.

Quantitative Estimation of Albumin in the Urine.—Dr. Norman E. Ditman read this paper. He said that the quantitative estimation of albumin in the urine determined by Esbach's method was impractical because it required twenty-four hours after beginning the procedure before the test was finished, and must be kept in a cool place at an even temperature. In the various hospitals to-day the bulk of the precipitated albumin was determined, and this varied in the different institutions Another objection to be encountered was the varying rapidity with which the albumin settled; it sometimes required five hours or more before a maximum precipitate occurred, and the results of such analysis seldom agreed. The results of centrifugal apparatus differed in the various hospitals because the revolutions per minute varied so greatly, some being below and some above 1,500. Of all the methods reported he considered that of Wassilyew, the first detailed account of which appeared in a St. Petersburg journal in 1896, to be one of the best. 10 c.c. of urine was measured off in a pipette and diluted with water to 50 c.c. Four drops of a solution of a yellow dye known as "echtgebb" was added, and then the whole triturated with a twenty-five-per-cent. solution of sulphosalicylic acid until the mixture took a permanent brick red color. The amount of albumin could then be computed by multiplying the number of cubic centimeters of sulphosalicylic acid used by the factor .01006.

A Case of Bacteriuria Resembling Weil's Disease.—Dr. G. R. Satterlee read this paper. The patient was a man fifty-six years old, non-alcoholic, but a fairly heavy eater. There was no syphilitic history. Five years previous to present illness he had an attack of acute intestinal toxæmia with temporary paralysis of lower extremities, vomiting, diarrhœa, and a partial loss of consciousness. This followed the ingestion of a large dinner the night previous. Examinations of the urine prior to present illness showed that no albumin nor bacteria were present to any appreciable extent at any time. The night before the present attack he ate a large Thanksgiving dinner. The following evening he had severe continuous pain over the lower part of the sternum with flatulence and abdominal distension. Severe chills and sweating, and a condition of shock, slight delirium, and stupor, occurred the day following. Temperature was 103°, pulse 120, and respirations rapid and labored. Heart's action was tumultuous with a loud systolic murmur at the apex and base. The second sound was accentuated. Five hours later the temperature rose to 105°, the pulse to 134, and respirations to 43. Numerous subcrepitant râles were noted all over the right lung. No tenderness over the abdomen, and there was no apparent enlargement of the liver. A tentative diagnosis of lobar pneumonia was made. Prognosis seemed bad. Three hours later the temperature dropped to 103°, pulse 104, and the general condition was improved. The morning of the next day found the temperature, pulse, and respiration normal. Skin and scleræ were much jaundiced. A large brown stool was passed. Examination of the urine showed it to be dark, cloudy, specific gravity 1026, containing 5 per cent. of albumin by volume, and no sugar. There were present granular and epithelial casts and numerous bacteria. Up to the fifth day the temperature varied from 100.2° to 103°. Large numbers of bacteria were present. From the fifth day convalescence was uneventful. The albumin gradually disappeared. The urine was always very cloudy and contained bacteria constantly, which was uninfluenced by the giving of urotropin. Bacteriuria persisted and lavage of the bladder had no appreciable effect upon it. Three months later the patient had a somewhat similar attack, but without any jaundice The bacillus isolated from the urine resembled the proteus group. Weil isolated his bacillus from the urine in a case of acute febrile jaundice. Jager found his bacillus in the urine and bodies of fowls that later caused an acute febrile jaundice. Brooks isolated his bacillus from the organs at autopsy from a case of Weil's disease. Libman isolated his from the pus of a liver abscess, which was followed by acute febrile jaundice. The results of experiments on animals showed the bacillus to be toxic for guinea-pigs, and to a less extent for rabbits. The bacillus was recovered in pure culture from all the organs. Filtered cultures of the bacillus produced no effect. The microscopical examination of the viscera of the guinea-pigs showed about the same picture in each instance. The picture presented by the original case was that of an acute febrile jaundice, which was followed by an acute nephritis and bacteriuria. The infection was probably a descending one, originating possibly from the kidneys. Acute hepatitis was marked in all cases that came to autopsy. No jaundice was observed in the experimental animals, but there was distension of the bile capillaries. In the animal which survived the inoculation from the urine bacteriuria with albumin and casts was found.

Dr. Harlow Brooks said that he had a case that followed a similar course. This patient died and the liver changes were more than could be reproduced in the animal. The disease he believed to be badly named; the name indicated that it was a specific disease when, in fact, it was far from it, for all cases did not have bacteriuria associated with it. The rarity of cases of Weil's disease was shown by a review of the American literature. Many cases of acute febrile jaundice were accompanied by albuminuria and the bacteriuria was not recorded at all. The ordinary cases of acute febrile jaundice were due to contaminated meats, such as sausages. More recent works on the subject confirmed the idea that this was not a specific disease, but that it could be caused by a group of bacilli. He said that nothing new had been brought out regarding this condition. Most cases get well, but they were apt to have relapses, as in Dr. Satterlee's case. With regard to reproducing jaundice in experiments on animals he had never been able to do so, and he thought the reason for his failure was that jaundice was a rare condition in animals that were used for experimentation. The bile acids and coloring matter were found in the urine in rabbits and were reported in the experiments made in Weil's disease.

A Case of Bilharzia Hæmatobium.—Dr. Eugene Pool reported this case, which was of interest because (1) of its infrequency in this part of the world and (2) of the phenomena shown under the microscope, *i. e.* the development of the embrio and ovum. The patient was a young man, twenty years old, a sailor. When eight years old he went to the Suez canal and remained there five years, and during that time he went in swimming daily in the Suez canal and neighboring streams, and drank much of unfiltered water. The next five years he spent on a ship in the Mediterranean. He contracted an acute attack of gonorrhœa four days after exposure; this was accompanied by very little increase in frequency in urination and very little pain. He had the characteristic discharge, which disappeared at the end of fifteen days under urethral irrigations Two weeks later, when in Algiers, it was very hot, and he noticed that his urine became diffusely red. He remained three months in Algiers. The condition persisted without other symptoms. He then went to Cuba, and the diffuse red urine changed to the characteristic hæmaturia of the disease, *i. e.* after passing a normal amount of fairly normal looking amber-colored urine, and when the bladder was apparently empty, with an involuntary spasm of the bladder there would occur an expulsion of one or two drachms of thin bloody fluid. This condition persisted up to the present time. He was nine months

in Cuba and six months in the United States. He now complained also of intense pain in the loins and a feeling of weakness which prevented him from work. Physical examination showed the man well nourished and the abdominal organs appeared to be normal. The amount of urine voided in twenty-four hours was 1950 c.c.; reaction, acid; good color; sediment, moderate in amount; specific gravity, 1019; albumin, a trace; urea, 41.3 in twenty-four hours. The sediment showed a small amount of blood and pus and a small amount of mucus. A few casts were present and some epithelial cells. Numerous ova of the bilharzia hæmatobium were found. An examination of the blood showed red-blood cells, 3,340,000; hæmoglobin, 86 per cent.; leucocytes, 6,600. A differential count showed lymphocytes, 47 per cent.; large mononuclears, 6½ per cent.; polymorphonuclear neutrophiles, 36 per cent.; eosinophiles, 9½ per cent. The doctor showed photographs showing the ovum with the spine and egg-shell between the embrio. Another showed the egg-shell from which the embrio had migrated. The third photograph showed the embrio with living cilia attached.

Blood Counts in Typhoid Fever.—Dr. H. A. Higley presented this communication. The differential leucocyte counts were made during the first week of typhoid fever. As a result of observations in uncomplicated cases, it was demonstrated that the polymorphonuclear neutrophiles were relatively and absolutely decreased, while the large mononuclears were relatively and absolutely increased in number. The small mononuclears were decreased, normal, or increased. The eosinophiles were relatively subnormal. The percentage variations he had not definitely settled, for the figures varied widely. His observations differed from those of Thayer's, who reported twelve cases examined during the first week of typhoid fever, as follows: lymphocytes, 12.9 per cent.; large mononuclears, 12.9 per cent.; polymorphonuclear neutrophiles, 74 per cent.; eosinophiles, 5.1 per cent. These counts were not made by him but by different observers. The leucocyte counts varied—in some, 200; in others, 300. Dr. Higley did not mean to throw any suspicion upon the counts reported by Thayer, but he wished to make a fair statement of the conditions. Two years ago he began a series of observations during the early days of typhoid fever, and the result obtained differed from those of Thayer. The differential leucocyte count characteristic of typhoid fever he stated was contrary to what was generally supposed during the first week of the disease. In making his studies he made it a point to show that the examinations were conducted during a specified period of the disease. His cases numbered sixteen, and the diagnosis was established in seven by an examination of the fæces, in six by the presence of the Widal reaction, and in three by the presence of the roseola, enlarged spleen, and typical typhoid course. He felt positive that he was dealing with the disease during a specified time. With regard to dating the disease, from the appearance of the eruption, authorities differed, some claiming that it appeared at the latter part of the first week, and some at the beginning of the second week; others even claimed that it preceded, or even succeeded, those days. Osler stated that it appeared from the seventh to the tenth day, and he felt justified in accepting the figures of Osler. In all cases a very careful and frequent examination was made, and he felt sure that his observations were made during the early course of the disease. The ages of the patients varied from six to twenty-nine years. The following are the average differential leucocyte counts that the doctor gave: small mononuclears, 17.8 per cent.; large mononuclears, 21.1 per cent.; polymorphonuclear neutrophiles, 59.4 per cent.; eosinophiles, 1.7 per cent. The highest and lowest variations given were: small mononuclears, 27.8–12.8 per large mononuclears, 29.3–12.1 per cent; polymorphonuclear neutrophiles, 65.5–49.1 per cent.; eosinophiles, 3–.8 per cent. His figures corresponded with those of Winters, who gave the following: small mononuclears, 5.8 per cent.; large mononuclears, 31.5 per cent.; polymorphonuclear neutrophiles, 61.4 per cent.; eosinophiles, 1.3 per cent. As a result of his work he felt certain that he had demonstrated that a differential count made in the early days of typhoid fever, particularly during the first week, was quite characteristic in a fair number of cases, and was a matter of serious consideration. Of course his experiments were as yet very limited. Among the diseases that would show a hyperleucocytosis were measles, influenza, tuberculous infections, and malaria; of these only the two latter deserved any consideration, because the first two could be differentiated clinically. He had not had much experience with the differential count in tuberculosis. Cabot had one case of miliary tuberculosis in which the eosinophiles numbered 91.64 per cent. With malaria he had only an experience with seventeen cases. The differential count in malaria and typhoid fevers he said was closely related, and, in many instances, they could not be differentiated. In a certain number of cases of malaria there was an increase in the polymorphonuclear neutrophiles So far as he had gone he found that cases of febrile malaria gave less relative number of eosinophiles than typhoid fever during the first week. In typhoid fever they were above 1.5 per cent., but below that figure in malaria. The object of the communication was to show that a differential count of leucocytes during the first week of typhoid fever was of value, and that possibly there might be differential factors there which could be utilized for diagnostic purposes.

A Simple Method for Obtaining Blood from a Rabbit.—Dr. A. Wadsworth gave this demonstration of a method for securing blood from a rabbit, which was very simple and rarely failed to give the desired result. The principle was to warm the rabbit in order to bring the blood into the cutaneous circulation; then, by tilting the animal, blood would flow more freely in the ear. By incising the ear all the blood required could be obtained.

A Convenient Medium for Growing and Storing Cultures of Pneumococci.—Dr. A. Wadsworth had experimented for some years upon media for growing and storing pneumococci used serum to which had been added enough agar-agar to give it sufficient consistency to enable it to hold together. Pneumococci had been found active even after many months when kept in this medium.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

Stated Meeting, Held April 9, 1903.

Henry Heiman, M.D., Chairman.

Result of Operation for Intussusception.—Dr. John F. Erdmann reported three cases, presenting two of the patients. One was a male infant, four months and three weeks old at the time of the operation. The operation was done about three weeks ago, the incision being made through the right rectus muscle. On March 20 the child had been seized with abdominal pain and passed some bloody mucus. When seen by the speaker twenty-three hours later it was in good condition, and palpation failed to reveal any tumor, although considerable bloody mucus escaped on digital exploration of the rectum. The next day he operated upon the child and found an intussusception of the ileum within the ileum, and then an intussusception of the ileum within the colon—in other words, a double intussusception. In this case the appendix was not intussuscepted, as was usual. The reduction of the iliccolic portion was easy, but that of the other portion was very difficult. The patient made a perfectly smooth recovery. The second patient happened to live in the same house and on the same floor as the first child. It was six months old,

and was seen twenty-four hours after the onset of the illness. When crying, a tumor was seen on the left side of the abdomen. The tumor was distinctly movable, but on digital examination could not be felt by the rectum, although blood was discharged. In this case shock was quite marked. At the operation it was found that there was the same double form of intussusception, except that the appendix was included. The operation was done on March 31, and the stitches were removed yesterday, there being perfect union throughout the wound. In both cases the appendix was removed. The third case was that of a child of five and a half years who had been seized with spasmodic pain in the abdomen and passed sufficient fæces and flatus to show that there was then no obstruction of the bowel. Two days later there was no passage and no elevation of temperature, but the abdominal pain was continuous. There was no history pointing to intussusception and nothing objectively, except the resistance in the right side of the abdomen. This case also proved to be an intussusception of the ileocolic variety. It was reduced and the appendix was removed. The child recovered.

Dr. H. Lilienthal said that he was interested to know that although the tumor was on the left side the incision was made on the right side of the abdomen. This seemed to him a safe rule, because the vast majority of intussusceptions were at the ileocolic valve or in that vicinity. Of course, the general rule was to make the incision over the site of the tumor, and he had himself usually followed this rule, although he could not recall a case of acute intussusception in which the right-sided incision would not have answered. The principal thing in cases of intussusception was to make the diagnosis early, and this was the province of the family physician or the pediatrician. The diagnosis having been made, the case was always a surgical one, and practically no other treatment seemed to him justifiable at the present time. It was true that occasional recoveries had been reported from the use of hydrostatic pressure, but this method was by no means itself free from danger. He was of the opinion that a good many cases of intussusception recovered without operation, but these were usually instances in which the symptoms were not such as to lead to the diagnosis of this condition. When the symptoms were sufficiently pronounced to suggest the diagnosis of intussusception the treatment should always be surgical.

Dr. Erdmann said that there was absolutely no difficulty in reaching the whole circumference of the abdomen through the incision on the right side employed by him. Through this incision the reduction could be readily effected, even in the region of the sigmoid, it being always borne in mind that there should be no pulling, but only a pushing manipulation in the effort at reduction. In early operations he believed it was always possible to effect reduction through the right-sided incision.

Inversion in the Treatment of Acute Pulmonary Œdema in Young Children.—Dr. Thomas S. Southworth read a brief paper on this subject, reporting a case. The employment of inversion in acute pulmonary œdema was a new procedure, if one could judge from the silence on this point in the literature. The case reported was that of a female infant, who, without premonitory symptoms, developed acute and severe pulmonary œdema. The house physician of the Randall's Island Hospital inverted the child and, with the head downward, made stroking pressure from the bronchi toward the head. This resulted in a discharge of frothy mucus from the nose and mouth, and gave immediate and marked relief. The child was then placed in bed and stimulants and revulsives were used. There was no evidence of cardiac disease. The speaker said that sudden acute pulmonary œdema without assignable cause had occurred from time to time among the children of this hospital. In the present instance the passage of much undigested food on the following day suggested that the cause might have been acute indigestion. The attack occurred just after supper, and the child had been suffering more or less from diarrhœa.

Pin-worms in the Appendix.—Dr. Erdmann exhibited an appendix that he had removed by operation on January 1 from a child five years and a half old. When first seen there was a temperature of 105° F. and a pulse of 140°, although the history stated that the child had not been ill previously. The appendix was found to contain a large number of pin-worms, and it was removed. Shortly after this he had encountered another similar case.

Dr. Henry Heiman said that this case was interesting, because the usual habitat of the pin-worm was in the rectum or descending colon When a child suffered from itching of the anus, particularly at night, thus suggesting the presence of pin-worms and yet no worms could be seen at the anus, it was well to examine the fæces for the eggs, as in this way the diagnosis could often be established.

The Surgical Features of Perforation of the Intestine in Typhoid Fever in Children.—Dr. Charles A. Elsberg presented this paper. He said that he had been able to find in the literature a total of 289 operative cases, with 75, or 25.9 per cent. of recoveries. This number included twenty-five patients who were less than fifteen years old, and among this latter group were sixteen recoveries, or 64 per cent. The speaker then reported a recent case in which he had operated upon a child for typhoid perforation of the bowel. One interesting feature of the case was that two weeks after the operation a vaginal discharge appeared, and bacteriological examination showed a pure culture of typhoid bacilli. Again, this child, six years and a half old, was the youngest on record among the operations for typhoid intestinal perforation. Among 284 cases of typhoid fever in children, Dr. J. Lovett Morse did not see one case of intestinal perforation, while Dr. Reginald Fitz saw seven cases in 192 cases of typhoid fever in children. Holt had collected 1,028 cases in children, in twelve of which, or 1.1 per cent., perforation occurred. Combining all these figures, one obtained 1,504 cases with 1.2 per cent. of perforation. The frequency of this complication in adults was usually given as from 1 to 2.5 per cent. The speaker thought the only symptom *per se* of perforation was sudden pain with, perhaps, shock and collapse; hence, he could not understand how one could differentiate this complication from peritonitis. It was seldom possible to make the diagnosis of impending perforation with sufficient positiveness to justify operation in what had been called "the preperforative stage." Of the twenty-five cases of operation considered in this paper, fourteen were between nine and twelve years of age; the youngest was six years and a half and the oldest fifteen years. Eighteen were males, six were females, and in one case the sex was not stated. According to Osler, males and females were about equally susceptible to typhoid fever, but more males were admitted to hospitals, and this perhaps explained the larger number of cases of intestinal perforation occurring in the male sex. While this might explain the greater frequency among adult males it could hardly account for the fact that 72 per cent. of all of the cases operated upon among children were males. A decided change in the appearance of the face was noted in eleven of the cases; in three the expression remained unchanged for a considerable time after the development of other fairly characteristic symptoms. The change in the facial expression never occurred early, but appeared usually after other symptoms had developed and had drawn attention to the probable existence of a perforation. Children seldom presented the sudden symptoms of collapse so commonly observed in adults. In most of the cases the temperature curve was not in any way characteristic. In fifteen of the cases the pulse became more rapid

and of poorer quality after the perforation. Vomiting was present as an early symptom in four cases. Leucocyte counts were made repeatedly in only five cases, but in all of these there was a sudden increase in the leucocytosis about the time of the occurrence of the perforation. As soon as infection of the peritoneal cavity took place there would be a great outpouring of leucocytes into the peritoneum, and the number in the general circulation would consequently be greatly diminished; hence, marked leucocytosis was likely to be a very transitory symptom, occurring only just at the time of the perforation. Pain in the lower part of the abdomen was noted as the first symptom in twenty cases. In most instances this pain was paroxysmal, and was apt to be more on the right side. Tenderness on palpation was present in every case, but there seemed to be always an appreciable interval between the first appearance of pain and of this abdominal tenderness. In nine cases there was considerable abdominal distention, and some change in the appearance of the abdomen was noted in all but three of the twenty-five cases. Rigidity of the abdominal muscles was more or less marked in fourteen of the patients. It was evident from the foregoing that there was very little difference in the symptomatology of intestinal perforation in children and adults, though the diagnosis was often very difficult in the former because of the inability of the patient to localize or describe the sensations experienced. Fitz, Keen, and Murchison were of the opinion that fully 5 per cent. recovered without operation. A case in point was reported by Dr. Elsberg. With regard to the interval between perforation and operation, and its effect upon the result, the following statistics were given: The interval was four hours in two cases with 100 per cent. of recoveries; in three cases the operation was done within the second four hours with 66.7 per cent. of recoveries; in seven cases it was done within the third four hours with 71.4 per cent.; in three cases it was done within the fourth four hours with 100 per cent. of recoveries; in one case the operation was done within the fifth period of four hours with no recovery; in one case it was done within the sixth period of four hours with no recovery. There were seven cases operated upon later than twenty-four hours after the perforation with 57 per cent. of recoveries. In one case terminating fatally the interval was not known. The perforation occurred most often during the third week and in relapses. Of fifteen cases operated upon in the first sixteen hours, 86 per cent. recovered. From the statistics given it appeared that the prognosis from laparotomy in intestinal perforation was twice as good in children as in adults. The author believed that the only possible contraindication to the operation was a moribund condition of the patient. The most important element was rapidity of operating, children standing laparotomy well if the operation were of short duration. He believed chloroform anæsthesia was preferable to local anæsthesia in children. If the perforation were very large or the infiltration extensive a piece of omentum should be sewed over the perforation. Resection of the bowel for intestinal perforation had been done once in a child of thirteen with recovery. Escher insisted that the perforation should not be sutured, but the loop of bowel should be fastened into the abdominal wound and drainage thus established. Of four cases so treated by him three recovered. The resulting shortening of the operation was not sufficiently great to be considered, but the drainage of the bowel was sometimes of value when there was already present an advanced stage of peritonitis. The surgeon should always look for multiple perforations, although in over 80 per cent. of the cases there was only a single perforation. The author was not in favor of irrigation of the peritoneal cavity except when it was soiled by fecal matter, nor did he advocate wide drainage.

Dr. Lilienthal said that the case diagnosticated as having an intestinal perforation and which recovered had presented symptoms which made those who saw it absolutely certain that there was a perforation present The existence of rigidity and tenderness of the abdomen with a history pointing to intestinal perforation would go far toward making the diagnosis. The speaker said he had operated upon a number of cases of typhoid perforation of the bowel; in one instance he had done an exploratory operation upon a child expecting to find a perforation but none had been discovered. The child showed no special shock and recovered nicely from the typhoid fever. If there were such a large perforation as to suggest excision he would prefer drainage to excision; in other cases suture would be preferable. He thought it probable that the statistics presented in this paper gave too low a mortality, because there was good reason for believing that many unsuccessful cases had not been placed on record. It was nevertheless true that when the operation could be undertaken early this surgical complication of typhoid fever would be found to be much more tractable than it had hitherto been supposed to be.

Dr. Erdmann said regarding the case of vaginal discharge containing typhoid bacilli, that he thought it possible that an abscess had broken through into the vagina, or else there had been a migration of the typhoid bacilli through the tubes. In all the cases in children that he had seen the mortality rate had been in inverse proportion to the time occupied in the operation. It would be interesting to know whether the female patients were quite young, because it was known that the older boys would drink water from any source and were much more exposed than girls to the chances of typhoid infection. If the perforation were rather high up in the ilium there was bound to be increased exhaustion, and the time occupied in suturing the perforation could not be greater than that necessary for stitching the loop of intestine to the abdominal wound. The tendency at the present day was to place more and more reliance upon the peritoneum for the removal of septic matter after the main focus had been removed, and not to resort to drainage.

Dr. M. Manges said that he had no doubt that in the the case reported as one of intestinal perforation and recovery without operation the diagnosis was correct, for he had seen this patient a number of times and had been deeply impressed with the clearness of the evidence presented. While he believed that these cases should be subjected to operation, the statistics were such as to make one wonder whether this treatment would materially improve the patient's chances of recovery. The symptomatology of this condition had been very well presented in the paper. Sometimes the only evidence of shock or collapse in these case was perspiration, there being at the same time a sudden and sharp rise of temperature. Changes in the area of liver dulness were often of the greatest significance. He, too, was inclined to believe that if all cases were reported the presentation would be a gloomy one, and this not so much because the surgical treatment was not the correct one as because one was dealing with typhoid fever.

Dr. Heiman said that the physician should be on the alert in every case of typhoid fever for symptoms of perforation when there was diarrhœa, intestinal hemorrhage, or marked distention of the abdomen. In this way only was one likely to recognize the symptoms of impending perforation. In typhoid fever, about the third week, there might be a secondary anæmia causing a shock or depression of the nervous system, which sometimes simulated intestinal perforation. The suppuration and breaking down of a mesenteric gland might also give rise to similar symptoms. He would accept the first suggestion of Dr. Erdmann regarding the possible causation of the vaginal discharge in the case reported, but the second one was hardly a possible explanation, in view of the very rudimentary state of the uterus and adnexa in a child of six years.

Dr. Elsberg, in closing, referred to the statistics that

he had presented from the Mount Sinai Hospital, and called attention to the fact that as the cases all occurred in one year it was quite probable that very different results would be noted in another year, owing to the well-known variations in type of typhoid fever. His statistics showed that the female children in his series were not, on an average, younger than the males. He had been unable to detect the symptoms of the pre-perforative stage.

Treatment of the Paroxysms of Whooping-cough by Pulling the Lower Jaw Downward and Forward.—Dr. Jacob Sobel read this paper. He said that the drug treatment of pertussis had been a thankless task, and yet it was most important to reduce, so far as possible, the number and severity of the paroxysms. About two years ago he had noticed a statement by Dr. A. Caillé to the effect that the manipulation of the lower jaw, as in a narcotized person who was not breathing properly, would control the paroxysm of whooping-cough. This has led Dr Sobel to give the method a trial since that time in his dispensary work. In all, the method had been tested in ninety-six cases. There were only nine it which it had exerted absolutely no effect upon paroxysm at the time of the child's visit to the dispensary. In infants and young children the method seemed less efficacious than in older ones because, not understanding what was to be done, the little ones became frightened and their crying interfered with the effect of the manipulation. The pulling of the jaw downward and forward was observed in a number of instances to prevent the occurrence of the whoop by instantly putting an end to the paroxysm. A search through the literature showed that this method had been first suggested by O. Naegele, but had apparently been overlooked by almost all well-known writers on pediatrics. The method was devised in the belief that the physician's chief efforts should be to control the spasm of the glottis, thereby breaking the backbone of the disease. It was this glottic spasm that produced such torture to the whooping-cough patient, and which gave rise to the terrible dread experienced by adult patients. The originator of this method put it to a test in his own children with excellent results. When standing behind the child, both thumbs should be placed against the angle of the jaw, the index fingers on the zygomatic arch and the remaining fingers upon the chin, and the lower jaw should then be pushed downward and forward. The glottic spasm was efficiently and almost instantly overcome by this manipulation in a large majority of the cases. The method could be taught to the mother or nurse, and in this way many paroxysms could be prevented and the heart, lungs, and nervous system spared much wear and tear. The raising of the entire larynx and the hyoid bone perhaps opened the glottis, but whatever the explanation, the result was most satisfactory. The only contraindication to the use of this method was the presence of food in the mouth or œsophagus. While it had been claimed that this manœuvre would also relieve other spasmodic coughs, this had not been Dr. Sobel's experience. In cases of pertussis without whoop the respiratory spasm and asphyxia were usually prevented; in cases having the whoop the latter could be usually prevented by this manipulation. Children treated in this way emerged from the condition in far better condition, being less exhausted and less emaciated because the vomiting had been controlled.

Dr. Charles Herrman said that he had practised this procedure in a number of cases, and in most instances with good result. In a crying child it was very apt to fail, and hence, as had been said, was less applicable to very young children, unfortunately just the ones in which the physician was most anxious to relieve the spasm. Recent investigation regarding the viscosity of the mucus in cases of pertussis seemed to show that this had practically nothing to do with the severity of the paroxysms. The manipulation under discussion had been found to fail in the spasm of the glottis observed in tetany and laryngismus stridulus. In whooping-cough there was a spasm of the glottis, pure and simple, whereas in tetany there was often, in addition to the spasm of the glottis, a spasm of the respiratory muscles, including the diaphragm.

New Instruments.

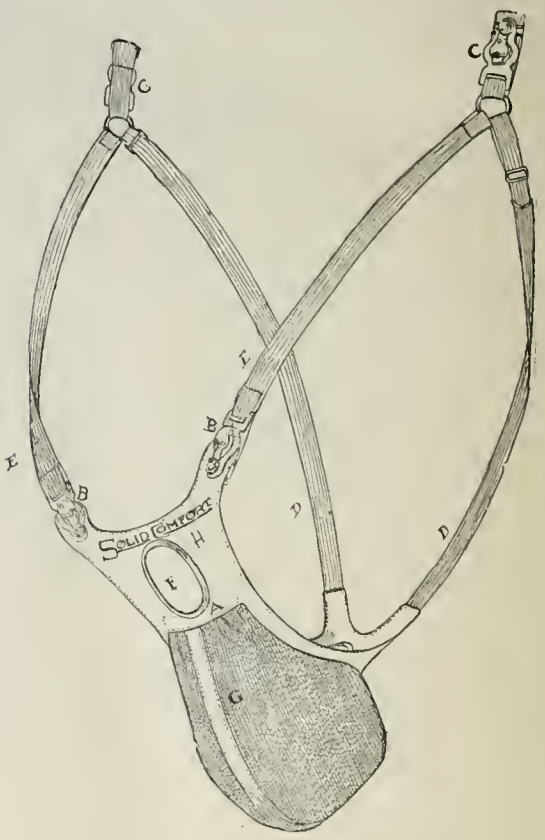
A NEW SUSPENSORY BANDAGE, CONSTRUCTED ON ANATOMICAL LINES.

By FERDINAND KING, M.D., Ph.D.,
NEW YORK.

The prime object of a suspensory bandage is to support the testicles by suspension, but the bandages found in the shops do not accomplish this purpose. On the other hand, they act, rather, as "compresses" than as "lifts."

I desire to call the attention of the profession to an improved suspensory, in the construction of which I have made it to conform, as nearly as possible, to the anatomical outlines of the parts involved. In other words, I have attempted to make an artificial scrotum.

The accompanying illustration shows the appliance so clearly that but few details are necessary to help the reader to an intelligent understanding of its most important features.



The body-piece, *H*, fits smoothly and firmly over the parts between the thighs. The scrotum, with its contents, slips through an oblong, half-oval opening into the bag which is stitched on to the front or outside. The band at *A* presses firmly into the peno-scrotal notch and prevents the testicles slipping upward and through the penis opening (*F*). And as there can be no slipping, of course there can be no chafing of the parts.

The belt-straps are attached to the upper wings of the body-piece (*B B*) by means of the Kantslip catch, the button of which passes through an eyelet, and can be easily detached. These straps meet the

understraps at *C C*, where another Kantslip catch is placed for attaching the combined ends to the undershirt, thus making it a "beltless" appliance. If, however, the wearer prefers a complete belt, he can have it by attaching an eyeletted piece of webbing and extending it from *C* to *C*.

The body-piece and bag can be detached and washed without the elastic or metal parts coming in contact with the water.

The appliance when properly fitted and adjusted is really and truly an artificial scrotum, and supports the testicles without the slightest compression displacement, or pinching.

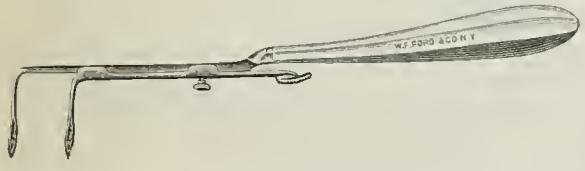
200 West Ninety-ninth Street.

A NEW INSTRUMENT FOR THE REMOVAL OF HEMORRHOIDS.*

By JOSEPH B. BISSELL, M.D.,
NEW YORK.

This rather homely instrument is more especially adapted for use in tying off hemorrhoids. It is simple, inexpensive, easy to keep sterile, small in size, light in weight, and can be made of use for various other purposes, such as a means for carrying sutures around a vascular tumor, for tying off strips of omentum, for tying varicose veins, etc. It has also been used for tying off omental tissue. It carries two needles with their sutures through at one movement. This is of advantage in that it shortens the time of an operation very considerably —a matter of great importance.

The instrument consists of two needles, fixed at right angles to a bar and parallel. The lower needle is adjustable in any position along the bar of the



other by means of a groove and a screw. The needles are of equal length, blunt, slightly curved, and with an eye at the end. They are each not unlike a Peaslee perineum needle. The screw fixes the movable needle at any point, so that the needles can be firmly held at any distance from each other that the size of the tumor requires, the handle is continuous with the first needle.

In operating, usually the thread is entered from the under side of both eyes and the needles carried through the tissues to be tied. Then, on the exit side, it is pulled out, the instrument withdrawn and the tissue tied off, and the hemorrhoid removed with the scissors. In order to prevent cutting or a secondary slipping of the ligature, as happens not infrequently in using the ordinary needle in operating for piles, this instrument is left in till the pile is amputated. This protects the ligature from injury by the scissors or knife. If it is desired to tie before cutting, it is necessary to loosen the screw and allow the adjustable needle to follow the tissues as the ligature draws them. Otherwise the needle, as it is rigidly held in position, will produce a slight tearing of the tissues.

In operations for piles with this instrument it is impossible to have a hemorrhage follow it. The vessels are under complete control before any incision is made.

The instrument is adjustable to any sized hemorrhoid, and as the principal vessels are in the center of the tumor the ligature carried in by this means completely encircles them.

If one wishes to make an incision through the mucous membrane or through the skin around the tumor, that can easily be done on either side, either before or after inserting the needles.

If there are only one or two large distinctly separate piles, another advantage is that in cutting off the piles and withdrawing the instrument before tying the ligature a very small raw surface is left to heal by granulation. Sometimes the puckering is so complete that the cut edge of skin is brought to the cut edge of the mucous membrane and union takes place rapidly almost by first intention.

The instrument is, as you see, very light, the handle is of aluminum, and to those who, for various reasons, do not use a clamp and cautery this little instrument is suggested. It is made of the best of material by W. F. Ford & Co., 315 Fifth avenue.

15 West Fifty-eighth Street.

*Presented at the meeting of the City Hospital Alumni Society, February 11, 1903.

A NEW HIGH-FREQUENCY APPARATUS.

By CHARLES O. FILES, M.D.,
PORTLAND, ME.

The modifications of the static current are of great interest and value to every one who is using that current. Dr. William J. Morton first gave us the static induced current, which has proved to be, in many respects, equal or even superior to the faradic current. He has also given us the wave current, which has proved to be of very great value.

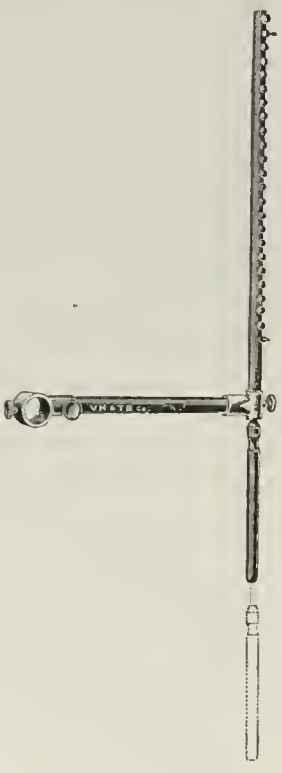
The system of high frequency alternating currents was worked out at about the same time by several different parties. The credit for this high-frequency current is due chiefly to D'Arsonval, Elihu Thompson, Tesla, and Morton. By this system currents of more than 3,000 milliamperes may be passed through the body with a frequency of alternation from 500,000 to 1,000,000 per second. This current, as is well-known, is sufficient to light an incandescent burner when passing through the bodies of two persons in the circuit without producing any sensorial impression.

It is now in order, perhaps, to explain a new high frequency apparatus, an "Interrupter" which gives beautiful violet rays from a glass electrode. This current gives us the highest frequency of any apparatus with which I am acquainted. Its therapeutic uses are varied and important. As a controller of the current in x-ray work it is very remarkable.

The "Interrupter" consists of a tube of mica about ten inches long. There are about twenty brass bulbs or knobs ½-inch in diameter that are screwed into the tube at intervals of ½-inch, the screws projecting well into the hollow part of the tube. There is a brass sliding rod with a depression in the upper side, for the contact with the terminals of the brass bulbs. The mica tubes are joined to a hard rubber rod which may be connected with any upright stand or with the case of the static machine. The brass bulbs at each end of the mica tube are provided with an eye, into each of which a wire is fastened and carried to the sliding rod of the static machine, the wire from one end to the positive pole, from the other end to the negative pole. The Leyden jars are left in the static machine. One of them is grounded by a chain running to the floor or to a gas pipe, according to the strength of current desired. The other Leyden jar is connected with a glass electrode. These electrodes are real Geissler tubes. When the tube is connected with the static machine in action, there is a spark gap of twelve

inches through which there is no current. Now, if the sliding rod is introduced into the mica tube, the spark gap is lessened and the static spark leaps from one bulb to the next, and so on, until it reaches the end of the rod. The longer the spark gap, provided the spark passes through the several knobs, the more severe the current, and the greater the number of interruptions. When the sliding rod is pushed in so that only two or three of the knobs are left for the spark to traverse, the current can scarcely be felt. This may be increased at the pleasure of the patient. This current gives a sensation of heat at whatever point the electrodes are used that is quite different from the heat given off by the galvanic current. The latter is a more burning heat, the former is rather an agreeable sensation that is not confined to the portion of the skin in contact with the electrode, but seems to affect a much larger surface. The amount of ozone that is generated by this current is very great. The room seems to be full of it.

It is unnecessary to explain the value of the inhalation of ozone. It is certainly very useful in the treatment of cases of bronchitis and tuberculosis. Is it not possible that a portion of this ozone enters the circulation through the skin? In neuralgia, rheumatism, sciatica and lumbago and myalgia it does equal if not more efficient work than the static spark or the static massage. This current has been used with vocalists with the result not only of clearing the throat, but of raising and lowering the range of the voice. Electrodes are made for use on the surface and for the cavities of the body. There is one for the ear and nose, one for the throat, and one for the vagina. It is too early yet to be able to give many exact clinical reports. One severe case of varicose veins of the tonsils was entirely relieved, the veins shrinking to their normal size, after daily treatment for about a month. There had been almost a daily hæmoptysis on arising in the morning for about two years.



The electrode for the ear is useful in very many cases of deafness caused by acoustic paralysis, and in cases of tinnitus aurium. Altogether too little attention is given to the use of electricity in aural troubles in our textbooks.

In summing up, I claim that the static current can be so accurately adjusted by the use of the "Interrupter" that it can be used advantageously in all cases. It can be used in cases that will not bear the static spark, or even the massage roller. It can be used in the ear, nose, and throat with better general results than can be obtained by the galvanic or faradic current. When it is desired to have the patient inhale ozone, no better device has yet been made than the "Interrupter."

This apparatus is manufactured by Van Houten & Ten Broeck.

Therapeutic Hints.

Backache in Women.—Backache is frequently due to pressure on the sacral nerves, often owing to constipation. The following will give relief when due to this cause:

℞	Ferri phosph	gr. ij.
	Ext. bellad.	gr. ¼
	Ext. nucis vom	gr. ¼
	Ext. cascaræsagr	gr. ij.

M.: Pro pil. i; Sig.: i pil t. i. d.

—Fenwick.

Nutrient Enemata.—Nutrient enemata should not be given too often, as there is great likelihood of rendering the bowel intolerant; once in three or four hours is suggested as proper. If the bowel is thoroughly irrigated every morning with warm saline solution, the absorption of the enema will be greatly facilitated. The following is recommended as easily borne and well absorbed:

℞	Peptonized milk	1 oz.
	Whiskey	1 oz.
	Whites of two eggs	
	Table salt	24 gr.

—Hunter Robb.

Treatment of Menstrual Disturbances.—For the alleviation of amenorrhœa, menorrhagia, and dysmenorrhœa:

℞	Kalii permang.	gr. ij.

M. Ft. pilulæ No. 1. S.: i pil. t. i. d.

—Wm. Stephenson.

For Epileptiform Convulsions.—

℞	Morphinæ sulphatis	gr. iss.
	Tinct. veratri viridis	ʒss.
	Aquæ q. s. ad	ʒss.

M. S.: Inject 20 minims hypodermatically before, after, or during the convulsion. This will greatly lessen the severity of the attack.

The following will often be of service in the treatment of epilepsy:

℞	Sodii boratis	ʒiij.
	Glycerini	ʒi.
	Aquæ q. s. ad	ʒiij.

M.: Ft. mistura (dissolve the sod. borat. in warm glycerin).

S.: A teaspoonful to a dessertspoonful t. i. d.

—Yeo.

Treatment of Graves' Disease.—Ballet, Enriques, and Mobius, acting on the theory that a thyroidectomized animal would develop in its body, a substance that would fix or neutralize the poisons of Graves' disease, have fed several patients on the milk of goats from which the thyroids had been removed. The results have so far been encouraging.

The Administration of Cocaine.—The following mixture, while it takes longer to begin acting, continues acting longer than cocaine alone:

℞	Cocaine	
	Petroleum oil	
	Almond oil āā	par. æ. q.

—*Medical Summary.*

When the skin is moist and perspirable, depressants are contraindicated In these cases, quinine, strychnine, and digitalis are to be used.—*Ibid.*

Offensive Breath.—To remove from the breath offensive odors, such as those of whiskey, tobacco, onions, and garlic:

℞	Hydrogen dioxid	10.0
	Aquæ rosæ	50.0

—E. J. Kempf.

Renal Lithiasis.—For the treatment of nephritic colic:

℞	Bromid of potassium	gr. vi.
	Cherry laurel water	♏x.
	Syrup of ether	♏xx.
	Morphine hydrochlorate	gr. $\frac{1}{20}$
	Valerian hydrochlorate	♏cxx.

Diuretics to assist the expulsion.

For the treatment of lithiasis: The waters of the various springs are to be freely drunk, but those that have the ability to cause deposits and thus enlarge the calculus are to be avoided. The indications for waters are as follows: (1) The waters are to be well tolerated by the stomach and

should cause no malaise. (2) The patient should void in the urine, within two hours, the greater part of the water ingested. (3) It should induce the secretion and excretion of well-marked uric acid precipitate. (4) It should induce free movements at least twice daily. (5) The patient should drink no other water and should avoid coarse and acid foods and fruits.

For the treatment of the diathesis: Regimen, hygiene, and medication are to be considered. In the regimen two parts of vegetable food are to accompany each part of nitrogenous diet. Red meats, veal, lamb, sweets, pastries, and alcohol are to be entirely avoided. Regular and suitable exercise is necessary. The medical treatment consists of piperizine, sidonal, and globularine, etc.

—Robin.

Surgical Suggestions.

Treatment of Lime Burns of the Eye.—The most frequent cause of burns of the eye is unslaked lime, and the burn is caused by the lime's absorbing the moisture from the tissues, which is capable of causing deep sloughing. When burn from this cause occurs, the lids should be at once everted, and the lime removed as far as possible; cleanse the whole eye with oil to prevent further slaking of the lime; diluted vinegar will answer the purpose if no oil is available; a solution of cane sugar dropped into the eye will form an insoluble compound with the lime, and may be used where convenient; when none of these methods are at hand, the eye should be thoroughly washed with water.

In gunpowder burns of the eye, the grains are to be carefully removed with a cataract needle, and an anæsthetic used.

Great prostration follows severe injuries to the eyes, and therefore the patient should be kept in bed and upon a supportive treatment.—W. Campbell Posey.

Massage in Gynecology.—There is a great deal to be learned in the application of massage to conditions of the pelvis. The following indications will prove of value in administering massage in gynecological conditions: (1) Adhesions loosely binding the uterus and adnexa in abnormal positions; (2) inflammatory exudates; (3) displacements of the uterus caused by lack of support in the ligaments and muscles by inflammatory conditions. *Counterindications.*—(1) Acute inflammation; (2) suppuration, especially tubal; (3) malignant disease; (4) pregnancy, as a rule; (5) tuberculosis. It is essential to make an exact diagnosis; to be sure that the indication is clear and that the contraindications are not present.—Palmer Findlay.

Domestic Poisoners.—The late President of the English Royal College of Physicians, Sir John Russell Reynolds, once said in my hearing, writes a correspondent to the *Manchester Guardian*, that no doctor ever went through an ordinary life of practice without seeing two or three cases which he could only explain by the hypothesis that the patient was being slowly poisoned by relations or servants. Sir John added an excellent instance, the leading features of which were these: A country practitioner was attending his vicar's wife for a mysterious complaint, which in some respects resembled incipient paralysis. The lady had a little money of her own, and was surrounded by every comfort, the vicar himself always carrying her meals to her sick room. The country practitioner, puzzled by the intractability of her symptoms, went to London and laid the case before his former teacher, Dr. Reynolds, by whose advice, on returning to his home, he secretly sent up to London some materials for analysis. After doing this he told the vicar what he had done. The vicar thanked him effusively for his friendly care and immediately drowned himself. The lady quickly recovered and erected a stained-glass window to the memory of a much-loved husband and faithful pastor from his broken-hearted wife

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

A System of Physiologic Therapeutics. Vol. V. By Joseph McFarland and Others. 8vo, 539 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

Les Phenomenes de Suggestion et D'Auto-Suggestion. Par le Doctor L. Lefevre. 8vo, 291 pages. Henri Lamertin, Brussels. Price, fr. 6.

The Prevention of Disease. By H. Timbrell Bulstrode, M.D. Two volumes. 8vo. Funk & Wagnalls Co., New York. $3.75 per volume, net.

Transactions of the American Climatological Association. Vol. XVIII, 8vo, 270 pages. Illustrated.

Die Kriegsepidemieen des neunzehnten Jahrhunderts und ihre Bekämpfung. Von Dr. Otto Niedner. 8vo, 227 pages. August Hirschwald, Berlin.

Manuel de la Prostatectomie Perineale pour Hypertrophie. Par le Dr. Robert Proust. 8vo, 190 pages. Illustrated. C. Naud, Paris. Price, fr. 4.

Twenty-fifth Annual Report of the Health Commissioner, Health Department of the City of St. Louis, 1902. 8vo, 620 pages.

A Pocket-book of Infant and Childhood Dietetics. By A. B. Spach, M.D. E. H. Colegrove, Chicago, Ill. Price, 50 cents.

Anatomy of the Brain and Spinal Cord. By Harris E. Santee, M.D. Third edition. 8vo, 226 pages. E. H. Colegrove, Chicago, Ill.

Diseases of the Heart and Arterial System. By Robert H. Babcock, M.D. 8vo, 853 pages. Illustrated. D. Appleton & Co., New York.

Therapeutique Clinique, Les Medicaments. By Le Dr. Alfred Martinet. 8vo, 284 pages. C. Naud, Paris. Price, fr. 4.

How to Succeed as a Physician. By a physician. 12mo, 123 pages. The Church Publishing Co., Meriden Conn.

De la Glycerine Physiologie-Therapeutique-Pharmacologie. By A. Catillon. 8vo, 184 pages. C. Naud, Paris. Price, fr. 4.

Diseases of the Liver Pancreas and Suprarenal Capsules. By Reginald H. Fitz, M.D., and Others. 8vo, 918 pages. Illustrated. W. B. Saunders & Co., New York. Price, cloth, $5.00; half morocco, $6.00 net.

Diseases of the Stomach. By Franz Riegel and Charles G. Stockton, M.D. 8vo, 835 pages. Illustrated. W. B. Saunders & Co., New York. Price, cloth, $5.00; half morocco, $6.00 net.

Sixteenth Annual Report of the State Board of Health of the State of Ohio. 1901. 8vo, 473 pages.

The Heroin Habit Another Curse.—George E. Petty cites a number of cases to show that the heroin habit may become as firmly fixed as the morphine or any other drug habit. In his experience it differs from morphine in having little, if any, of the primary stimulating effect of morphine, in being more prompt and certain as an hypnotic, less powerful and less prompt as a pain reliever. It does not so greatly impair digestion or assimilation, or interfere with secretion or excretion to the same extent. It does not so quickly nor so fully arrest peristalsis, nor produce constipation to the same degree, but it does arrest peristalsis, cause constipation, lessen secretion and excretion, and interfere with the nutritive function to a hurtful degree, and its prolonged administration does result in the formation of the opium habit. When an opiate is to be used for any considerable length of time, heroin is preferable to morphine, because it can be used for a longer time without formation of the habit, and it does not so quickly alter the general health of the patient, but the same precautions should be exercised in its use as in the use of the other opium preparations. Be not deceived, says the author, it is an opiate.—*The Alabama Medical Journal*, March, 1903.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending April 11, 1903:

	Cases.	Deaths.
Measles	227	12
Diphtheria and croup	389	47
Scarlet fever	313	23
Smallpox	..	.
Varicella	83	..
Tuberculosis	284	168
Typhoid fever	39	11
Cerebrospinal meningitis	..	..

Statistical Report of the Health of the British Navy for 1901.—From the summary given in the report of the statistical sick returns of the total force serving afloat—about 98,410—the year 1901 may be regarded as very satisfactory. Notwithstanding that there was an increase of personnel of 2,880 as compared with the previous year, there was a reduction under all three headings of cases, invalidings and deaths. The aggregate number of cases of disease and injury recorded in the year 1901 furnishes a ratio of 853.83 per 1,000, which shows a decrease of 28.46 per 1,000 as compared with the ratio for 1900, and of 36.87 when contrasted with the average of the past four years. These figures compare favorably with the returns for 1889, in which year the case ratio was the lowest since 1856. The ratio of cases per 1,000 of force shows a reduction in the East Indies, China and Australia stations, and in the irregular force, the China station showing the substantial reduction of 363.1 per 1,000. The invaliding ratio of the total force, viz., 31.58 per 1,000, shows a decrease of 4.25 as compared with 1900, but an increase of 0.51 in comparison with the average for the past four years. The highest invaliding rate was on the Mediterranean station. As regards the death rate, the ratio per 1,000 was 5.34, showing a decrease of 1.93 per 1,000. Compared with 1900, and of 0.36 when contrasted with the last four years' ratio. The prevalence of and mortality from enteric fever and dysentery have greatly declined since 1900. Four cases of plague with one death and twelve cases of yellow fever with two deaths are returned in 1901, but none of cholera in that year. Among the general diseases in 1901 there were 208 cases of enteric fever, with 38 invalidings and 35 deaths, as compared with 464 cases, 98 invalidings and 124 deaths in the previous year. There were 387 cases of Mediterranean fever.—*The Lancet.*

Sabatier and the Quack.—An amusing story about Sabatier, the author of the famous "Eighteenth Century Treatise on Operative Surgery," is told by Malgaigne. Sabatier was fond of rambling about Paris, and took a special delight in listening to the quacks who, not having in those days the publicity now afforded them by the newspapers, proclaimed to such as they could get to listen the infallible virtues of their nostrums, a big drum being used as a "duc dame" which, it may be remembered, is defined by the melancholy Jaques as an invocation to call fools in a circle. One day Sabatier was listening to a quack, dressed from top to toe in red, who, standing up in a splendid carriage, charmed the ears of the bystanders with his discourse. Suddenly the orator, who had just declared that he was not an ignorant charlatan like others, but a man well thought of by the best scientific authorities, caught sight of the solemn-looking person who, with his hands on the top of his cane, seemed to be hanging on his words, and stopped for a moment. Then suddenly he exclaimed, "Look at that venerable man who is listening to me; it is easy to see that he is a man of study and knowledge. I will speak to him in the language of the learned, that is to say Latin, and you will see that he will agree with what I say." Then addressing Sabatier, he said, "Sir, this is the statement which I wish to submit to you: *Vulgus vult decipi.*" Sabatier, taken aback by the fellow's impudence, stammered out, "Quite true." "That being so," said the quack, "draw the inference yourself: *Ergo decipiatur.*"—*British Medical Journal.*

An Unusual Case of Bradycardia.—The patient of L. Lofton was a negro male weighing 187 pounds and over six feet high, enjoying good health. Speech and motion were slow but decisive. Three distinct examinations were made of his cardiac organ while standing erect, and each showed only forty-four pulsations of the heart, while as many more were made sitting, and these registered from three to five beats less. While the full recumbent posture showed that the heart's action was only thirty-two to thirty-three to the full minute. The volume, regularity, and force were good at each count. He never suffered from dyspnœa, giddiness or palpitation, and stated he had often remained under water when a boy while bathing with companions, twice as long as any of the rest. He could run, walk, and work as hard as any ordinary man of his acquaintance, and never experienced any inconvenience whatever. The heart was normal physically.—*Pacific Medical Journal.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending April 11, 1903:

		CASES.	DEATHS.
SMALLPOX—UNITED STATES.			
Alabama, Mobile	Mar. 28–Apr. 4	2	..
California, Fresno	Mar. 1–31	20	1
Los Angeles	Mar. 21–28	2	..
Sacramento	Mar. 21–28	1	..
San Francisco	Mar. 26–Apr. 2	5	..
Stockton	Mar. 1–31	4	.
Colorado, Denver	Mar. 14–28	49	..
Florida, Jacksonville	Mar. 28–Apr. 4	4	..
Illinois, Alton	Mar. 28–Apr. 4	1	.
Belleville	Mar. 28–Apr. 4	1	.
Galesburg	Mar. 28–Apr. 4	2	.
Kankakee	Mar. 24–31	1	.
Indiana, Elwood	Mar. 22–29	13	.
Indianapolis	Mar. 28–Apr. 4	10	1
Kokomo	Mar. 28–Apr. 4	1	..
Iowa, Dubuque	Mar. 28–Apr. 4	1	..
Kansas, Wichita	Mar. 28–Apr. 4	2	..
Kentucky, Lexington	Mar. 28–Apr. 4	2	..
Louisiana, New Orleans	Mar. 28 Apr. 4	3	(all imp tdl
Maryland, Baltimore	Mar. 28–Apr. 4	1	..
Massachusetts, Boston	Mar. 28–Apr. 4	2	1
Holyoke	Mar. 21–Apr. 4	2	..
Michigan, Ann Arbor	Mar. 21–28	1	.
Detroit	Mar. 28–Apr. 4	15	..
Grand Rapids	Mar. 28–Apr. 4	10	.
Port Huron	Mar. 28–Apr. 4	2	..
Missouri, St. Joseph	Mar. 28–Apr. 4	1	.
St. Louis	Mar. 20–Apr. 5	7	.
Nebraska, Omaha	Mar. 28–Apr. 4	7	
New Hampshire, Manchester	Mar. 28–Apr. 4	3	..
Nashua	Mar. 28–Apr. 4	2	..
New Jersey, Hudson County	Mar. 29–Apr. 5	2	..
New York, Buffalo	Mar. 31–Apr. 6	..	1
New York	Mar. 28–Apr. 4	1	..
Ohio, Cincinnati	Mar. 27–Apr. 3	2	..
Toledo	Mar. 21–Apr. 4	6	..
Oregon, Portland	Apr. 1	1	..
Pennsylvania, Erie	Mar. 28–Apr. 4	3	1
Johnstown	Mar. 28–Apr 4	1	..
Norristown	Mar. 28–Apr. 4	1	..
Pittsburg	Mar. 28–Apr. 4	25	4
South Carolina, Charleston	Mar 28–Apr. 4	7	..
SMALLPOX—INSULAR.			
Philippines, Manila	Feb. 13–20	1	..
SMALLPOX—FOREIGN.			
Brazil, Pernambuco	Feb. 1–28	..	9
Rio de Janeiro	Feb. 27–Mar. 6	..	8
Columbia, Barranquilla	Mar. 8–15	..	2
Great Britain, Birmingham	Mar. 14–21	12	3
Bradford	Mar. 1–14	6	..
Liverpool	To Mar 21	86	6
London	Mar. 14–21	2	..
Manchester	Mar. 14–21	8	..
Nottingham	Mar. 14–21	3	..
Walker-upon-Tyne	Mar. 7–14	1	..
Wallsend-upon-Tyne	Mar. 7–14	1	..
Italy, Palermo	Mar. 7–14	1	..
Mexico, City of Mexico	Mar. 15–22	6	5
Russia, Moscow	Mar. 7–14	3	1
St Petersburg	Mar. 7–14	37	5
Warsaw	Mar. 7–14	..	4
Straits Settlements, Singapore	Mar. 7–14	..	4
YELLOW FEVER.			
Brazil, Rio de Janeiro	Feb. 27–Mar. 6	..	27
Colombia, Cartagena	Mar. 9–16	..	1
Panama	Mar. 19–26	4	1
Ecuador, Guayaquil	Mar. 7–14	..	17
Mexico, Vera Cruz	Mar. 21–28		..
CHOLERA—INSULAR.			
Philippine Provinces	Feb. 7–14	570	270
PLAGUE—INSULAR.			
Philippines, Manila	Feb. 13–20	..	2

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Original Articles.

OBSERVATIONS ON SOME LIMITATIONS OF DIAGNOSIS.*

BY EDWARD G. JANEWAY, M.D.,
NEW YORK.

MUCH as we may endeavor completely to elucidate cases of disease in order that we may be enabled to establish a correct and full diagnosis, we find only too frequently, that certain conditions may escape our scrutiny, owing either to inherent difficulty in investigation, or to false information conveyed to us by the invalid, or by those acting for him. Most of us carry in our minds certain conceptions of disease, or, better expressed, a picture, to which we expect correspondence more or less complete in each case. Rigid examination of each detail personally made, or at least a report upon each detail would save us from not a few errors. It is too frequently our own fault that mistakes arise when we accept the statement of a patient instead of the evidence of our senses. Whilst none of us would be impressed by the dogmatic teaching of student days, yet I have known medical men who could never wholly escape from the thraldom of the statements of very positive dogmatic teachers, who had no qualifying exceptions. The tendency of men's minds differs to such degree, that one teacher is filled with the thought that those facts should alone be taught which are essential to each case, lest by including exceptions erroneous conceptions should result, and hence greater harm than good should occur. Still, it has always seemed to me wise that a teacher should mention exceptions, or at least present an appendicular statement of their existence. Nor do those escape who study disease by what is called the natural method. Each case seen of a given disease tends to make up a conglomerate picture in the mind, and if none of the exceptions have been observed, they are likely to be absent from the mental concept. In this paper I will draw attention to certain of the diseases which will illustrate in different directions these ideas. At best, there can only be a short survey of the field.

Perhaps nowhere in disease does the limitation of diagnosis play a more important part than in the class of contagious diseases. It is too often assumed that the distinction of these diseases is easy, and that regular development, of course, will enable the practitioner to make a positive distinction at an early date. Yet, I have no doubt that each one present, who has been or is interested in internal medicine, has had times of serious doubt as to the nature of a given case, and the preventive measures necessary to be taken. If we draw attention to some illustrative examples, those who have no longer special interest in this branch will pardon me.

If we consult works upon varicella and variola, the rules for their differentiation will be found so detailed that a tyro could scarcely make a mistake. Yet, at one time, in looking over the distinctive features of these diseases in the same work, under varicella the characteristics of this disease were differently stated than that about varicella under the head of variola. Moreover, has it ever occurred to the members of this society, why it was that Hebra claimed that varicella was simply a variety of variola? The only explanation which has ever seemed intelligible to me is to suppose that Hebra had met cases which seemed to be, from appearances, varicella, but which proved to be variola, as a result of contact with them. Then he concluded that there was no method of distinction. Yet no one doubts the different nature of these diseases for the reasons ordinarily assigned, which it is unnecessary to repeat. But the question is raised do cases occur in which the limitation of diagnosis is reached so far as appearances alone are concerned. My own experience has been such as to convince me that at times variola appears under such guise as to resemble varicella, and in teaching I formerly made use of the term variola varicelloides to describe these cases, believing the designation original, until I found that it had been employed by others for a similar reason. The limitation is not absolute if we can have access to the following facts, viz., from what exposure did the disease originate: and what result did it produce in those exposed to it. The difficulty in employing the latter is the delay necessary to establish the diagnosis: and as regards the former, it is sometimes impossible to discover the producing case.

Let me give you a few illustrative cases: I was consulted by one who was an expert upon variola about a woman whom he thought had varicella—there seemed to me to be some deviations, though but slight, making me suspect variola. The woman was sent to the hospital as a case of varioloid. In the meantime I had advised a careful examination of the place where she had been a waitress, and also a constant surveillance of the place to which she had gone on leaving, though only for a day. The next day I visited the variola hospital, but on looking for the patient missed her. On inquiry I was told that she had been placed in another ward as a case of varicella. Those conversant with the appearance of variola were convinced, from her appearance, that this disease did not exist. In the meantime the examination of the locality where she had been at work was made, with the result that several cases of smallpox were found in the mess on which she had waited. It was also discovered that the first case had been in a man, who had come from Philadelphia with a few scabs on his face. Again, after two weeks from the time at which she had visited the house down town for the night, a child, which she had handled there, became ill with severe variola. Another case relates to the occurrences in an institution for children. Many of them were ill with varicella. The house physician became ill, and the visiting physician called in a consultant, who said that he had varioloid. I was called by this visiting physician to see the waitress in a house to which he

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had gone while visiting the house physician. This woman had been in the house for two weeks, so as to insure no outside exposure. She had all the appearances of varicella; moreover these occurrences were at a time when there was no prevalence of variola in the city. The house physician was exposed to varicella, the disease conveyed to some one away from the locality appeared as varicella. Hence it seemed almost a necessity to suppose that the house physician had varicella rather than varioloid; moreover no variola resulted in either place from these cases. I saw a child on one occasion on whose body were some twenty characteristic varicella-like vesicles, which had developed after exposure to a case of variola. Further, I have knowledge of another case in which one of the most expert examiners of variola pronounced a case undoubted varicella from which two cases of variola, one confluent, resulted. One of these was of a man confined to his room sufficiently long to assure one that outside contagion was not responsible. The consequences of mistaken diagnosis here are so considerable that it has seemed to me wise to admit doubt in some cases, and in such cases to undertake the study along the lines above indicated. Which disease is prevailing? To what in the past ten, twelve, or more days was the patient exposed? Lastly, what disease did the patient give to others? Moreover, doubtful cases should be subjected to quarantine at home till the case is made clear, and appropriate measures employed for the more severe cases.

Whilst variola varicelloides has been the occasion of the spread of variola at times, more often the severe form of variola, best known as purpura variolosa, has, in my experience, been the cause of outbreaks. The disease is assumed to be black measles, spotted fever, purpura, or, in one case which came under my observation, malignant typhomalarial fever. I was telegraphed to visit a nearby city to consult about a case of the above designated disease. A man was found who had been ill for four days with only purpuric spots on forehead and limbs, and about these there was nothing definite He had only a moderate temperature, but was evidently moribund A careful inquiry elicited the fact that he had been with a female relative, who had died on the fifth day from an illness similar to his two weeks before his sickness began. This lady had also been given a church funeral. I learned also that others in the town were ill, who had been exposed to this previous case. I told the physician that my suspicion was purpuric variola, but without convincing him. Then I asked to see one of the other invalids. This proved to be a typical case of discrete variola. Hence the diagnosis was established; the town terrified; vaccination generally performed; and the further spread prevented though a number had contracted the disease. Perhaps the most interesting case which has fallen under my observation in the difficulty of distinguishing variola relates to a woman who was reported to have died of spotted fever in 1877, at a time when we were nearing the end of an outbreak of variola. I had been in the habit of going over the death certificates with a view of discovering possible cases of variola. This woman had only been ill five days. Hence I determined to make a personal inspection and inquiry. The woman was found in a boarding-house enclosed in a coffin, waiting public burial. Inquiry showed that the phenomena of illness had been those of severe infection, rather than of cerebrospinal meningitis A careful examination of the body showed, on the abdomen, a few vesicles only, but no purpuric spots. These facts determined me to make an autopsy regarding the existence of meningitis. The result was that no evidence of that disease was discovered The conclusion reached was probable malignant variola. Vaccination was offered to those in the house, and to a man who had been the companion of the deceased, and had tended her during her illness. Result: they threatened to shoot me for making the autopsy, refused vaccination, and the man in due time became a victim of confluent variola, of which he died.

At the present day our means of distinguishing typhoid from typhus fever are much increased over those which existed when I studied, and first began the practise of medicine. In adults the distinction is easier than in childhood. Question of diagnosis has arisen to my knowledge on three occasions, where large groups of young people were concerned. I had occasion to see, after a short interval of time, a number of children ill with a fever, coming from two different institutions. No history had been kept of the illness, hence a diagnosis had to be attempted simply upon present aspect of the cases, without further knowledge than the memory of the attendants furnished. I was surprised to see how large a number could be ill with typhoid fever on the one hand, and with typhus fever on the other without characteristic eruption, history of presence or absence of diarrhœa to make a sure guide. Action of a positive nature was urgent in each instance, as the number ill was too great to be cared for at the institution (orphan asylum), whether typhus or typhoid fever. But typhoid fever was not to be mixed with typhus fever. After a few days, in one group, the attendant who had brought the cases sickened with characteristic typhus fever, and developed its eruption. In the other, the cases showed the evidence of typhoid fever, and the autopsy on one, who had phthisis, demonstrated typhoid lesions. At the present time an investigation by serum diagnosis (Widal) would in all probability have been an earlier guide. Those who had seen outbreaks of these diseases know how careful the examination of each case should be when typhus fever exists in a city. During one of the outbreaks each case of reported typhoid fever was investigated more especially if occurring in a neighborhood where typhus fever had existed. I well recall the report as regards two sisters, that one had measles and the other typhoid fever. The result of an investigation showed that both had been exposed at the same time to a case of typhus fever. One had the disease with and the other without, eruption. I have drawn attention to these groups to again illustrate the necessity and importance of a study of the etiological factor, and exposure as an important feature in establishing diagnosis. Without this knowledge no one could have made a certain diagnosis of typhus fever in the above cases.

Limitation of knowledge of exposure leads to such statements as we see at times that one member of a family has died of meningitis after a very short illness, and that later one or more of the others has had scarlet fever. The true version of such a case would usually be that the first case had been one of severe scarlet fever. Before the culture from the throats was used in establishing a diagnosis in possible diphtheria, with spots like follicular tonsillitis, I have known of quite an outbreak to follow the allowing a child with such a throat to associate with well children.

We have already heard from Dr. McBurney

somewhat of the desirability of the earlier establishment of the diagnosis of intestinal and gastric carcinoma in view of the possibility of successful radical operations, rather than the palliative procedures not infrequently resorted to. The difficulty is inherent in the nature of the diseases, which, as a rule, only become apparent when they have led to serious disorder. So far as the stomach is concerned, we can look back to the time when it was supposed that the absence of free hydrochloric acid in the gastric contents after a test-meal was a diagnostic sign of first importance. Now we regard it as valuable, but require much added information in order to feel assured that it imports carcinoma. After all, it is only when we can make out a palpable tumor that we feel inclined to advise surgical interference, and even then have doubts of the wisdom of our advice, unless the disease be so situated as to produce obstructive effects, the removal of which will add to the comfort and well-being of the patient. Few feel inclined to make exploratory laparotomy at such an early date, that this should serve as a diagnostic measure, and yet it seems to me that only in this way can we hope to reach an absolute diagnosis at such time, as should afford a reasonable hope for more than palliative surgery. Yet when we recall that case published in the Transactions of the Association of American Physicians, by Stewart of Philadelphia, in which such an exploratory laparotomy apparently disclosed a stomach so far advanced in disease that all idea of operation was abandoned; and yet, after this the patient improved to such a degree that a subsequent operation resulted in a fatal issue nearly a year later; we feel that even this measure has serious limitations. For a time the total removal of the stomach seemed a possible curative procedure, but the result in the celebrated first case shows the desirability of that earlier establishment of diagnosis. In carcinoma of the bowel we find only too frequently the limitations of diagnosis. To be sure, certain of the cases would, by more thorough study, possibly have been made out in time to do radical surgery, yet if we review the cases observed, it will be found that not infrequently the patient has only applied when serious obstructive symptoms demanded relief, and this was found to be all that could be safely given. The strangest initial symptom which I have encountered has been the development of epileptic seizure on two occasions after large public dinners.

The obstruction by a growth in the transverse colon seemed to explain this singular phenomenon. These facts were brought out in obtaining the history; but on making examination, a large mass was found in the colon, such that only a union of the ascending and transverse portions was available as a surgical measure, performed by Dr. Bull. Such an instance shows the necessity of making an examination of the whole body, even in a nervous malady coming under observation for the first time. If, however, each tumor felt in the abdomen could be assuredly accepted as evidence of growth, matters would be simpler. So, also, if evidence of stricture of the bowels could be assumed to be, of necessity, malignant, and requiring operation, advice could be given with much easier mind. Unfortunately, I have had under observation several cases which have lived for years after they had developed these symptoms, and been condemned to a fatal issue from malignant disease in a short period. Specific disease has to be given consideration, and so also have causes producing stricture other than malignant disease. It is probable that exploratory laparotomy might be performed to advantage in a certain proportion of the cases.

A lack of knowledge of a patient's antecedents is not infrequently one of the most serious limitations in establishing a diagnosis. In a paper which I read at a meeting of the Association of American Physicians, I drew attention to a number of cases in which syphilis had produced phenomena such as to be interpreted as tuberculosis, and in which this diagnosis had been considered correct by well-versed physicians. The cases were those in which the initial lesion had been contracted a number of years previously, and the disease manifested itself principally by fever, and loss of weight and strength. So little has been written about fever in the tertiary stage that not a few forget to consider it. The readiness with which, as a rule, the fever yields to anti-specific remedies shows that in cases in which a doubt is entertained, medication may easily be made to serve as a means of removing this limitation. In one of the group of cases there published, it is shown that I was led into erroneous diagnosis of tuberculosis, because the physicians in attendance on a child assured me that the parents could not have syphilis, yet an autopsy showed a syphilitic liver. The father then admitted that he had been a victim of the disease prior to marriage.

But it is not alone with this febrile tuberculous type that mistakes in diagnosis arise, but in each organ there is danger of overlooking the real disease, owing to the limitation of lack of knowledge. We must always be on our guard, and if delicacy or other reason prevents our finding out by direct inquiry, relieve a suspicion, if justified, by medication. My own experience makes the nervous system and the liver as the ones most likely to be affected, but we have to consider the possibility in obscure diseased condition of other organs, as the heart, lungs, bronchi, but very rarely of the œsophagus and stomach. Thus I have known a supposed abscess of the liver, which had been explored with negative results yield readily to specific treatment, when inquiry had brought out the admission of bygone taint. So, again, on several occasions, enlarged nodular livers, considered as carcinoma, have proven amenable to treatment. It is not to be supposed that a person may not have had syphilis and yet develop a malignant disease, and we may thus treat a patient erroneously for a time. As most of you are aware, not only has the tertiary fever given rise to a diagnosis of tuberculosis, but even typhoid fever has been supposed to exist, until, some manifestation of the syphilis becoming evident, the response to antisyphilitic measures has proved the error of the previous consideration. When, as has happened, an operation for tumor of the liver has revealed a gumma, we feel that it is better to have made the mistake of treating a case of carcinoma for syphilis, rather than the reverse, to operate on a gumma of the liver afterward cured by specific treatment.

Another instance of limitation of ability thoroughly to diagnose disease by physical signs is in the incipiency of tuberculosis in cases from which no sputum is to be obtained for examination. The result of early knowledge is so valuable to the patient, that we may well inquire how liable are we to overlook the small beginnings of disease. Perhaps in no way can we receive a better idea of the possibility of non-recognition than by the study of patients who have had a first pulmonary hemorrhage. Examined at the time of the bleeding, râles will generally tell the site of disturbance, but after a short time these may disappear, and the examiner, too frequently finding no positive signs in the lungs,

is apt to consider and tell the invalid that the hemorrhage was from the throat. Hæmoptysis is to be regarded as a beneficial circumstance, because it makes the invalid very amenable to advice. In this way I have come to look upon it as a life preserver. In this matter I am only alluding to the limitation by the absence of distinct physical signs. It has seemed to me that with students our teaching is at times too much devoted to the recognition of the defined and certain signs to which certain names are given; and that in the matter of the recognition of early tuberculosis not sufficient attention is paid to the different characteristics of the respiratory murmur.

Limitation of diagnosis is only too frequent in certain forms of heart disease, more particularly those with anginoid symptoms in whom no heart murmur is audible. Not infrequently I have known patients to obtain diverging views from different practitioners; one having been more impressed with the statement so commonly made by patients with this disease, that the distress is gastric, and that belching gas relieved the difficulty. I know of no condition which, at times, requires more careful study in order to come to a right conclusion. It would, of course, be a serious error to treat a person afflicted with dyspepsia for angina, and the reverse. A brief recital of two very instructive cases may interest you: A lady about sixty years of age had heart trouble, and complained of inability to walk more than a block without distress. She had dyspeptic symptoms, but the condition of the heart was most dreaded. Later she developed symptoms of obstruction of the bowel, for which Dr. Bull was called in consultation by the family physician. Owing to the heart condition, he hoped to escape the necessity for operation, but medical measures not being successful and stercoraceous vomiting taking place, we all agreed that an operation was imperative. Dr. Bull operated, divided a band which constricted the lower portion of the small intestine; resected this portion, and introduced a Murphy button. The patient was under the anæsthetic for an hour. She made a good recovery and, as I understand, has lost much of her old heart distress.

The other relates to a gentleman who is now entirely well and yet was supposed to be severely affected. He had lost his wife and was waiting the arrival of her remains, detained in a foreign country for a time under sanitary rules. I saw him several times in consultation, he placing the distress in the cardiac region, and had such severe spells as to require the hurried presence of a physician. The introduction of a stomach tube and the removal of gastric contents was followed by such improved condition that he has persisted in declaring that a lizard must have been removed from his stomach.

On the other hand, I have encountered instances in which the apparent dyspeptic phenomena, or the fact that the invalid was a female have led to assurances to the family that the heart was normal and the idea of angina not to be considered, in which a sudden death has disclosed the true nature of the process. Though not invariable, I believe that a careful inquiry as to the state of the patient's face during an attack deserves great consideration as a means of removing the limitation. If in an attack or attacks of this kind a patient is said to have been deathly pale, or ashy gray, then I believe that it is wise to regard the condition as one of angina, particularly if there has been neither severe nausea nor vomiting. In a number of cases in which a difference of opinion has existed as regards the nature of the disease, whether anginal, gastric, or hysterical, attention to this point has enabled me to reach a correct opinion. The physician, moreover, is not infrequently called upon to express an opinion to the surgeon whether a given heart will stand the shock of the administration of an anæsthetic and of a subsequent surgical operation? Here the physician not only feels the responsibility but also regrets the limitation of lack of absolute knowledge of the state of the heart. Yet a careful study of the physical condition of the heart, and of its behavior under exertion will enable one to decide judiciously. Slight anginoid attacks are not a barrier to necessary surgery, nor is any other form of heart disease of necessity. With the advance of our knowledge many new methods have come into vogue, and are more or less helpful in removing limitations. Of these you are aware, as well as that extravagant claims are made at the outset or, better expressed, have been made. I have already alluded to the lack of free hydrochloric acid in the gastric contents as a diagnostic sign of cancer. So, again, when optic neuritis was first brought prominently before the profession, its presence was supposed to indicate tumor of the brain, and some dreaded to make a diagnosis of tumor of the brain in the absence. Time has allowed a large number of exceptions to be accumulated. Notably, however, is the occurrence of this condition in persons about the age of puberty, in whom no explaining cause is to be found. In the same way the use of the *x*-ray has been helpful, but care is necessary in its use, and in the interpretation of its findings. No more impressive warning can be given than that which happened in another city where false teeth were supposed to be swallowed, and their location to be indicated by the use of the *x*-ray. After an operation failed to disclose them in the œsophagus, they were found by the use of more ordinary light under the mattress. So, again, the absence of the shadow of a foreign body as a renal calculus has been supposed to negative the possible presence of such body, notwithstanding the showings of clinical history and investigation, though later a surgical operation has removed a stone from the kidney. The Widal agglutination test, valuable as it has proven in distinguishing typhoid fever, only too frequently fails us in making an early diagnosis of this fever. The culture of the blood for organisms as now carried on is proving helpful—and is one of the many debts which the clinical physician owes to the bacteriologist. Yet this also may mislead.

36 West Fortieth Street.

The Use and Abuse of High-frequency Electricity in Medicine.—H. Lewis Jones concludes from a study of Denoyé's book on the subject, that high-frequency treatment possesses an influence upon the course of a certain number of morbid states, that its influence for good is not of any particular degree of excellence, but that it cannot be condemned as altogether useless. In the field of general diseases dependent upon impaired or perverted nutrition it has proved decidedly disappointing, although it was in this class of case that great things were formerly expected and predicted from the physiological effects. In diseases of the skin high-frequency applications appear at their best. Psoriasis, eczema, alopecia areata, lupus vulgaris, acne vulgaris, and impetigo all seem to be decidedly benefited by direct applications of the high-brush discharge or of sparks. Evidence of a trustworthy kind is accumulating to show that morbid growths such as sarcoma, carcinoma, etc., are favorably affected by this treatment, and also with the static-brush treatment. The method appears to be inferior to treatment by the Röntgen rays, but to be of the same essential character.—*The Practitioner*, March, 1903.

THE TOXICITY OF APPENDICITIS, WITH A REPORT OF TWO CASES OF "APPENDICULAR VOMITO NEGRO."*

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THERE is one aspect of appendicitis to which general attention has not been called, although isolated references to the matter have appeared in recent literature. I refer to its toxicity, or toxic effects upon the organism. In this connection care should be taken to discriminate between general intoxication and distant infection. By the former is to be understood the effects of toxins, or toxic bacterial products. It has even been claimed that these latter may have their origin in the closed vermiform appendix and give rise to general intoxication.[1] One of the most common symptoms of this form of toxæmia is the occurrence of icterus, with urobilinuria and albuminuria, together with the more or less rapid development of cerebral symptoms. Instances of this variety of intoxication come under the surgeon's care occasionally in connection with other sources of sepsis, as in the case of extensive burns during the time when the granulating process is under way.

Distant infection in appendical lesions may be divided into: (1) Displacement and migration of venous thrombi containing the agents of infection. (2) The absorption of pyogenic organisms into the circulation (pyæmia). (3) Infection through the medium of lymph channels at a distance from the original focus.

In the case of the first mentioned, namely, distant infection through the medium of septic emboli, metastases usually occur either to the liver or to the lungs, preferably to the latter, since this organ is in the direct route of the return circulation from the cæcal region through the superior mesenteric to the portal vein. The venous channels in the walls of the appendix itself are rarely the source of the emboli, however. These originate, in the vast majority of cases, in the veins of the mesoappendix.

In the case of the second variety of distant infection, namely, that comprehended under the old name "pyæmia," the origin of the infection, as well as its transportation, is identical with that which occurs in septic infection through embolism, namely, an infective thrombophlebitis of the veins of the mesoappendix. The formation of a parietal thrombus may or may not be followed by its early dislodgement. In the case of the former the embolic plug will lodge in the first vessel whose caliber is insufficient to afford it passage. This may occur, as before stated, first in the liver, and second in the lungs. In case the thrombus remains sufficiently long to undergo puriform softening, a mass of microorganisms may be swept into the circulation, pass the pulmonary capillaries and enter the arterial system, whence they become lodged in various parts, and give rise to the characteristic feature of the disease, namely, the development of multiple or metastatic abscesses.

Distant infection, in the sense here understood, occurring through the medium of lymph channels is not common, for the reason that the lymph vessels leading from the lymph sac which really constitutes the peritoneum, become rapidly sealed by exudate resulting from septic lymphangitis, and further progress of the infection is barred. The most common manifestation of its occurrence is in those instances in which pleuritic complications of appendicitis follow perihepatic and subphrenic abscesses. Here the barriers offered by the closely attached cæcum near the pelvic brim, in those instances in which the appendix points directly upward prevents the passage of the seropurulent collection in the direction of the pelvis, and this forces its way between the posterior and outer surface of the colon and the abdominal wall until the lower surface of the liver is reached. Here it may be arrested and form an abscess, with the liver, colon, and vertebral column as its boundaries. Occasionally the seropurulent collection may find an outlet through the foramen of Winslow into the omental bursa. On the other hand, however, the purulent collection follows the lateral abdominal wall in the cases now under consideration and forms a subphrenic suprahepatic abscess, being limited in this situation by the suspensory ligament of the liver. It is at this point that the complication loses its character as a simple extension of the suppurative process, or rather an expansion of a seropurulent collection by virtue of the necessity for more room to accommodate its increasing accumulation, and the process of infection through lymph channels occurs. The large and open stomata of the lymph channels of the peritoneal surface of the peritoneum afford passage for the infection into the diaphragm and thence into the pleural cavity, with resulting left-sided pleuritis. That this does not occur more frequently is due to the fact that the infection travels in advance of the actual progress made by the accumulation of purulent fluid, in nature's efforts to establish barriers for this excessively dangerous environment, and even the large lymph channels of the diaphragmatic area may become obliterated by this advance-guard, so to speak, of infective lymphangitis. This failing, however, infection through these channels results.

The particular complication of appendicitis resulting from its toxicity to which I wish to call attention at this time, as well as to invite discussion as to which of the methods of diffusion of infectious agents or their products is concerned in its production, is that which is characterized by vomiting of blood, to which Kirmisson seems to have been the first to call attention.[2] The blood is usually partially digested; fresh blood, or coagula is rarely vomited. In connection with this symptom there is present a condition of intense general intoxication. This symptom has received the name of "appendicular vomito negro," and the condition itself "appendicular hemorrhagic ulcerative gastritis." The symptom may arise after operative interference, or it may occur when no operation has been performed, as in the case reported by Nitzsche,[3] in which the post-mortem showed a diffuse peritonitis due to gangrenous appendicitis. It may likewise occur in cases in which but slight, if any, peritonitis is present. It has also been observed in strangulated hernia.

In a communication upon the subject by Dieulafoy,[4] which appeared about two years ago, seven cases of appendicular black vomit were reported. In a second communication,[5] which followed shortly upon the first, the fatal case occurring in connection with strangulated hernia just mentioned was reported, and the gastric alterations, as revealed upon post-mortem, described. The latter consisted of a single small hemorrhagic necrosis, about the size of a lentil, evidently the result of infection, at the bottom of which a small artery which had undergone erosion in the necrotic process, had given way. In all of these cases the black vomit occurred only after sufficient time had elapsed to permit general infection to occur. In three of the fatal cases the violence of the hæmatemesis was such that death took place from the entrance of blood into the lungs. In the other two fatal cases death was produced or accelerated by anæmia following the evacuation of large quantities of blood. Two patients recovered.

*Read before the New York Surgical Society, March 11, 1903.

In all the appendicular cases perforative appendicitis was present. In only two of the cases was diffuse peritonitis present.

In Nitzsche's case, already quoted, the patient suffered from gangrenous appendicitis, followed by diffuse peritonitis. Death was preceded by several attacks of hæmatemesis. The post-mortem showed the stomach and upper intestinal tract filled with black fluid contents. He also found in the stomach, at the fundus and greater curvature, a large number of flat ulcers, varying in size from a pin-head to that of a millet seed; some of these were covered with small coagulations of blood. Microscopic examination revealed chronic interstitial gastritis, and numerous necrotic areas of varying depths in the mucosa. Nitzsche ascribes the ulceration to the digestive action of the gastric juice upon the necrosed portions. The necrosis itself he ascribes to a toxic cause connected with the peritonitis. He advances the suggestion that bacterial products may have entered the circulation and exercised a toxic effect upon the cells of the gastric mucous membrane. The occurrence of embolic infectious influences seems to have been excluded by Nitzsche.

Two cases of appendicular black vomit have come under my observation. This first case entered the German Hospital on August 7, 1900, and was operated upon by my assistant, Dr. R. S. Fowler. The operation disclosed a perforated appendix lying free in the unprotected peritoneal cavity; a generalized peritonitis was present. The appendix was incised and the cavity of the peritoneum was flushed with hydrogen dioxide and a saturated solution of carbonate of soda in equal proportions. Glass-tube and lamp-wick drainage. There was scarcely any anæsthetic vomiting. Black vomit developed on the second day. Laboratory examination showed this to be blood. There was no increase of the symptoms of peritonitis: the function of the intestinal canal was reëstablished almost immediately after the operation. The stomach was washed out a number of times with saline solution, but without avail. Death took place on the sixth day. No post-mortem examination could be obtained.

The second case was admitted to the Brooklyn Hospital on January 30, 1903. Several attacks of vomiting had occurred before admission. Considerable distention was present; repeated enemata failed to procure bowel movements. The operation revealed an unusually large appendix almost completely gangrenous, and an absence of limiting adhesions. There was commencing peritonitis in the neighborhood. Appendix removed; local cleansing with hydrogen dioxide and carbonate-of-soda solution. Rubber drainage tube and lamp-wick drain through the flank. No anæsthetic vomiting. Black vomit commenced eleven hours following the operation. Guaiacum test showed this to be blood. Lavage appeared to beneficial at first, but the vomiting recurred and became more frequent, continuing until death, which took place forty-two hours after the operation and sixty-six hours following the commencement of the attack. Upon autopsy the stomach was found about normal in size, with many small ulcers (from two to three hundred) about the size of a millet seed, mainly in the lesser curvature. Sections taken from portions of the stomach at the site of these ulcers showed distinct ulceration of the surface of the mucosa above an area of total necrosis, the latter containing staphylococci. A second section showed an indubitable embolus, involving a vessel in the mucosa just above its bifurcation. The vessel is distended by the embolus and the latter is necrotic. The parenchyma of the tubules show signs of cloudy swelling; some of the cells are becoming coarsely granular, while others are vacuolated. Other sections again show loss of substance on the surface of the mucosa, with small round-cell infiltration at the bases of the ulcers. The apparent age of the processes in the involved tissues is such as to agree entirely with the assumption that their advent occurred following the occurrence of the appendicitis. There can be no question that these processes are septic in origin, resulting in the presence of multiple foci.

In the most conservative summing up of the matter under discussion, it may be said that the occurrence of hæmatemesis has added another to the already long list of the grave complications of appendicitis. From the pathological standpoint, it is interesting to note that the exclusion of embolism in the production of the ulceration of the gastric mucosa, by Nitzsche, is not borne out by Prof. Van Cott's findings in my own case, in which both emboli and staphylococci were found. The view that the microorganisms were transported to and produced thrombi and subsequent embolism in the vessels is sustained, first, by the fact that in one of the sections there is a focus of necrotic tissue in which the microorganisms appear, the vessels of the submucosa near this area containing recent thrombi; and second, in another section an exquisite embolus appears involving a vessel in the mucosa near its bifurcation, the vessel and its two branches containing recent blood clot.

From the clinical standpoint, however, it matters little whether the conditions present result from contact of toxins with the peptic cells, with consequent lowering of the locus minores resistentiæ followed by ulceration due to the digestive action of the gastric juice, as claimed by Nitzsche, or upon embolism of the vessels of the gastric mucosa, as shown in the cases herewith reported. The toxicity of the appendical lesion is responsible for the fatal issue which, in the vast majority of cases, ensues in either case.

That the symptom of black vomit occurs when diffuse septic peritonitis is present is probably true, but that it does not necessarily, depend upon the latter is shown by its absence in five of the seven cases of black vomit reported by Dieulafoy, by my own case, in which the inflammation was limited to the ileocæcal region, and by a case reported by Zypkin,[6] in which no peritonitis was present, the patient succumbing to retroperitoneal phlegmon and septic pleuritis on the forty-ninth day following a perforative appendicitis. The symptom of hæmatemesis was present in this case for ten days before death. It would probably be nearer the truth to say that, while the peritonitis depends upon direct infection from the appendix and takes its share in the final lethal exit by means of toxic bacterial products furnished through the lymph channels opening from this enormous lymph sac, the gastric lesions constitute one of the local expressions of a distant infection as distinguished from an intoxication occurring through the circulation. The rapidity with which this may occur has been shown, and the extreme toxicity of appendicitis, whether by distant infection or intoxication, as well as its importance as a surgical disease, has, I trust, been emphasized.

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CARDIOPTOSIS AND ITS ASSOCIATION WITH FLOATING LIVER.*

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Cardioptosis (cor mobile, movable heart) designates a condition in which the heart assumes a lower position and is, at the same time, more movable than normally.

The subject of cardioptosis is rather new and not yet well known. It may, therefore, be of interest first to enter upon the literature of this condition and then upon my own experience with this subject.

After Glénard[1] in 1885 had announced to the medical world his well-known doctrine regarding enteroptosis (prolapse of the organs of the abdominal cavity), it was natural to look for similar conditions in the thorax.

Cherchevsky[2] was the first to call attention to movable heart. This clinician examined in forty cases the effect of change of position on the apex beat, and found it considerable (4-7½ centimeters) in nineteen, slight in six, and absent in fifteen. Normally the mobility is 1½ to 3 centimeters; in arteriosclerosis it is greatly diminished or absent; a range of mobility exceeding 3 centimeters is abnormal. Marked mobility of the heart causes, according to Cherchevsky, nervous heart symptoms.

Rumpf[3] soon followed Cherchevsky's footsteps.

According to Rumpf, the absolute as well as the relative heart dulness are normally movable about 2 cm. to the left in the left lateral position and 1½ cm. to the right in the right lateral position; in many cases the apex beat remains at the same place. It may, however, normally show a displacement of 2 cm. on change of position.

Rumpf then describes five cases of cor mobile, in which the mobility of the apex beat toward either side was 4 cm.

Pick[4] soon afterward investigated the question of mobility of the heart in a much larger contingent, and has added clinical observations. Of 1,000 healthy persons examined, the majority showed no perceptible difference in the position of the apex beat or in the percussion sound in different postures of the body.

In 60 per cent. of these cases slight lateral mobility to the left was found on assuming the left lateral position. The apex beat moved about 1½ to 2 cm. to the left.

Pick then describes seven cases of movable heart. These were characterized by the following symptoms: difficulty in lying upon the left side; apex beat displaced 4-6 cm. to the left.

With reference to the clinical symptoms of cor mobile, Pick expresses himself as follows: "Regarding the clinical picture of abnormal mobility of the heart, we find that this condition often causes no difficulty at all. In the majority of cases, however, abnormal mobility of the heart is connected with occasional palpitation, feeling of weakness and vertigo when running and after violent exercise, as well as with the inability to assume the left and, more rarely, the right lateral position, owing to a resulting feeling of oppression."

Hoffmann[5] examined the various grades of mobility of the heart by means of *x*-rays, and came to the conclusion that changes of position of the heart, especially in various postures, are most easily determined by this means, and that these changes of position, if considerable, are of importance to the state of health of the patient.

*Read before the New York Academy of Medicine, January 15, 1903.

Schmidt[6] also is of the opinion that movable heart is the cause of nervous disorders of the heart. I will cite from his article the following words: "I wish to call attention to the fact that, according to Hoffmann's investigations, which, so far as my experience goes, I am able to confirm, a remarkable mobility of the heart, probably due to some predisposition, is often found in cardiac neurasthenia. If to this predisposition a sedentary mode of life is added, nervous heart troubles may arise even more readily than if each cause exerts its influence singly. On the other hand, it is also plausible to assume that a stooping position may favor or even hasten the occurrence of greater mobility of the heart."

Leusser[7] describes a few cases of movable heart, and makes the following points regarding diagnosis and symptomatology: "A displacement of the apex beat of 3 cm. or more to the left in the left lateral position and normal heart boundaries in the dorsal and erect positions point to movable heart."

Inability to lie on the left side was found by Leusser in all his cases. Shortness of breath and oppression result from assuming this position. Other symptoms are palpitation, feeling of fear, oppression, shortness of breath, vertigo, faint feeling, pains and stitches in the heart region, irregularity, acceleration or retardation of the pulse, rapid fatigue on exertion. The liver in all of Leusser's cases was normal.

Whereas all the authors mentioned discuss principally the mobility of the heart and speak only occasionally of a descent of the whole heart, Rummo[8] has thoroughly described the latter condition and introduced the name cardioptosis. According to him cardioptosis signifies a sagging of the heart from its normal position over the diaphragm due to a relaxation of its supports. "There is no relation to the much more common condition of enteroptosis. Persons with slim bony structures, long thorax, weak muscles, scanty panniculus adiposus are predisposed to this condition. There may exist a partial or complete ptosis where the heart rests entirely on the diaphragm. Owing to the lower position of the heart the aorta expands, and especially the aortic arch; we must listen to the valves of the large vessels in the third or fourth intercostal space, the semilunar space of Traube diminishes in size, occasionally the left lobe of the liver descends somewhat as well as the pulmonary margins, as in emphysema.

Symptoms: Feeling of oppression, precordial fear, shortness of breath, palpitation, angina pectoris, tachycardia, bradycardia, and numerous neurasthenic symptoms. The affection is congenital."

Braun[9] maintains that we must differentiate between cardioptosis and movable heart. He does not consider the latter a disease. Braun thinks that we are not justified in attributing neurasthenic heart symptoms to an increased mobility of the heart. "These symptoms," says Braun, "as all other well-known heart symptoms of neurasthenics, are of a specifically neurasthenic nature, expressions of a constitutional neuropathy." Braun, therefore, wishes to eliminate the expression movable heart from clinical pathology. On the subject of cardioptosis, however, Braun says nothing.

After this short historical literary review, I would now like to communicate my own experience with this condition. Before doing this, however, it would be of advantage first to recall the normal boundaries of the heart, and, secondly, to answer the question, whether it is proper to speak of cardioptosis as a disease.

The relation of the deep or large (relative) heart

dulness, as well as of the superficial or small (absolute dulness), is illustrated by the following figure taken from Sahli's book[10] on Clinical Diagnosis: We see from this that the boundary of the relative dulness runs in a curved line from the upper margin of the left third rib about parallel to the boundary of the superficial absolute heart dulness outward and to the left, to assume a some-

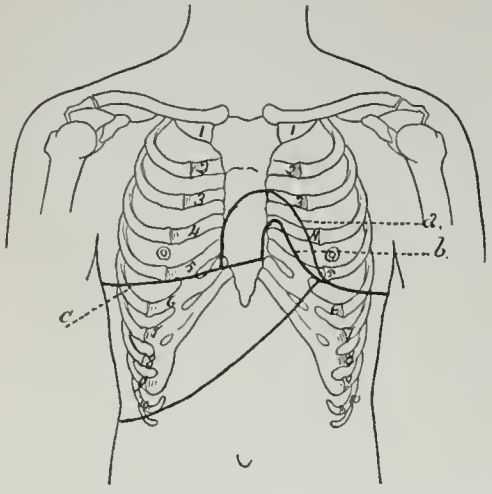

Fig. I.—Showing normal position of heart and liver. *a*, relative heart dulness; *b*, absolute heart dulness; *c*, liver dulness.

what more perpendicular course inside of the mammillary line and to end near the point where the apex beat is felt. Downward the heart dulness usually merges with that of the liver.

Normally, therefore, the relative heart dulness begins at the upper border of the third, the absolute heart dulness at the upper border of the fourth rib, whereas the apex beat is found in the fifth intercostal space to the right of the mammillary line.

Cases in which the heart assumes a position lower than that given above without being enlarged are considered as cases of cardioptosis. Is this designation "cardioptosis" pathologically justifiable? This question I must answer with a decided affirmative. Even if there are cases of cardioptosis that present no symptoms, as we will see later on, this is no proof that we do not have to deal here with an abnormal condition. Enteroptosis also frequently presents no symptoms, yet nobody disputes at present its classification as a separate disease. Cardioptosis has exactly the same right of recognition in pathology, as it may cause certain definite symptoms in a number of cases.

After these preliminary remarks I would like to enter upon a review of my own observations. I have carefully examined all my private patients during the last three months (October, November, December, 1902) for the presence of cardioptosis. During this time 926 persons (512 men, 414 women) were treated.

Among those treated there were twenty-two cases of cardioptosis, eighteen men and four women. The total percentage of cardioptosis among my patients amounted to 2.4 per cent. Taking each sex separately, it was 3.5 per cent. in the male and about 1 per cent. in the female sex.

I will now give the histories of a few of the cases of cardioptosis and present the rest of the cases in a table.

Case I.—Adolph, J. P., twenty-eight years old, has been suffering for many years from "nervous heart palpitation," but has otherwise aways been well. Appetite was always good, constipation was always present. Three months ago patient began to suffer from attacks of pain in the abdomen, accompanied with frequent vomiting, and occuring about once in two to three weeks. During the attacks the pains are so violent that morphine injections had to be given. Relative heart dulness begins at the lower margin of the fourth rib; apex beat lies between sixth and seventh rib; heart sounds normal, pulse 76. Liver dulness begins at the seventh rib and reaches to one finger's width above the navel. The stomach extends three fingers below the navel. Patient looks pale and emaciated.

Case II.—November 12, 1902—Charles D. H. C., forty years old, cutler, has never been seriously ill in his life, never smoked or drank much. Has been suffering from stomach trouble for about twenty years. About two hours after eating he feels bloated and nauseated. He would often expectorate several mouthfuls of water and then eructate gas and feel better. He lost about twelve to fifteen pounds in the last year, and weighs now about one hundred and fifteen pounds. He says that he has no ambition, suffers from melancholia, and always feels cold, especially at night. He has always eaten his meals in a great hurry. He suffers occasionally from heart palpitation, but is never short of breath, even after exertion.

Present Condition.—Heart: upper boundary of the absolute dulness begins at the sixth rib and runs parallel with it for 5 cm. to the left of the sternal line, and at the seventh rib for 5½ cm. The relative dulness begins at the lower margin of the fourth rib and follows in its outlines those of the absolute dulness. To the right it goes somewhat beyond the right sternal margin. Apex beat not plainly felt; heart sounds are loudest in the seventh intercostal space, and of normal quality. Stomach extends two fingers' width below the navel. Liver dulness begins in the seventh intercostal space, extending in the mammillary line to four fingers' width below the right costal margin.

Case III.—Robert A., thirty years old, commissioner, has always been well. He does not drink much, but smoked considerably up to four months ago. He has been complaining for some time of pain over the heart, which is more severe in the morning when he arises or whenever he runs. It is not very intense in character. Bowels are con-

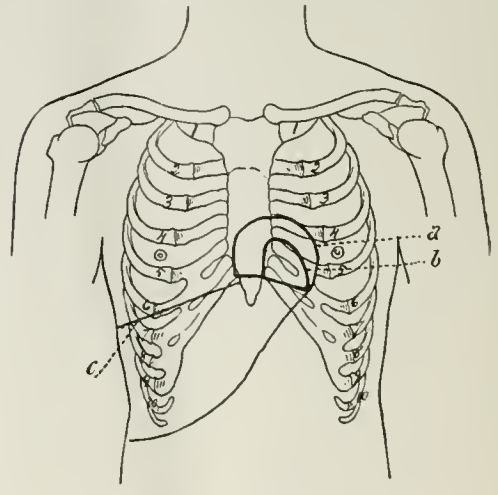

Fig. II.—Showing position of heart and liver in cardioptosis. *a*, relative heart dulness; *b*, absolute heart dulness; *c*, liver dulness.

stipated, appetite is good; patient sleeps well. He has been on a moderate diet for one and one-half years.

Present Condition.—Man of medium size, young looking for his age. Absolute heart dulness begins at the fifth rib, apex beat in the sixth intercostal space about 2½ to 3 cm. to the right of the mammillary line. If he lies on his left

side, the apex beat moves about 1½ to 2 cm. to the left of the mammillary line, if he turns on his right side, the apex beat disappears entirely and the absolute dulness appears to the right of the right sternal margin. Heart sounds are clear, pulse is 72. Absolute liver dulness begins at the eighth rib and extends in the right mammillary line three fingers' width below the the costal margin. The stomach reaches to about 3 fingers below the navel. The right kidney is movable in the third degree. Urine is negative.

Case IV.—December 3, 1902. Morris S. C. H., thirty-one years old, tailor, complains for two and one-half years of a feeling of oppression after meals and constipation. He cannot lie on his right side and consequently must lie on his left side; the dorsal position is the most comfortable. Absolute heart dulness begins at the fifth rib. Apex beat lies between the sixth and seventh ribs. There is slight heptoptosis, and the right kidney is movable in the first degree. Stomach extends two fingers below the navel.

TABLE OF THE REMAINING CASES OF CARDIOPTOSIS.

No.	Name.	Age.	Position of the Heart.		Position of the Liver.		Presence of Nephroptosis.	Principal Symptoms.	Remarks.
			Upper Boundary of Absolute Dulness.	Position of Apex Beat.	Upper Boundary.	Lower Boundary.			
1	L. D.	32	Lower border of 4th rib.	6 intercostal space.	7th rib.	3 fingers above navel.		Weakness, occasional palpitation.	Dil. vent.
2	C. R.	28	Lower border of 4th rib.	Indistinct. Lies below 5 intercost. space.	7th rib.	2 fingers below costal margin.		Neurasthenic symptoms. Occasionally vertigo.	
3	P. F.	27	Upper border of 5th rib.	6 intercostal space.	7th rib.	2 fingers above navel.		Weakness, vertigo.	Gastroptosis.
4	H. G.	58	Lower border of 4th rib.	6 intercostal space.	7th rib.	3 fingers above navel.		Weakness, palpitation.	Dil. vent.
5	J. P.	34	Upper border of 5th rib.	6 intercostal space.	7th rib.	2 fingers above navel.		Weakness, anorexia, constipation.	Gastroptosis.
6	M. Sch.	31	Upper border of 5th rib.	6 intercostal space.	2 fingers above costal margin	Navel line.		Grave anæmia, weakness, vertigo.	Pulse 56.
7	W. G S.	47	5th rib.	6 intercostal space.	2 fingers above costal margin.	1 finger above navel.	Ren. mob. dext.	Weakness; fulness, and tension in abdomen after meals.	
8	H. L.	30	Lower border of 4th rib.	6 intercostal space.	7th rib.	2-3 fingers below costal margin.		Weakness, vertigo, neurasthenia.	Pulse 72.
9	Mrs. Y. R.	35	5th rib.	6 intercostal space.	2 fingers above costal margin.	1 finger below costal margin.	Ren. mob. dext. 3 deg.	Weakness, palpitation.	Dil. vent.
10	Mrs. B. B.	33	Lower border of 4th rib.	6 intercostal space.	2 fingers above costal margin.	Navel line.		Dyspnœa after meals, Unable to lie on left side.	Anæmia, urine negative.
11	H. G.	34	Upper border of 5th rib.	6 intercostal space.	7th rib.	2-3 fingers below costal margin.		Palpitation, vertigo, fainting spells.	Neurasthenia.
12	H. B. I.	50	Upper border of 5th rib.	6 intercostal space.	7th rib.	3 fingers below costal margin.	Ren. mob. dext. 2 deg.	Weakness, vertigo.	Enteroptosis.
13	H. E. G.	56	Upper border of 5th rib.	Indistinct.	7th rib.	3 fingers below costal margin.	Ren. mob. dext. 3 deg.	Vertigo, insomnia, anorexia.	Enteroptosis.
14	Mrs. M. S.	35	Lower border of 4th rib.	6 intercostal space.	7th rib.	2 fingers below costal margin.	Ren. mob. ut. R. 2 deg. L. 1. deg.	Vertigo, palpitation, fainting spells.	Enteroptosis.
15	Miss J S.	24	Lower border of 4th rib.	6 intercostal space.	2 fingers above costal margin.	Navel line.	Ren. mob. ut. R. 4. deg. L. 2. deg.	Anorexia, constipation.	

Case V.—December 21, 1902. Samuel F., forty-three years old. Relative heart dulness begins at the upper margin of the fourth rib, absolute dulness at the upper margin of the fifth rib. Apex beat is noticeable 3½ cm. to the right of the mammillary line between the fifth and sixth ribs. If the patient lies on his left side, the apex beat is felt plainest 3½ cm. to the left of the mammillary line. If he turns on his right side, the apex beat is found 3 cm. to the right of the mammillary line. Stomach extends to nearly a hand's breadth below the navel. Liver begins at the seventh rib and projects two fingers' width beyond the costal margin.

Case VI.—December 21, 1902. Joseph L., thirty-seven years old, storekeeper, does not drink much, but smokes to excess. Ten years ago he worked very hard, especially late at night, and then began to feel very nervous and weak. He never had headaches and slept very well. He does not sleep so well now. Patient occasionally wakes up during the night with a feeling of oppression over the heart, is then unable to make any muscular exertion for a while (such as raising his arm, etc.) and is distinctly conscious of the beating of his heart, but does not experience any painful sensation. During these attacks he always suffers greatly from a sense of fear and of impending danger, and cannot lie on his left side. When he is attending to his business he never has palpitation of the heart, even when he mounts the stairs. He is often, however, short of breath. Patient is despondent and feels frequently like fainting and dying. He is constipated.

Present Condition.—Small heart dulness begins at the fifth rib; apex beat is situated in the sixth intercostal space. When he lies on his left side apex beat moves 3 to 4 cm. to the left; when he is on his right side, apex beat disappears. Stomach extends to three fingers' width below the navel. The absolute liver dulness begins at the seventh rib and ceases in the right mammillary line two fingers' width below the margin of the ribs. Pulse is 70, urine negative.

Case VII.—Julius C. H., twenty-eight years old, cigarmaker, has always been healthy, with the exception of a gonorrhœa five years ago. Family history is negative. Two years ago he began to complain of constipation and loss of appetite, as well as of a bloated feeling after eating. He never had palpitation of the heart and has never been short of breath. Climbing of stairs does not distress him.

Present Condition.—Upper boundary of absolute heart dulness begins at the lower margin of the fifth rib. Apex beat lies in the sixth intercostal space somewhat to the right of the mammillary line. Upper liver dulness begins one finger's width above the right costal margin. Urine is negative.

The remaining fifteen cases of cardioptosis are briefly summarized in the following:

Remarks—Etiology.—Emaciation, enteroptosis, and neurasthenia seem to play a part, but they alone are not sufficient to cause cardioptosis.

In women cardioptosis occurs much less frequently than in men, as we see in figures I and II,

whereas enteroptosis is much more frequent in the female sex. The explanation of this might possibly be found in the following: women usually wear corsets; these exert a pressure upward and downward, the former crowding the contents of the thorax upward, the breast serving as a supporting cushion; the heart is hereby maintained in its normal position.

Some authors have made a stooping position in working, writing, reading, etc., responsible for the development of cardioptosis. This cause is also more often found in the male than in the female sex.

Symptomatology—Subjective Symptoms.—If we peruse the clinical history of the above cases we shall find that nervous disturbances of the heart, as palpitations, attacks of vertigo, and occasionally inability to lie on the left side, are the principal symptoms in these patients. Very similar complaints are, of course, occasionally met with in people without cardioptosis, yet in patients affected with cardioptosis these symptoms are present in over half the cases, and must, therefore, be in some relation to this anomaly.

Objective Signs.—The relative, as well as the absolute, heart dulness usually begins about one rib lower than normal. On an average the large or relative heart dulness begins at the fourth rib, the small or absolute dulness at the fifth rib. The heart itself is not enlarged and does not show any sign of organic disease, the sounds being perfectly clear and normal. (See Fig. 2.)

Mobility of the Heart.—In a number of cases of cardioptosis I have examined the mobility of the heart in various postures and have usually found an increased mobility. Thus the distance of the apex beat from the point where it was felt plainest in the dorsal position, to the point where it was found in the left lateral position was 3 to 5 cm. In the right lateral position the apex beat often disappeared altogether, and the absolute heart dulness could be demonstrated to the right of the sternum.

Cardioptosis and Ptoses of Other Organs.—In nearly half the cases of cardioptosis a general enteroptosis is found, and in all cases a more or less well-marked degree of hepatoptosis. This point seems to have escaped the attention of most observers. It seems at first sight singular why in all cases of cardioptosis a hepatoptosis should be present. We can, however, easily explain it. Descent of the heart necessarily causes descent of the diaphragm. The latter condition, therefore, will cause the hepatoptosis. We might invert this proposition and see whether all cases with hepatoptosis are associated with cardioptosis. This, however, is not the case, as I can assert from a large experience with this subject.

Prognosis.—Cardioptosis does not endanger life, and the subjective symptoms caused by it may be alleviated or entirely removed.

Treatment. — Improvement of nutrition and strengthening of the nervous system must be considered the main objects in treating cardioptosis. The first is accomplished by a generous diet, the latter by methodical strengthening of the body by means of cold ablutions, moderate gymnastic exercises, and sojourn in the open air. Beside these two points any factor that tends to affect the position of the heart should be avoided. The patient will, therefore, have to be told not to remain too long in a stooping position. During sleep it might be advisable to place the head and thorax as nearly horizontal as possible or in a position only slightly elevated. Means for direct support of the heart are hardly indicated. A suitable support might be applied at the beginning of the lower third of the thorax, exerting an upward pressure. A woman's corset with a left breast pad might serve as an example. I have, however, no personal experience with this procedure and will not discuss these mechanical means any further.

Encouraging words, and occasionally a sedative like bromide of soda, tincture of valerian, etc., are sometimes necessary and—in patients who are excited over their condition, or who have been worried about their health—are often of the greatest value.

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THE PATHOGENESIS OF DIABETES.*

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In the absence of incontrovertible pathological knowledge of the origin of diabetes mellitus, and in our zealousness to locate the lesion, few organs have escaped the watchful eye of pathologist and of clinician. Thus it is customary to attribute the lesion, in individual cases, to the liver, the pancreas, the nervous system, the gastrointestinal tract, the kidneys, the ductless glands, and the muscularis. Naturally, I refer to clinical diabetes, and not to functional, transitory, or experimental glycosuria. It seems, however, to be agenerally accepted belief to-day that the liver, or the pancreas, is the organ most frequently involved; at least the trend of most medical minds is in that direction, or else, like all things mortal, the pursuit of the medical sciences is influenced by style and vogue. For a glance at the literature of the subject will make it very clear that these two organs, at present, hold the center of the stage, and that the heterogeneous theories that formerly held sway have been relegated to an oblivion.

This diversity of opinion regarding the true site of the lesion demonstrates very clearly that our knowledge of its origin is, at best, provisional; but it is a consolation to know that it is not altogether barren of well-established data, truly of a negative character, but sufficient to justify a reawakening of intelligent interest in its pathogenesis.

The liver was most frequently referred to as the seat of the lesion, because of its physiological function in the production of glycogen. For a long time it was believed, and is even yet, that a disturbance in this sugar-conversion function, either an arrest or an increased activity in it, caused a glycosuria. The glycosuria was thought to be due to an unusually abundant supply, or to a rapid absorption of sugar. In the former instance it meant a hasty

*Read before the February meeting of the Harlem Medical Society.

circulation through the liver, in the latter instance, a diminished consumption of sugar in the system.

While there are many *a priori* arguments which might be ranged up in support of this view, that an unstable equilibrium of the glycogenic-function is the decisive factor, nevertheless, in the absence of more convincing evidence, especially of a post-mortem nature, we are only thrown back upon hypothetical considerations. For if the glycogenic function of the liver controls the ultimate distribution of the ingested carbohydrates, and is responsible for their transportation and ultimate distribution into the circulation, it stands to reason, that in the course of our daily existence, there must frequently occur disturbances of this function; and yet how comparatively rarely are these followed by glycosurias. Disturbances in the functions of other organs manifest themselves in no uncertain manner. Why it should occur in some instances and not in others, or why in the same subject at one time and not at another, are matters of mere conjecture, and the circumstance furnishes an argument against the claim that diabetes depends upon a disordered glycogen-function.

Further, it is known that lesions of the liver occur, accompanied by a complete destruction of hepatic tissue and by a perversion of all its physiological functions, and yet in few instances have these changes been followed by diabetes; and conversely, in many cases, of death from diabetes, the post-mortem appearances of the liver were entirely normal.

The origin of glycogen and its subsequent conversion into glucose are well established normal functions, and yet physiologists tell us that we cannot account for the manner or the influence by, and under, which this metamorphosis takes place, and I firmly believe that as soon as this unknown quantity, be it ferment, enzyme, or other product of vital activity, is discovered which effects this transformation of ingested carbohydrates, just so soon will the mystery of the evolution of sugar in blood and urine be cleared up. At least those cases of diabetes which are amenable to treatment by the withdrawal of carbodyhrates. One circumstance of interest in this connection suggests itself. Is this unknown quantity the poisonous product of bacterial growth? Not at all improbable. Numerous ptomains have been isolated as a result of the putrefactive processes of albuminous matter, *e.g.* indol, skatol, peptoxin, and the list is constantly swelling. Why not ptomains from the putrefactive processes of carbohydrates or of fats? These intermediate products, above cited, in the process of proteolysis strongly suggests the probability of intermediate products of amylolysis and of lipolysis. Indeed, according to some investigators, the existence in blood-serum, of certain enzymes, is indubitable. Experts have found in diabetic urine, elements of a decidedly toxic nature; so much so, that the urine of diabetics in the last stages of the disease, and during coma, is now acknowledged to possess marked toxicity. This phenomenon has been elaborated *in extenso* by animal experimentation.

If now it be admitted that, as a result of perverted glycogen-function, a toxin be produced, its mode of action would be apparent. It would naturally exhibit a predilection for the nerve centers and the vasomotor center, and, as a secondary consequence, the natural deposition of glycogen by the liver, would be retarded or otherwise altered, and it would be eliminated by some other emunctory, such as the kidneys. The inference drawn from the question of hepatic toxicosis, is, that the quantity of glycogen stored up in the liver is controlled by nerve influences. This hypothesis is not at all unreasonable, and has its analogue in disorders connected with other organs. For example, the hectic phenomenon, which is a concomitant of suppurative processes, is, as I have attempted to prove in a previous paper, also a nerve-center toxicosis.

The glycogen-function then, pure and simple, cannot be held responsible for the disease, and this statement is further corroborated by the fact that in other organs and parts, such as the kidneys, the muscles, the brain, the testes, and certain embryonic tissues, this same function is demonstrable and, therefore, were glycosuria solely dependent upon it, diabetes would be a more frequent incident in diseases connected with these parts.

Nevertheless, there are some cases of diabetes, which cannot be accounted for in any other way than on the basis of a hepatic origin. Especially interesting in this connection, are the results of a collective investigation of the origin of diabetes from hepatic sources. Numerous observers have investigated the matter and reports indicate that a positive result is not even obtained in 50 per cent. of hepatic disorders of all kinds. Strauss, for example, found sugar in only two out of thirty-eight cases, and in his collection of 107 cases from literature, he found positive results in only fourteen.

Still another theory in explanation of the hepatic origin was, that the ingested carbohydrates were too rapidly converted into starch and were imperfectly oxidized. With our clinical experience of to-day, this theory is just as untenable. For we are reminded of the fact that healthy individuals can consume large quantities, say one hundred grams, daily, without any of it appearing in the urine. Secondly, were a glycosuria dependent upon an over-indulgence and consequent non-assimilation of sugars and starches it would, of necessity, cease directly these foodstuffs were eschewed. Yet what is our clinical experience? We constantly observe diabetics whose urine is never free from glucose, despite an exclusive diet of animal food, and others again whose urine contains proportionately more glucose than is ingested as food. As offsetting this last view of the causation of diabetes, came the theory of Bernard. His experiments led to the conclusion that glycosuria could follow a paralysis of the vasomotor nerves of the blood vessels of the liver. But the objection was raised that experimental or temporary glycosuria is not true diabetes. We are not justified in accepting Bernard's conclusions as constant truths, because experience has taught that results obtained experimentally in the animal world cannot always be duplicated, clinically, in the human economy. One circumstance, however, remains unquestioned, and that is, that the glycogen-function of the liver is influenced by the central nerve apparatus in no small degree. As a matter of fact, anatomists have even gone so far as to trace the course of influence from brain to liver, all through the various nerve elements, detailing the individual nerves involved.

If now we admit, for argument's sake, that the glycogen-function depends upon—or rather, is considerably controlled by a ferment or enzyme formed in the liver, then the so-called hepatogenic variety of diabetes would mean a disease of the liver, most likely the ultimate structures, the hepatic cells, caused by a nerve or vascular derangement, resulting in an excessive formation of sugar from glycogen, and manifesting itself in a pathological glycosuria. It would mean that liver diabetes owed its origin to an overproduction of glucose through the inter-

mediary of a biochemical agent which prevented its complete oxidation in the body.

In this latter connection it is a matter of more than passing interest that the disturbance in the carbohydrate metabolism of diabetics is not peculiar solely to glucose, but is common to most all carbohydrates, such as lactose, levulose and the pentoses. The discovery of this chemical fact was used as an argument that the disease could depend upon a glycolytic ferment alone, else why were not lactosurias, and pentosurias accompanied by the same clinical features as glycosurias were? The possible appearance of the pentoses in the urine is a point of considerable clinical and diagnostic interest, for the reason that these agents reach positively toward Fehling's solution. Cases of pentosuria accompanied by pathological phenomena are not of unusual occurrence, and it therefore behooves the clinician to be able to distinguish between this type of perverted carbohydrate metabolism and diabetes. The method I employ is Bial's modification of Tollen's orcin test,* and is readily made if a stock solution be kept on hand.

Other theories of the pathogeny have been proposed, with the liver as the central figure, but these lack confirmation and are untenable in the light of our newer knowledge of certain physiological functions. Thus it was thought, for a time, that diabetes was dependent upon a diminished alkalinity of the blood of the portal circulation. It was likewise believed, at one time, that diabetes resulted from an over-stimulation of the hepatic nerves; at another time it was thought that an unusual rapidity of the portal circulation was at the bottom of the disease in question.

In a general way it may be claimed that the importance of the liver in the causation of diabetes cannot be determined until we come in possession of more reliable data of the sources of the glycogen, and of its subsequent disposal in the healthy organism. We must know more of its general chemical behavior, of its derivation from foodstuffs other than carbohydrates, of its occurrence in parts other than the liver, particularly its occurrence in leucocytes, protoplasm, and in lymph.

The pancreas is at present attracting most attention as the offending organ in diabetes. Only until comparatively recently the subject of diseases of this organ was a *terra incognita*, into the domain of which few pathologists ventured. To-day the influence of the organ in the causation of this disease cannot be gainsaid. The physical properties of the pancreatic juice, especially its triple perhaps manifold, physiological function on alimentary substances, are matters of much concern in the determination of the origin of diabetes. In estimating the importance of this organ, as a pathological factor, I would call your attention to the following fundamental facts as a preface to what follows: (1) The pancreas, like the liver, is a glandular structure, made up considerably of globules, which consist of cells secreting a fluid. (2) The physiological action of the secretions is in some respects analogous. (3) The orifices into the duodenum of the common bile duct, and of the duct of Wirsung, are in juxtaposition, as though nature intended their secretions to be adjuvants. (4) In many animals this arrangement of the points of exit of these ducts is similar, relatively to that in the human species. (5) The time of the greatest discharge of the normal secretion of liver and of pancreas, is almost synchronous. (6) The ultimate cells of both organs furnish digestive ferments. (7) In certain vertebrates that have no pancreas the functions, which should be performed by the latter, seem to be performed by the liver. (8) In certain invertebrates which seem to have no liver, or rather no formation of bile, a structure seemingly analogous to the pancreas appears to be the organ of digestion. (9) Interference with the glycogenic function of the liver or of the pancreas may be followed by glycosuria.

These points of analogy between liver and pancreas strongly suggest the possibility that their physiological functions are reciprocally related, that their mode of action on ingested matter is, for all intents and purposes, identical in some particulars, that in the absence of one organ, or in its failure to perform its work, the other is called into requisition, that the glycogenic phenomenon is subject to the influence of the pancreatic juice to no small degree; in short, the conclusion is almost inevitable that *the pancreas is a supernumerary liver*. We are confronted here, not merely with a theory, but with a material condition, and observations from animal experimentation lend color to this view.

Thus it is known that diabetes may follow a complete extirpation of the pancreas in man and in many animals; in such depancreatized animals it has been satisfactorily demonstrated that the glycohæmia resulted not from a diminished consumption of normal sugar but from an increased formation of sugar; showing that the pancreas controls to some extent the formation of sugar by the liver. Whether it does so through the agency of some chemical substance of an internal secretion, has not yet been definitely ascertained, but such a secretion is within the range of all possibility. Lepiné, experimenting in this direction, claims that this substance is an enzyme, derived from leucocytes and formed within the pancreas by a transformation of diastase. In 1900 Lepiné and Boulud announced that they had succeeded in extracting from the urine of diabetic patients a crystalline substance which produced glycosuria when injected into the jugulars of dogs or under the skin of guinea-pigs. After further experimental research, the same observers announced that this chemical substance inhibited glycolysis in the blood and was destroyed in the pancreas; which organ appeared to possess antitoxic potency. The exact nature of this hypothetical substance could not be determined, nor could the conditions of its existence in the economy be ascertained. When these circumstances are revealed, a better interpretation of the effects and actions of this substance will obtain.

One stubborn fact, however, is settled, that if there exists such a distinct pathological entity as a pancreatic diabetes, the diabetic juice is not concerned in its production. For when this fluid is diverted from its natural channel, by means of an artificial fistula, it does not necessarily follow that a glycosuria will make its appearance. This experiment has been made time and again, proving that diabetes of pancreatic origin must depend upon some other feature connected with the physiology of the pancreas. Another circumstance of an experimental nature to establish such a relation, is the failure to produce diabetes artificially by anything short of a total or almost total extirpation.

*The test solution is the following: one and a half grams of orcin is dissolved in 500 grams of fuming hydrochloric acid, to which is then added twenty-five drops of a ten-per-cent. solution of ferric-chloride. To make the test, two or three cubic centimeters of urine are added to four or five cubic centimeters of the reagent. Heat the mixture until bubbles begin to rise: should flakes be precipitated or the mixture turn green, pentoses, are present.

If only a small portion of the pancreas remained behind, glycosuria would not make its appearance. Probably because some structural cells which secreted the suspected enzyme, were still active in converting or oxidizing carbohydrates. In other words, the portion of pancreas remaining, was sufficient to fulfil the glycogenic function in disposing of ingested carbohydrates. The ultimate disposal of this internal secretion is accounted for on the presumption that it finds a way into the lymph-stream and so into the circulation. Experimental evidence of this course is not wanting, for the injection of lymph from the thoracic duct into the vein was followed by glycosurias of varying intensities. The question then of an internal secretion of the pancreas, or the existence of an enzyme, or of an inhibitory glycogenic substance is still in the experimental stage. At this juncture absolute proof of its existence is still forthcoming.

However vague our state of mind may be on the question of an association from a purely physiological aspect, between diabetes and the pancreas, the veil of mystery is far from being cleared up by a consideration of the anatomical studies of this organ.

The work of Langerhans in 1869 on the histology of the pancreas, in which he described groups of peculiar cells, lying between the acini, acted as a stimulus to extensive experimental research and clinical observation. Recently these so-called "islands of Langerhans" became the object of animal experimentation, with a view to ascertaining their nature and physiological function, and their province in the production of glycosuria. As supplemental to this material, a limited clinical experience, reinforced by post-mortem findings, is proposed by some competent authorities, to support the contention of an interrelationship between this organ and diabetes. In 1877 Lancereaux claimed that post-mortem evidences seemed to establish a connection between the pancreas and a certain type of diabetes. The type in question was a severe form of the disease, was accompanied by rapid loss of strength and flesh, a glycosuria which was rarely amenable to treatment, persistent thirst, epigastric pain, and death. The anatomical appearances of the pancreas coincided with those of an atrophy of the organ or of its duct, or a fatty degeneration, a necrosis, a sclerosis, or a cystic degeneration. Even calculi, abscess, and carcinoma were distinguishable, post-mortem.

There was, thus, no characteristic and exclusive lesion, associated with this type of disease, which could be held accountable for the symptoms.

Certain French investigators suggested that these islands secreted a fluid peculiar to themselves, which was directly concerned with the appearance of the glycosuria, and asserted that when extensively involved, diabetes was certain to follow.

Hauseman of Berlin reported 40 cases of death from pancreatic diabetes, of which 36 presented evidences of atrophy of the pancreas. Williamson collected from literature 100 cases of diabetes in which the pancreas showed morbid changes. Of these 100 cases, 39 presented atrophic changes. Hauseman also collected records of 72 cases of death from pancreatic diabetes, of which number atrophy was noted in 38 cases. Weichselbaum and Stange, in 18 cases of death from pancreatic diabetes, found atrophy of the organ in 17.

These figures indicate that atrophy of the pancreas is found in many cases of death from diabetes, and this fact raises the supposition that the atrophy in question may have been merely a part of the wasting of the whole body, which is so common in this variety of the disease. For we might with equal propriety attribute the disease to an atrophy of some other organ, which was coincidentally involved in the general progressive atrophy. In diseases other than diabetes, atrophy of the pancreas is not uncommon. Taking one hundred consecutive cases of death from other general diseases, it would be natural to find post-mortem changes in the pancrease in a certain percentage of them.

Such pathological evidence, as I have just quoted, is not conclusive, for it raises a doubt as to whether the pancreatic lesion itself was really the decisive one, or whether it was merely an incident in the general morbid process. Therefore, until a specific lesion is proven beyond peradventure, the claim of a pancreatic origin of diabetes is only suppositious.

Clinically, it appears more probable; but it will always remain a matter of fact that many cases of pancreatic disease, even of a chronic and severe nature, will run a course unaccompanied by a glycosuria, and conversely there must occur many cases of diabetes without pancreatic involvement. However, sufficient anatomical material has been collected to furnish a working hypothesis in this line of investigation. Included in this fund of anatomical knowledge, the following facts eclipse all others in importance. Firstly, the islands of Langerhans possess a marked resistance to certain morbid processes involving the pancreas; secondly, certain other morbid processes exhibit a predilection for these islands, and, thirdly, their tendency to destruction in certain types of diabetes justifies the suspicion that they have distinct functions. These distinctive anatomical features constitute a starting-point, and plainly indicate the direction which future investigations must take to be productive of tangible results.

The view of E. L. Opie, as expressed in two articles which appeared in the *Journal of Experimental Medicine*, takes the form of a confirmation of the generally accepted theory that in a definite type of diabetes, appreciable lesions take place in the parenchyma of the pancreas. Other exponents of this theory, such as Hoppe-Seyler, Hauseman, and Feiner, have described the anatomical changes of the pancreas, detailing the minute anatomy of the diseased part

According to Opie, the pancreas in diabetes is the seat of a chronic inflammation, affecting the acini, rather than the lobules, and accompanied by a hyaline degeneration of the islands of Langerhans. When the invasion and degeneration of these islands become extensive, diabetes results. His reports indicate that in one out of eleven cases of interlobular pancreatitis diabetes was present, while in interacinar pancreatitis two out of three cases were diabetic. He concluded that the microscopic findings established a relation between diabetes and a lesion of these islands. This view of the origin of diabetes, even from a conservative standpoint, is not beyond the pale of just criticism. The first objection that would suggest itself, is that the cases with positive results are too few to allow of any generalization. It is illogical to draw definite conclusions in pathology from scanty material. One might reasonably suspect that the association of pancreatitis and diabetes in an individual case was merely accidental. Such a contingency is not unlikely. If the relation between the two conditions were one of cause and effect, their simultaneous occurrence should be a matter of course, which it is not for a number of cases of chronic interstitial pancreatitis without diabetes, have been reported in the transactions of several pathological societies. Another moot point against such a relationship, is the well-

known fact that in certain advanced cases of atrophic liver cirrhosis, a concomitant interstitial pancreatitis, even involving the islands, is not uncommon.

An important event, which has a distinct bearing on this matter, is the peculiarity of the pancreas to self-digestion *intra vitam et post-mortem*, and thus to effect changes in its structure that may mask the autopsical findings.* The fact that lesions in the islands of Langerhans have been accompanied during life by glycosuria does not yet explain the *modus operandi* by which the diabetic phenomenon makes its appearance. Pathological processes of various kinds and of different and distant organs, have been preceded, accompanied, or followed by glycosuria, and yet in most instances to claim that this sequence was anything more than coincidence would be considered extravagant. The bare recital of a few of the diseases which have been reported to be associated with diabetes, proves the point. Among such are the following: exophthalmic goiter, tabes dorsalis, hypertrophic, and atrophic liver cirrhosis tumors of the vagus nerve, inflammations of the posterior columns of the cord, anterior poliomyelitis, affections of the medulla, and of the adrenals. All of these have been confirmed by post-mortem examinations. When we take into consideration the multiplicity of organs and parts which have been at various times associated with diabetes, we cannot avoid the conclusion that a claim to establish a common pathologic origin between them can not be confirmed by cumulative or autopsical evidence.

The study of those two anomalous types of pathological glycosuria, hæmochromatosis, of Von Recklinghausen, and "bronzed diabetes," has not shed much light on the question of the influence of the pancreas in their production. French writers, who have paid considerable attention to these morbid processes are doubtful whether these unusual lesions are entitled to be classified as special pathological entities, or whether the pigmentary cirrhosis of liver or pancreas or both, was only an incident in the course of the diabetes.

Anschütz collected from literature over twenty-four cases of *diabète bronzé*. Out of eighteen in which the pancreas was examined microscopically, fifteen showed evidence of a chronic interstitial pancreatitis.

In the recorded cases of hæmochromatosis, it was noted that diabetes followed in the advanced stage of the former. There is however, reason for believing that this rare condition is really a sequence which follows in the wake of a general disturbance of the cardiovascular system, as it is now acknowledged that an arteriosclerosis frequently accompanies diabetes, and that this very sclerosis of the vessels may be followed by secondary changes of a similar character in the structure of the liver, the pancreas, and of the kidneys. How a hæmochromatosis may lead to a cirrhosis of the liver or pancreas is readily understood, but how it should cause diabetes is not so easily explained. The mere deposit of iron pigment, derived from the hæmoglobin about the blood vessels, and in the ultimate cells of the parenchyma, would not in itself produce a glycosuria. If it did we would just as likely find a copious excretion of iron in the urine.

The pathogenesis of the so-called bronzed diabetes is delusive as far as its connection with the causation of glycosuria is concerned. There is ample clinical and autopsical evidence to prove that a pigmentation is also connected with exophthalmic goiter in over 10 per cent. of cases and that a generality of such cases are followed by diabetes; and the same holds true of the adrenals. That is to say, there are on record cases of bronzed diabetes, which, on post-mortem examination, disclosed histological changes in the suprarenal organs, demonstrating that an "adrenal pigment diabetes", so to speak, is within the range of possibility. It is worthy of comment, in this connection, that pigment diabetes is frequently associated with lesions of the ductless glands, the very organs which are concerned in producing retrogressive changes in the blood; the most frequent of which are various stages of degeneration and discoloration of the red-blood globules. This observation favors the idea to which I have alluded in a previous part of this article, that the pancreas, and the ductless glands as well, the thyroid, spleen, and adrenals, secrete under normal conditions a substance which destroys toxins, and that when this power is inhibited, such toxins accumulate in the system, and by antagonizing the sugar-destroying substance in the blood cause a glycosuria.

Some time ago Blum, Herter, and others made an experimental study of the influence of local applications of the active principle of the suprarenals, adrenalin, in the production of glycosuria. This substance was employed subcutaneously, was injected into the veins and into the peritoneum, and was painted on the surface of the pancreas. All of these experiments upon animals with adrenal chloride were quickly followed by a glycosuria of a few hours' duration.

Similar local applications to the spleen, the kidneys, and the liver were not followed by a glycosuria. Believing that this phenomenon depended upon a failure of the pancreatic cells to take up the oxygen of the blood, Herter studied the conditions further, with a view of establishing this supposition. He painted the surface of the pancreas with several reducing substances, in order to deprive them of their oxidizing function, whereupon he discovered that in all instances, glycosuria supervened. When, however, the adrenalin was oxidized and thus deprived of its reducing power, the glycosuria failed to make an appearance. He, therefore, felt justified in deducing the conclusion that an interference with the oxidizing functions of the pancreatic cells lay at the root of the glycosuria.

This conclusion, it seems to me, is too sweeping in its claim, and is unwarranted by certain well-known facts in connection with experiments upon animals. Why the mere painting of a small patch of the surface of the pancreas with a doubtful fluid should be responsible for a glycosuria, while the same phenomenon should fail to obtain when a large part of the pancreas is involved in a pathologic process, or is experimentally removed, are matters which are not yet reconciled by the explanation offered.

Again, as Meltzer has argued, the glycosurias in Herter's cases may just as reasonably have resulted from reflex action. So, likewise, the trauma embraced in the operative procedure may have occasioned it. Far less violent and insignificant influences than those included in the experiments in question, have been known to be responsible for a glycosuria, of a transient nature. When psychical influences, such as fright or shock, or the mere inhalation of a gas, or the ingestion of a simple drug, can cause a glycosuria, why should we be surprised to find the same phenomenon after operative measures of greater or lesser severity. I therefore believe we are justified in rejecting Herter's theory as unproven and unsupported by sufficient scientific data.

The theory of a bacterial pathology, always

*Opie himself acknowledged that this self-destructive capacity of the organ "prevented satisfactory study of the lesion."

fascinating, is not without its advocates, as would be expected in these days when King "Germ" occupies the throne, influencing all medical thought and shaping the course of all medical research. There is, however, no foundation, neither in fact nor in theory, for such a claim. No microscopic findings, just a few clinical facts, and these immature and inconsequential. Still it is always the part of wisdom to be reticent in our prophecies concerning the future possibilities of bacteriology, lest our most sanguine claims of to-day become blasted by the revelations and counter-claims of to-morrow.

Current events seem to indicate that the morbific element is a chemical agent rather than a microorganism. An agent produced by chemical changes, somewhere along the digestive tract or its accessory organs and resulting from a perverted metabolism of carbohydrates. Such an inference would properly mean that diabetes is a disease caused by an autointoxication. A very plausible theory, indeed, when we take into consideration the established fact that numerous toxins are continually generated in the gastrointestinal tract, and are destroyed, or rendered innocuous, under normal conditions. But directly this destructive or inhibitory faculty ceases, or is dimimished in power, the gastro- and enterotoxins make their presence felt in anatomical changes accompanied by functional disturbances of the parts involved. It is believed that the ductless glands, such as the thyroid, spleen, adrenals, have an internal secretion of their own, as alluded to in a previous part of this article, which destroys these toxins through the avenue of the vast lymphatic system, and that an impairment of this property of these glands is followed by well-marked and characteristic types of disease, not the least important of which is diabetes.

It is not the purpose of this article to discuss the many ways in which an excess of sugar may make its appearance in the urine, experimentally; transient glycosurias, unaccompanied by the classical symptom syndrome, is *ex parte* to the matter under consideration. Such artificial glycosurias, whether of liver, pancreas, kidney, or brain origin, whether produced surgically, mechanically, or chemically, are not accompanied by a polyuria, polydipsia, and a progressive loss of strength and flesh Included in this category is "phloridzin diabetes," which is a misnomer, a more appropriate term being a nephritic, glycosuria, as it is caused by an irritation or mild inflammation of the renal epithelial cells or of the interstitial tissue; in other words, an acute nephritis, in which the renal epithelia have lost their power of restraining the excretion of sugar by the urine. As a proof of this, Ehrlich cited by Strümpel, claims a glycogenic degeneration of the loops of Henle, the epithelial cells of which were found, chemically, to contain glycogen.

In reviewing the facts underlying the theories embodied in the substance of this communication, the following salient features are self-evident: (1) The exact truth of the pathology ofdiabetes is not known. (2) There are no acknowledged and constant, anatomical appearances of liver or of pancreas, associated with diabetes (3) There are no characteristic lesions in any other organ (4) An impairment of the physiological functions of the ductless glands may be at the root of the disease. (5) Artificial glycosuria is not diabetes. The facility with which this phenomenon can be elicited, implies its insignificance as a pathologic factor. (6) As far as can be ascertained from competent sources, there is hope that the vacuum in our knowledge of the nature of diabetes will soon be filled.

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A CASE OF ACUTE DILATATION OF THE RIGHT SIDE OF THE HEART.

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On February 20, 1903, Dr. W. R. Cheever and myself were called to see a patient who was thought to be dying. When we reached the house we found a woman reclining in a rocking chair. She was unconscious and breathing very loudly and with difficulty. With each expiratory effort a profuse frothy discharge would escape from both mouth and nose. The pulse was 72 per minute, regular and of fairly good quality. She was a woman about five feet three inches in height, weighing 180 pounds. From members of the household we learned the following history: A week ago she had been visiting a neighboring city, and when she was about to return home she came near missing her car and ran as fast as she could for a short distance to catch it. After she boarded the car she was so out of breath that she felt actually sick from it. During the week she attempted to do a little washing, but the effort caused her to pant so for breath that she gave it up. On the day of our visit she prepared the dinner for the family as usual, and in the afternoon walked a short distance to the business portion of the city to do some shopping. She returned home and climbed the one flight of stairs to her flat, but was so out of breath that she had to drop into a chair immediately, and instead of being eased by the rest, the breathing rapidly became more labored and she very soon became unconscious.

Auscultation of the chest revealed the fact that both lungs were full of fluid, and the frothy fluid coming out of the mouth in large gulps with each expiration, showed that it was being produced rapidly. During the fifteen minutes from the time we reached the house until the woman was dead the pulse at the wrist remained fair in quality, but gradually grew slower and weaker as the respirations became less frequent. So from the time the woman started to mount the stairs, apparently in her usual health, until the time we left the house after she was dead, not more than three-quarters of an hour had elapsed.

It is needless to say that the heart stimulants, nitroglycerin, strychnine, and digitalis, which we administered, had no appreciable effect.

TUMOR COMPLICATING LABOR.

By GEORGE W. SQUIRES, M.D.,
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Mrs. B., age twenty-seven years, was in labor with her second child, August 10, 1902. With the first gestation, five years previous, there was much trouble from nephritis and albuminuric dropsy, so exaggerated that the body was twice its natural size; the urine was scant, and, on boiling, semi-solid. The vulva was enormously distended with serum, but with a mixture of epsom salts, rhubarb, and licorice powder, in drastic cathartic doses, the condition was relieved. Labor at the seventh month came on without indication, and the threatened convulsions subsided with the advent of confinement. The thought of a repetition of this terrible experience was a horror to the woman when she again found herself presumably pregnant. I saw her in the fourth month, and the secretions were normal, the woman coming to her accouchement in the best of condition. Within four hours of the commencement of pain the child was born in the

most normal fashion. There seemed to be a hitch in the third stage, however, for while there were strong pains, the after-birth failed to appear, even though Credé's method was employed; on making an examination I was surprised to find the vagina filled with a large, round, smooth, tense tumor, that, on careful manipulation, I found to be attached to the rectal aspect of the canal and exceedingly sensitive to touch. With a few whiffs of chloroform the patient allowed of better examination, when I found the placenta ready for expulsion, but its way debarred by the tumor. Under deeper anæsthetization I succeeded in getting my hand past the tumor, grasping the placenta, and with strong traction and twisting motion elongated and brought it by the tumor, when the womb closed down and the labor concluded ideally with the exception of the something in the vagina. This had appeared within thirty minutes, for between examinations not more than this time had elapsed, and it was certainly not there a few moments before the birth of the child. On the conclusion of the labor, I was hurriedly called to attend another woman in confinement. The tumor was still there the size of a large orange, but there being no hemorrhage and the woman saying she felt strong, I hastened away to the new case, leaving a good nurse in attendance. Within two hours the husband came in great agitation, saying his wife was in "great pain and straining harder than when she had the baby." As I could not leave a woman in the second stage of labor I sent a messenger to another town for a physician, gave the husband some tablets of Tully's powder, and hurried him home to administer them to his wife. In about four hours I was able to visit the woman and found everybody, including the nurse, asleep. The messenger had been unable to find a doctor, and the woman becoming comfortable after two or three tablets, they all turned in for rest. This tumor, which was probably a hæmatoma, disappeared, after several weeks. There was no fever, sepsis, or abnormal symptoms following, and the woman made a good recovery. There was no shock on the appearance of the vaginal tumor, though it must have been filled with blood. The labor being practically bloodless partially accounted for this. The severe after-pains were probably caused by this body in the vagina. The seat of pain, as afterward described by the woman, was in the rectum, as though the bowel was being torn out, and she said it was more painful than labor pains. Had this tumor come prior to the birth of child, it would have been impossible to bring the child out without rupturing the tumor, when there must have been a dangerous bleeding. I have been unable to find any literature touching these cases and their treatment.

On Heat-stroke.—Andrew Duncan discusses preventive measures for heat-stroke in the tropics, which include diet, and protection of the head, the eyes, the spinal cord, and the body in general. As to color, orange red has been found to be the best to ward off sun-stroke. The author recommends lining the helmet with orange-red flannel, having a similarly colored pad sewn into the inside of the khaki coat at the back and to wear an orange-red shirt when on the line of march. As to curative treatment, the patient, on the occurrence of heat-stroke, should be moved into the shade when possible, cold water be poured on his head and neck, and ammonia applied to his nostrils. The douche must be repeated until a favorable effect is produced. A turpentine enema should be administered, and a large mustard-plaster applied to the chest. If convulsions occur, a few whiffs of chloroform are indicated. In Italy, in cases of direct heat-stroke, the administration of a solution of trinitrine (1–1 000) twenty drops to water 4,500 minims, every quarter of an hour until the complete disappearance of the symptoms, has been found successful. Venesection has been advocated by some practitioners, but the author has never ventured to try it. His final advice to any one who has once suffered severely from heat-stroke is not to return to the tropics.

The Disadvantages of Ventrofixation.—Gradenwitz discusses the topic from the standpoint of observations made on his own material and that reported by others. While he admits that the operation affords the surest means of relieving the disorders attendant on retroversion, he believes that the benefit is but temporary and is sure to be followed by disturbances worse than the original trouble. In addition to the ever-present danger of hernia associated with this as with all laparotomies there is the risk of intestinal obstruction through the new-formed suspensory ligament, the interference with subsequent pregnancies and, lastly, the fact that in most instances a state of chronic metritis is set up which remains obdurate to the most persistent and careful treatment. Whether this state is brought about through the interference with uterine drainage due to the altered position of the organ, to local changes in nutrition caused by the presence of the sutures, or whether the perimetritic irritation leads to secondary metritic changes, is uncertain, but the fact remains that both subjective and objective evidence of such a condition is not wanting. As a substitute the author prefers the Alexander operation with the addition of a posterior vaginal section for the breaking up of adhesions, etc., in complicated cases. After the menopause vaginal fixation must be considered.—*Centralblatt fur Gynakologie.*

Corneal Burns.—E. M. Marbourg says that the treatment immediately following the removal of any offending substance or its neutralization (as alcohol followed by a cocaine solution for carbolic-acid burns, weak vinegar for lime, etc.), is that of the instillation every half hour of olive oil, preferably the heavy green oil. This gradually insinuates itself beneath the burned tissue, and as it does so also protects the living tissue beneath. In about twenty-four hours it should be discontinued, and a mild europhen or aristol ointment substituted until the eye has recovered. Owing to the dissecting action of the olive oil, curetting of necrosed tissue is not practised. In hot-air burns, cocaine and atropine sulphate should be added to the oil, and should be kept up for some days. After all this has been done a nebula remains; here thiosinamine lends its aid, although three months' constant use must elapse before we may expect any appreciable absorption. Three grains once daily for at least three months seem to give the best results.—*The Medical Age*, March 10, 1903.

An Epidemic of Acute Anterior Poliomyelitis.—Alice M. Woods reports twenty-five well-authenticated cases, and states that there are over thirty other children who are said to be subjects of the same epidemic. Most of the patients are under three years, the youngest only a few months, and the oldest ten and a half years. There is also one adult in the list. A large proportion were males. The paralysis was much more frequent in the lower limbs, the tibialis anticus muscle being particularly vulnerable. There was never more than one child affected in the same family. As to the etiology of this disease the consensus of opinion is that it is due to some infection; as yet there has been no conclusive evidence of a specific germ. If we consider the fact that this infection, often without warning, strikes down the young and vigorous and leaves them with more or less permanent injury, and that so far medical treatment has been of little use, it is evident that we must look forward to the science of preventive medicine as a means of escape from epidemics of this disease of childhood.—*Occidental Medical Times*, March, 1903.

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SOME NEW VIEWS ON ASTHMA.

AFTER an experience of seven years in almost daily contact with a large number of asthmatics (including observation of many individuals for months and years at a time), Dr. M. Sihle of Odessa points out, in the *Wiener klinische Wochenschrift* for January 22, 1903, that in all asthmatics, both during the attacks and in the intervals, the inferior border of the liver, as determined by the "percussory transsonance" method of Henschen and Buch, is lowered, usually more than half way from the ribs to the navel, and in bad cases to within one or two fingers' breadths of the latter, and that the organ is sensitive to pressure. This uniform sensitiveness causes one to think, among possible conditions, of a condition of venous stasis. During three years Sihle measured the blood-pressure in all his asthmatics, between as well as during the the attacks, and found that, compared with measures for the normal by different observers of 95—110, 80—130, 80—120, his patients showed values mostly below 100 and even as low as 60; and, besides, a remarkable lability, one individual showed within five minutes values of 90, 70, 100, 85, and 75. On asking the meaning of this persistent low blood-pressure, he was told that naturally in the course of time the heart would weaken, etc.

While this easy-chair view may account for the low blood-pressure in chronic asthmatics, it does not account for it in those cases which have not yet become chronic, or in those in which the attacks occur at long intervals, *e. g.* six months or more. Is the low blood-pressure due to cardiac weakness or to deficient vasomotor tonus? Many cases in the intervals can make long marches and climb high stairs without noteworthy difficulty, which should exclude heart weakness. Further, Martius has shown that the congenitally weak heart muscle betrays itself by a broadening and strengthening of the heart impulse with a simultaneous decrease in the tension of the pulse, and by a diastolic splitting of the second sound, and by a lability expressed by a high pulse rate with still lower tension on slight exertion. While some asthmatics were found to have a condition of cardiac infraparity, the large majority showed no evidence that the heart was not up to the normal. Whence a persistent vasomotor subinnervation must be assumed. But as all authorities agree that during the attack bronchial spasm is present, how explain the anomaly of spasm here, atony there? Grossmann has shown that afferent stimulation of mixed nerves constantly produces increased blood-pressure and, in general, a simultaneous increase in the amount of work done by the heart, as measured by the intra-auricular pressure. In the case of certain nerves (particularly the superior laryngeal, the first and second branches of the trigeminus, and individual spots in the nose), however, the work of the heart is decreased. After section of the vagus in the neck, stimulation of peripheral nerve endings produces both bronchostenosis and general lowering of blood-pressure. In nasal asthma, then, trigeminus stimulation produces on the one side bronchostenosis while on the other it operates disturbingly on the circulation. The latter effect falls into two components, cardiac embarrassment and vasoconstriction. That in asthma the latter does not come to the surface, but that vasomotor depression rules the picture, is certainly due to simultaneous stimulation of the depressor nerve. The picture of asthma is thus the outcome of a complex stimulation of the various vagal functions, among the individual members of which there is a struggle for preëminence. Through a backworking from the embarrassed heart, the liver is congested. The so-called asthma "catarrh" is no true catarrh, but an anomaly of secretion, the outcome of nerve influence. We shall, however, have a hard time in displacing the term as, important though it is to estimate rightly its origin, in chronic asthmatics an ordinary bronchial catarrh frequently coexists. The specificity of the secretory disturbance lies in the suddenness of its appearance and disappearance, and in the character of the sputa. Sihle agrees with Hoffmann, Goluboff, and Fraenkel, that the characteristic of the sputum is rather the amount of the Charcot-Leyden crystals, spirals, and eosinophiles, than their mere presence. Any nerve may, perhaps, act as the asthmogenic centripetal path, but evidence is lacking that nerves other than the trigeminus, olfactory, and vagus, do so act, the so-called verminous and uterine asthmas being probably referable to the vagus. Probably the sympathetic does not act as an asthmogenic path, and at all events the vagus certainly occupies the first place. The efferent path is certainly the vagi.

Concerning the centers involved, it is not possible to speak with entire certainty, but from Kohnstamm's studies of the course of the vagus fibers and of their nuclei of termination and origin, it is probable that in all asthmas due to irritation in the bronchial and gastrointestinal mucous membranes, the uterus (?), and the genitalia (?), the solitary bundle represents the afferent path. As the same bundle contains sensory fibers from the trigeminus, in nasal asthma, too, it is probably the afferent path. Of the afferent path in asthma, due to olfactory irritation, we know nothing, and the same is true of the so-called neurasthenic and intoxication asthmas. Apart from the reflex asthmas, however, Sihle has seen many cases of cortical (or "psychic") origin. Also cases occur as a result of "taking cold" which are explicable on the ground of experimental studies of Kisskalt, who showed that the action of cold, even upon limited portions of the skin, induced a hyperæmia of the internal organs and mucous membranes. On the ground of the existence of transition forms and alternations between bronchial and cardiac asthma in the same patient, Sihle rejects cardiac asthma as a dis-

tinct form. In origin asthma is therefore peripherigenic, cerebrogenic, or hæmatogenic.

Regarding treatment, Sihle employs digitalis (15.0 of a 1.150 infusion) to combat the circulatory hypotonus, in combination with heroin (0.006) and iodide of potassium (0.50), every four to six hours, varying the proportions of the ingredients as one or another indication predominates. Where through long use the above remedies have lost their effect, belladonna should be used as in asthma it slows the heart and tones up the circulatory musculature. With pronounced heart weakness the theobromin preparations are invaluable. Arsenic (best as sodium cacodylate) is valuable for the feeble and anæmic, particularly children. The respiratory hyperæmia is to be combated by baths of gradually lowered temperature. Deep breathing exercises are to be used to increase the abnormally low vital capacity and to diminish the hyperæmia of the liver. All measures are to be fortified as far as possible by suggestion. No abstract can begin to convey a just idea of the scope and merits of this article.

DISEASE AND MARRIAGE.

The Vienna *Medicinische Blätter* for February 26, 1903, contains a discussion upon the above subject, partly in the nature of a review of the work of Dr. Henry Cazalis, *A propos des risques pathologiques du Mariage des hérédités morbides, et d'un examen médical avant le mariage*. The demand of Cazalis that individuals, or at least the man, be required, as a pre-requisite to marriage, to show a clean bill of health from such diseases as are liable to injure the other party to the marriage, or the offspring, is endorsed. The diseases particularly named are syphilis, tuberculosis, and alcoholism; also gonorrhœa. The consequences of the last for the woman are, as is known, much greater than for the man. But much more dangerous for the life of the individual, and for the whole race, is syphilis, which kills the offspring before or after birth, and floats as a Damocles' sword, in the form of general paralysis, over the head of the apparently cured patient. Alcoholism and its consequent mental disorders menace the offspring, the whole family, and the State. A medical examination should then be required, either by law or by custom. As, however, no sanguine hopes are to be entertained of such a drastic reform as a legal requirement of a medical examination, Cazalis limits himself to the following demands: (1) A pre-marital medical examination should be regarded as a moral duty, and the medical decision should be acquiesced in. (2) Hereditary and contagious diseases, especially those which menace the race, should be combated much more vigorously than hitherto. (3) The greatest diffusion of knowledge among all classes of the people should be favored, and, in particular, instruction should be given in the methods of preventing them, namely: (*a*) By giving every young man clear and brief information as to the dangers of venereal diseases, of alcoholism, and of tuberculosis, and (*b*) by giving similar instruction to every couple announcing their intention to marry, the instruction to embrace certain laws of physiology, of pathology, and of hygiene, which concern the health of the married, such as, the matter of conception and the health of the child. (4) This proposition is certainly the most original, the award of damages, by way of compensation, to the party who is infected by the other with a venereal or other severe disease in case the party at fault intentionally concealed his condition. In many cases it would, of course, be difficult to bring forward evidence of guilt, but such a definite pronouncement would nevertheless tend to lead one to guard himself against an eventual suit, by a medical examination. While there can be no doubt that the strict enforcement of these demands would be of the greatest consequence to the health and vigor of the race, nevertheless many adverse considerations are not to be lost sight of. New obstacles in the way of marriage will certainly operate to increase the number of "free unions," and, on the other side, will tend to diminish the birth rate to a considerable degree, which is an important consideration for a country such as France, where the decrease of the population has for a long time been a disquieting condition. Really, however, the "free unions" are for the race much less dangerous in consequence of their relative unfruitfulness, their object not being the production of children, whose advent is, indeed, an accident much feared. Cazalis also does not fear the decrease of the birth rate, as in most European States, while people limit themselves to two or three children, these two or three are strong and vigorous, so that, to a certain degree, lack of number is compensated by quality. For Cazalis, the most difficult feature in his demands lies rather in the fact that by interdiction of marriage many must be condemned to severe distress, but it must, he says, be remembered that, considering the circumstances, they are spared other pains which are perhaps much greater. In conclusion, Cazalis gives some indication as to the conditions under which marriage should or should not be permitted, in the hope of evoking enlightening discussion. In gonorrhœa the fact is rather simple; marriage is permissible if only a mucous discharge exists without gonococci and without leucocytes. Syphilitics can marry, provided they are at the time free from every symptom, that five years has elapsed since infection and a shorter or longer period of absolute immunity since the last manifestations, that they have not experienced the more malignant forms of syphilis, and that they have undergone a prolonged specific treatment. Regarding tuberculosis, marriage should be interdicted where the diagnosis is certain. Should tuberculosis appear after marriage, the latter should remain childless. If the tuberculosis is doubtful, the moral duty exists of abiding by the decision based upon medical examination. In cases of delusional insanity or alcoholism, from which the patient has apparently recovered, medical examination alone can determine whether marriage is permissible. The writer concludes by observing that, however much we may, from the medical standpoint, agree with Cazalis, the practical carrying out of his views would involve a revolution in our social ideas, as no law has ever undertaken to limit personal liberty in such a manner as is here proposed. But the suggestions of Cazalis deserve to receive consideration in the widest circles, and it is to be hoped that, at least partially, they may be carried out in the future.

FILIPINO STUDENTS FOR UNITED STATES.

The Filipino Federal Party, a native political organization, has just taken an important step toward the improvement of medical conditions in the Philippine Islands, by deciding to maintain in the United States, at its own expense, about thirty medical students annually. Students of law, pedagogy, engineering, agriculture, and veterinary science will also be sent out, the total number of students to be maintained to amount to about 250. The medical student appointees will be selected as a result of competitive examination from among the natives; and those coming from poor families, other things being equal, are to be given the preference. A number of universities and colleges in the United States have offered gratuitous instruction to a limited number of Filipino students, and the Federal Party will allow the latter the sum of $425 per man for annual expenses during a period of two years. The plan proposed is to send fifty students to the United States during the coming year, of which six will study medicine; 100 are to go the second year, of which twelve are to be medical students; in the third year all vacancies in those originally sent out are to be filled, and fifty additional students, including six students of medicine, sent out. Thereafter the total number of students to be maintained is to be 250. In addition to these students to be supported in the United States, it is proposed to send some specially prepared students to Europe for further study. This action of the Federal Party is to be highly commended, and shows that the natives are at least awakening to the urgent medical needs of their islands. It is true that the proposed instruction of six medical students yearly will do but little toward satisfying the medical necessities of the Philippines, but they will form a nucleus among the Filipinos standing for a higher medical education among the native physicians than has heretofore been attained. This is most important, for American physicians can never come in touch with the great mass of the people of the Philippines by reason of difference of race, language, and customs, and the Filipinos must look for their medical attention to physicians drawn from their own ranks. This patriotic action of the Federal Party is much to be commended, especially as such high purpose by a political organization was scarcely to be expected. It now remains for the medical colleges of the United States to meet this action half way, and facilitate, as far as possible, a humanitarian movement which should prove of great advantage to the millions for whose health and welfare this country is now responsible.

Etiology of Sleeping Sickness.

The British Royal Society some time ago dispatched a commission to investigate into the outbreak of sleeping sickness in Uganda. The secretary of the society has recently received a communication on the matter from Dr. Aldo Castellani, one of the members of the commission. The report of Dr. Castellani is given in the *British Medical Journal*, March 14. A large portion of this report is taken up by a consideration of the researches of, and the results reached by, former investigators into the origin of sleeping sickness. The author, however, does not agree with the findings of any of these, but states that he has found an organism which he thinks he has good reason to consider to be the cause of sleeping sickness. He declares that he has grown it with absolute certainty—and always pure—from eight out of ten necropsies from the cerebrospinal fluid and blood of the heart taken with aseptic precautions. In life he found it only once in the blood, but has grown it in two cases out of three from the cerebrospinal fluid removed by lumbar puncture. The germ may be considered as a distinct variety of the streptococcus group. The microscopic appearance is very variable, depending on the different media on which the germ has been cultivated and on the different terms of growth, etc., all transitions from long chains to typical diplococci being seen. The form and size of individuals is also, under certain limits, variable. Frequently about the chains and the diplococci forms well-defined mucoid capsules are seen, and in hang-drop preparations the short chains and the diplococci-forms show a well-marked Brownian movement. In old cultures involution forms are produced, frequently single members present larger dimensions, and sometimes they present the form of a club.

Testing in various ways has made Dr. Castellani come to the conclusion that the germ which he isolated must be regarded as a new variety of streptococcus. Among other reasons for holding this opinion he gives the following: That the cultivation on gelatin is sufficient to differentiate it from the streptococcus lanceolatus, as the latter does not grow at all, or only very badly on that medium. From the streptococcus pyogenes it is differentiated by its much more vigorous growth on all media, and especially on agar, by the tendency of its colonies to coalesce, and by the non-coagulation of milk. As regards the diplo-streptococcus of the Portuguese, the author does not think that any confusion can arise. The Portuguese state that the culture of their germ generally failed every time on the usual media like agar, gelatin-agar, etc., and with gelatin they never succeeded in obtaining cultures. The streptococcus described by Dr. Castellani grows very well on gelatin and on all the other usual media. This character differentiates the organism also from the streptococcus intracellularis, which does not grow at all, or very badly on gelatin, and also, according to some authors, on cow serum.

The experiments have not as yet been complete nor numerous enough to prove absolutely that the organism found by Dr. Castellani is the cause of sleeping sickness, but the investigations so far have encouraged a strong belief in such a result.

Infant Life Insurance.

The death under suspicious circumstances of a number of children recently in a neighboring city has helped to direct attention to the dangers and the temptations surrounding life insurance in the case of young children. This practice is not at all uncommon among the poorer classes, and is intended to afford a means of providing for the payment of necessary burial expenses. That such a state of affairs may become a matter of serious importance is shown further by the observations of a French physician, M. Budin (*Lancet*, March 29, 1903, p. 843), who calls attention to the excessively high mortality among infants in certain departments in the north of France, where he found that a regular premium exists on infant mortality. Certain Belgian insurance companies for a small sum insure children in infancy or even before birth, the parents receiving the money, nominally for burial expenses, in case of death. As among those, however, who take out such policies these expenses are borne by the State,

ne proceeds represent pure gain to the beneficiaries. .n infant may thus be insured in several different ɔmpanies and also by a third person without the nowledge of the parents. The case is cited of a urse who secured the insurance money on the lives f seven out of eight children that died under her are, some of the infants being insured in several ɔmpanies, without the cognizance of the parents. o far as can be ascertained, there is no legal method y which such insurance companies can be prevented rom carrying on their business on French territory.

rofessor E. A. Wright on Dr. Macfadyen's New Anti-typhoid Serum.

Dr. E. A. Wright, the discoverer of a method of ıoculation against typhoid fever which has been ven a lengthy trial among soldiers of the British rmy in India and South Africa, with somewhat egative results, writes a critical article in the *ritish Medical Journal*, April 4, on Dr. Macfadyen's ıti-typhoid serum. Dr. Wright lays down these ropositions, which he says can only be regarded as ɛiomatic: (1) The vaccine material must be derived om a culture of the bacillus typhosus. (2) Owing) the risk which would attach to the employment of ving cultures the vaccine material must consist ther of a sterilized typhoid culture or of a con-ituent isolated from such a culture. (3) The ıccine material, however constituted, must be free ɔm contaminating microorganisms. Judging from s own experience, Dr. Wright is of the opinion that r. Macfadyen's recorded experiments seem to show ıat the trituration of the typhoid bacteria at the ımperature of liquid air, which constitutes the chnical innovation introduced by the latter, rings about only what is effected spontaneously the organism when the typhoid bacillus is oculated into the system. Dr. Wright does ɔt think that in view of the difficulty which has ɛen experienced in effecting the sterilization of ıbercle cultures by trituration, that such a method sufficiently valuable to repay the labor of prepara-ɔn. So far as the standardization of the vaccine concerned, the author thinks that Dr. Macfadyen's ethod is more complicated than his own. Dr. acfadyen, according to the writer, regards his ıccine material as entirely *sui generis* and believes ıat he has discovered the elaboration of a novel ement, to wit, of a typhoid antitoxin in the blood his inoculated animals. Dr. Wright, however, ates that his view of the matter is that there is ɔthing novel in the vaccine material devised by r. Macfadyen, except that it was prepared with quid air, and that, further, we have as yet no ɛason to conclude that any novel immunizing ement has been developed by the inoculation of ıis vaccine material. Lastly, with regard to the uestion of the serumtherapy of typhoid fever, the uthor contends that even if it be established—hich is very doubtful—that Dr. Macfadyen has evised a novel vaccine material, which induces ıe elaboration of a novel antitoxic element in ıe inoculated organism, the problem of serum-ıerapy is not necessarily brought any nearer) a practical solution. There is absolutely—he ɛclares—no outlook for the successful practical ɛploitation of an antitoxic serum against any ɛsease, unless, as obtains in the case of antidiph-ıeria serum, the quantity of antitoxin contained in ıe few cubic centimeters of foreign blood which can ɛ inoculated into the patient is sufficiently con-derable to neutralize at least a substantial fraction the bacterial toxin generated in his system. If ıerefore, Dr Macfadyen's vaccine material does not fulfil this condition, his discovery will have helped but little toward providing a successful anti-typhoid serum.

Observations as to Taking Temperature.

Drs. F. W. Burton Fanning and S. Gurney Champion of Norwich, England, have been making investigations, recently recorded in the *Lancet*, March 28, with regard to (1) the relationship of the relative readings of the thermometer when placed in the mouth, the rectum, the urine, the axilla, or the groin; and (2) the effects on the temperature of exercise in health, in tuberculosis, and in some diseases. They found that the time usually allowed for the thermometer to remain in the mouth is too short to give an accurate reading. On occasions thirty minutes may be required to obtain correct results. In these instances the thermometer used may not be in fault, but it takes that length of time for the buccal cavity to regain its normal heat, after it has been cooled down by a cold external atmosphere by breathing with the mouth open. Exercise is especially liable to cause errors when the temperature is taken soon after such exertion, as it entails more rapid respiration, usually with the mouth open, the result being that the buccal cavity becomes cooled below the temperature of the rest of the body. Rectal observation shows that exercise produces a rise in temperature, but this rise does not last for longer than half an hour from the cessation of activity. Cooling the buccal cavity by means of ice has much the same effect, and an ice-bag applied to the side of the face for fifteen minutes reduced the temperature on that side of the oral cavity by 4.4°, while the mouth took one hour to recover its normal temperature after the ice-bag had been taken away. The authors decided that the rectal temperature is the surest guide as to the condition of affairs, for the reason that the maximum reading in the rectum is obtained in from one to five minutes. The rectal temperature is an index more to be relied upon than are the inguinal, axillary, and urinary. The passage of five ounces of urine over the bulb of the thermometer is a fairly correct method of taking temperature, but not to be altogether depended on in all cases, as the authors found that unexplainable discrepancies occurred once in every twenty observations. The time needed to obtain a correct reading in the axillary and inguinal regions is generally from 15 to 60 minutes. As to the effect of exercise on temperature, the writers state that it has been, as a rule, underestimated. A slight amount of movement only will cause the mercury to rise to an appreciable extent, and further exertion has produced rise of as much as three and one-half degrees. The authors made their observations under these conditions, which they claim to be essential to good results: (1) Absolute rest. In this condition the temperature is actually depressed. (2) Standing without taking active exercise, which tends to raise the temperature slightly. (3) Active exercise, which distinctly raises the temperature. The manner in which the above conditions were observed by the authors was as follows: Slight muscular efforts were tested thus; on walking in the morning the temperature of a healthy individual was taken; he then got out of bed and stood up, but did not walk, and the readings were taken off. In one the temperature was 98.2° in bed; after standing up for half an hour the mercury had risen to 99°. Experimenting on eight healthy subjects the average rise was found to be 0.3°. The tests applied in investigating the effects of active exercise were as

follows: In mild weather a moderately hard bicycle ride of half an hour was taken, which caused slight perspiration. Before starting, the temperature was —rectal 98.8° and buccal 98.3°. At the end of the ride the readings were—rectal 99.5° and buccal 99°.

Dietectic Factors in Health-resort Treatment.

At a meeting of the British Balneological and Climatological Society, held on March 18, Dr. F. A. Mouillot introduced a discussion on the subject and said (1) that a considerable portion of diseases treated at Spas was due to faulty metabolism, and that gout, obesity and glycosuria were the chief of these diseases and were closely connected. (2) That gout, in its widest sense, was due to the development of certain poisons in the process of digestion, and that these poisons were best limited by a simple meat dietary. (3) That it was irrational to consider food or drugs solely from the point of view of their acidity or supposed solvent power on uric acid. (4) That if a patient was properly dieted at home no marked change ought to be made in the diet at the Spa, more particularly should the quantity of food not be restricted whilst undergoing a treatment which made a great strain on the activity of the system. (5) That the education which the patient received as to the regular consumption of non-alcoholic fluid apart from meals was a useful one. (6) That an attempt to treat obesity by withholding fluids was to be condemned as leading to the production of serious diseases and ill-health, and that though it was right to diminish the quantity of fluid taken at meals it was wrong not to make up for that limitation by giving water apart from meals, and (7) that alcohol should be taken in very limited qualities, if at all, and that in the case of gout, whiskey, still moselle and still cider seemed least harmful. Dr. Harry Campbell made a good point when he said that for the long period which elapsed before man learnt to cook his food and to till the soil his supplies of starch were limited and subjected to such thorough mastication that very small quantities of crude starch passed into the stomach; whereas in this stage of abundant starch and imperfect mastication the stomach and intestines were flooded with undigested starch, which give rise to many evils. Dr. Léon Blanc of Aix-les-Bains, speaking specially of the diet in gouty cases, said that the diet regulations were not very strict in France, because the ordinary food was comparatively light. He gave mixed diet, including meat, only twice a day, and preferably beef and mutton, which must be boiled if possible. Game, venison, pork, and preserved meats were forbidden. All vegetables were good, and fresh fruits, especially acid fruits, were taken between meals, but alcohol was strictly interdicted. Dr. Schott of Nauheim said that every case must be provided for according to its own individual peculiarity. He advocated a mixed diet in heart cases, and small and frequent meals, generally at intervals of three hours, and of high nutritive value. Alcohol should be taken in a state of high dilution.

The Bill against Drug Substitution.

As we go to press, word reaches us that the Bostwick-Dowling bill relating to drug substitution has passed the Senate by a commendable majority, and is now in the hands of the Governor for his signature. This Bill changes Section 401 of the Penal Code, so as to read as follows:

"Any person, who, in putting up any drug, medicine or food or preparation used in medical practice, or making up any prescription or filling any order for, or selling any such drug, medicine, food, or preparation omits to label the same, or puts any untrue label, stamp or other designation of contents upon any box, bottle, or other package containing a drug, medicine, food, or preparation used in medical practice, or substitutes or dispenses a different article for or in lieu of any article prescribed, ordered, required or demanded, or puts up a greater or less quantity of any ingredient specified in any such prescription, order, requirement or demand, than that prescribed, ordered, required or demanded, or otherwise deviates from the terms of the prescription, order, requirement or demand, is guilty of a misdemeanor; provided, however, that, except in the case of physicians' prescriptions, nothing herein contained shall be deemed or construed to prevent or impair or in any manner affect the right of an apothecary, druggist, pharmacist, or other person to recommend the purchase of an article other than that ordered, required or demanded, but of a similar nature, or to sell such other article in place or in lieu of an article ordered, required or demanded, with the knowledge and consent of the purchaser. Upon a second conviction of a violation of this section the offender must be sentenced to imprisonment for a term of not less than ten days nor more than one year, and to the payment of a fine of not less than ten dollars nor more than five hundred dollars. The third conviction of a violation of any of the provisions of this section, in addition to rendering the offender liable to the penalty prescribed by law for a misdemeanor, shall forfeit any right which he may possess under the law of this State at the time of such conviction, to engage as proprietor, agent, employee or otherwise, in the business of an apothecary, pharmacist or druggist, or to compound, prepare or dispense prescriptions or orders for drugs, medicines or foods or preparations used in medical practice; and the offender shall be by reason of such conviction disqualified from engaging in any such business as proprietor, agent, employee or otherwise, or compounding, preparing or dispensing medical prescriptions or orders for drugs, medicines, or foods or preparations used in medical practice."

To this bill we give our unqualified endorsement, and in view of the gravity of the situation, we wonder why the law was not made thus definite and exact long ago.

The requirements permitting an individual to practice medicine in this State are most rigid There is every reason why the conditions surrounding the filling of a physician's prescription should be equally so.

We cannot conceive that the Governor will do otherwise than promptly sign this commendable bill. Other States should pattern after New York and enact similar legislation.

The Infallibility of Galen.—In the year 1559, John Geynes, M.D., a graduate in medicine of the University of Oxford, was cited before the College of Physicians for impugning the infallibility of Galen. On his acknowledgment of error, and humble recantation, signed with his own hand, he was received into the college.—"The Roll of the Royal College of Physicians of London."

News of the Week.

Professor Mikulicz's Visit to America.—J. Mikulicz, the eminent Professor of Surgery of Breslau University, is on a visit to this country in response to an invitation to read a paper before the American Surgical Association at its coming meeting in Washington, D. C. While in New York during the past week he was the guest of Dr. F. Kammerer, who tendered him several private dinners, and also a reception attended by a number of the leading surgeons of this and neighboring cities. He has also been entertained at luncheon by Dr. Robert Abbe, and at dinner by Prof. Robert F. Weir. By invitation of Prof. Wm. M. Polk, dean of the faculty of Cornell Medical College, Professor Mikulicz held an operative clinic at Bellevue Hospital before a large and representative audience of medical men anxious to witness the dexterity and skill of the famous German operator. The professor, while visiting Philadelphia, was the guest of Prof. W. W. Keen. He will also respond to an invitation to visit the Johns Hopkins Hospital at Baltimore, and will give a surgical clinic for Dr. John B. Murphy at Chicago.

Bergen County (N. J.) Medical Society.—At the annual meeting of the Bergen County Medical Society, held at Hackensack on April 14, Dr. W. Gill Wylie read a paper on "Mental Overstrain in Young Girls," in which stress was laid on the high grade of school requirements in New Jersey.

The Twenty-eighth Annual Meeting of the American Academy of Medicine will be held in the large banquet hall of the "Arlington," Washington, D. C., on Monday and Tuesday, May 11 and 12, 1903.

The American Proctologic Society.—The fifth annual meeting will be held in New Orleans, La., on May 5 and 6, 1903. The first session will begin at 2 P.M. on Tuesday, May 5. The place of meeting will be in the parlor of the New St. Charles Hotel.

Louisiana Quarantine.—The Louisiana State Board of Health has refused to agree to the proposition of Dr. Lindsay of Havana that it make its quarantine regulations conform with those of the Public Health and Marine Hospital service, that it use the Marine Hospital inspectors instead of its own, and that coastwise vessels be relieved of the necessity of inspection upon entering New Orleans. The Louisiana Board will, as heretofore, maintain its own inspectors at the gulf ports where there is considered to be any danger of importation of yellow fever or other disease.

State Boards of Medical Examiners.—In a neighboring state attempts are being made to alter the medical practice act by abolishing the existing three State Boards of Medical Examiners and substituting therefor a single board to be composed of representatives of the various legally recognized schools of medical practice. Similar legislation was attempted in New York State, but was fought, tooth and nail, by the representatives of "pathies" and "isms" in medicine, with the result that a compromise measure, in the form practically of the present act, or none, had to be adopted. Twelve years of experience have made some difference in the ideas of those who were opposed to our views on this question, and the time is doubtless drawing near when the original spirit of distrust will have given way to a feeling of confidence. When that time arrives the initial plan of the State society for a single mixed board of examiners will be carried into effect and none will be stronger advocates of the departure than those who were its erstwhile opponents. In the meantime we must be patient and be content with what we have.

The Sale of Liquor in Russia.—The experience of the Russian government in attempting to regulate the sale of liquor in certain districts has proved a failure, if the statistics compiled by Professor Cholsky are reliable. These figures show an increase in drunkenness (not only generally, but in the homes of the people) and an increase in the per capita consumption of alcoholics. The temperament of a people is always a factor in such a test. Similar restrictions applied to citizens of other countries might prove highly beneficial, and any number of instances can be cited in which regulations such as were supposedly enforced in Russia, applied elsewhere, have lessened drunkenness and reduced the sum total of liquor consumed. Again, unpopular laws are not always enforceable.

Bill for Educational Commission.—On April 21 Assemblyman Landon, Chairman of the Committee on Public Education, introduced a bill into the New York State Assembly to carry out the suggestions of Governor Odell with reference to an investigation of the educational controversy in the State. It authorizes the Governor to appoint within thirty days a commission of five persons who are to report to the Legislature on or before February 1, 1904.

Last of the Child Labor Bills.—On April 21 the New York State Senate passed the last of the child labor bills framed by the Child Labor Committee, of which Robert Hunter, head worker of the New York University Settlement, is Chairman. It amends the Penal Code so as to provide penalties for false statements in connection with the employment of children.

Passage of Street Cleaning Bill.—On April 21 the Senate passed Senator Plunkitt's bill amending the New York City Charter with reference to the Street Cleaning Department. It represents the views of the city administration, and increases salaries, adds to the department, and gives it authority over the sprinkling and sanding of streets.

Trained Nurses' Meeting at Albany.—The New York State Nurses' Association met in Albany on April 21. It discussed the bill providing a board to examine and license trained nurses in the State, which has passed both branches of the Legislature. At the close of the afternoon session the delegates called on Governor Odell and requested him to sign the bill. He said that the measure had not reached him, but that when it did he would give it his earnest consideration.

Lunacy Bill Vetoed.—Governor Odell has vetoed the Ramsperger bill providing for a treasurer and a purchasing agent for the State hospitals.

Passage of a Bill for a Commission of Inquiry to Investigate the Condition of the Adult Blind of New York State.—The bill creating a commission to investigate the condition of the adult blind in New York State passed the Assembly on April 21 by a vote of 79 to 43. Its main purpose is to provide methods whereby the adult blind of the State may be taught trades.

Typhoid Fever at Stanford University.—Typhoid fever is rife at Stanford University, California. It is reported that twenty additional cases have broken out, bringing up the total number since the first appearance of the epidemic to almost one hundred cases. The mortality up to the present has been very slight. As to the proposed closing of the university, President Jordan says that while conditions are as they are, and while the

physicians are of the opinion that the trouble is almost checked, no action in this direction will be taken.

Man Coughed up Worm.—A man named Fay, who had served in the Philippines, is reported to have coughed up a worm a few days ago five inches in length. Dr. Price, the surgeon at the Brooklyn Navy Yard—where Fay was working—and Dr. Sprattling, his assistant, thought it was an angle worm, but were not positive as to its species. Surgeon Sprattling, however, who was stationed in the Philippines for some time, recollected that men had reported to him there that they had coughed up worms. The theory was that in drinking dirty cistern water, the man swallowed the eggs of these worms, which afterward hatched in the stomach.

Ventilation of New York Subway.—There will be some difficulty in providing an efficient system of ventilation for New York's subway. Although the stations will be near the surface of the streets, it is apprehended by bacteriologists that unless means are taken to provide artificial ventilation that there will be fear of a vitiation of the air. Probably a system of power fans, or something equivalent to fans, will be used for ventilating purposes.

American Academy of Medicine.—The twenty-eighth annual session of the American Academy of Medicine will be held at the "Arlington," Washington, D. C., on Monday and Tuesday, May 11 and 12, 1903. A very interesting program is promised.

American Gynecological Society.—The twenty-eighth annual meeting of the American Gynecological Society will be held in Washington, D. C., on May 12, 13, and 14, 1903, in Lecture Hall No. II, Medical Department Columbian University, No. 1325 H Street.

The National Association of United States Pension Examining Surgeons will be held in Washington, D. C., on May 13 and 14, 1903. The officials of the Pension Bureau have kindly volunteered to do all in their power to make the stay of the members in Washington both pleasant and profitable. Every facility will be afforded them to inspect the workings and methods of the Bureau. Commissioner of Pensions Ware has consented to deliver an address of welcome, and Medical Referee Houston will read a paper before the association.

Death of an Anti-vaccinationist.—Mr. Stevens, the late secretary of the Anti-vaccination League of Minneapolis, died in that city on April 15 of malignant smallpox. Mr. Stevens had been in the custom of denouncing vaccination on every possible occasion, as a barbarous practice, entirely without efficacy in either preventing or staying the progress of smallpox.

Physician Takes Poison by Mistake.—Dr. Pope of 926 Mark Avenue, Brooklyn, took by mistake, on April 14, a large dose of nux vomica. He was taken to the Cumberland Street Hospital, and it is thought that he will recover.

Objection to Hospital for Consumptives in Orange County.—Mr. E. H. Harriman is responsible for the introduction of a bill in the State Assembly by Senator Godsell to prevent the building of a proposed hospital camp for consumptives in Orange County. Land for the camp had been offered by Charles F. Fowler of Central Valley. Unfortunately for the success of the project, Mr. Harriman owns a considerable tract of land in the vicinity of the suggested camp site, and has brought his influence to bear to defeat the plan. The bill brought in by Mr. Godsell amends the public health law by adding to it the following new section: "A hospital camp or other establishment for the treatment of patients suffering from the disease known as pulmonary tuberculosis shall not be established in any town by any person, association, corporation, or municipality unless the Board of Supervisors of the County and the Town Board of the town shall each adopt a resolution authorizing the establishment thereof, and describing the limits of the locality in which the same may be established.

The Late Prof. T. Gaillard Thomas.—At the meeting of the New York Obstetrical Society, held April 14, 1903, the following resolution upon the death of Dr. T. Gaillard Thomas, presented by the committee appointed at the last monthly meeting, was adopted:

"In paying its tribute of respect to the memory of T. Gaillard Thomas, the New York Obstetrical Society takes pride in the thought that he was one of the founders, several times its president, and for many years one of its most active and honored members. It is a pleasure to recall the various incidents and upward steps in his career, how he came to New York a poor young practitioner without friends, and with hardly an acquaintance, and how, by sheer ability, he soon made himself felt, and left the impress of his personality wherever it was his destiny to labor.

"In his day he was a leading authority on all gynecological and obstetrical subjects. As an operator, he was *facile princeps*. He was not only theoretically the master, but his technique was unexcelled.

"Who, that listened to his lectures, was not impressed with the forcefulness of his style, and the breadth of his erudition.

"He has passed from among us, having reached the forefront of professional eminence, satisfied and content, and rich in the rewards and honors of his career.

"It is proposed that these words be entered upon our minutes, and a copy be sent to the family and the medical journals.

CLEMENT CLEVELAND,
J. E. JANVRIN,
GEO. TUCKER HARRISON."

Resolution of the Medical Board of the General Memorial Hospital:

"*Resolved*, That by the death of Dr. T. Gaillard Thomas we have lost an eminent and highly esteemed member of the consulting staff, who had been connected with the hospital since its foundation. He has gone to his reward, crowned with years and honors, wearing both with grace and dignity.

"*Resolved*, That a copy of this resolution be sent to the family of the late Dr. Thomas, and that it be published in the medical press."

Hospital in Philippine Mountains.—It has been arranged to erect a large modern hospital and convalescent home in the mountains of the Philippines near Mariveles, at an elevation of about 3,000 feet. Lieut. J. A. Woodruff of the engineer corps and Capt. C. C. McCullough, assistant-surgeon, have been detailed to select a suitable site, and it is hoped to begin the work of construction as soon as this has been done. It is intended to provide a general station where officers and men suffering from the effects of tropical service may be sent to recuperate.

Hospital for Sailors at Home.—A sailors' hospital has been established at Cape Nome, Alaska, in con-

nection with the marine hospital service, and the hospital at Dutch Harbor will be abolished. The *New York Tribune* states that the establishment of a relief station at the port of St Michael for the river men is also contemplated.

Scientific Temperance in Schools.—Mrs. Mary H. Hunt of Boston, Mass., delivered an address at the International Anti-alcohol Congress recently held in Bremen, on the significance of scientific temperance instruction in public schools as a preventive of alcoholism.

To Kill Flies by Typhus Germs.—"Rattlesnake Fry Pond, up Eustis way," says the *New York Tribune*, "holds the record in Bemis County, Me., for black flies. They rise in clouds over the pond, and almost eat up sportsmen who venture up there. Now comes Prof. Frederick Stickmore of Chicago, who says that he can not only rid the pond of its pests, but also can kill all the black flies in Maine. He has just arrived at Bemis, and is preparing for his work of extermination with a typhus bacillus that he says is death to all flies. This disease, he says, will kill a black fly thirty minutes after being exposed to it. The stickmore typhus is contagious, and would, it is said, soon exterminate them. Maine guides are trying to secure a supply for private use."

Increase of the Medical Corps of the Navy.—The Fifty-seventh Congress in its last session provided for an increase of 150 members in the Medical Corps of the Navy, twenty-five of which are to be appointed each calendar year for six years. The number of vacancies in this corps occurring from retirements, resignations, and casualties average about ten a year, which added to the twenty-five created by new legislation, makes thirty-five appointments open to young medical men yearly. These appointments are to be made in the grade of assistant surgeon, and are within reach of any well-qualified physician between the ages of twenty-one and thirty years, who is a citizen of the United States. Examinations to determine the fitness of candidates for appointments are held in Washington D. C., and at Mare Island, Cal., and the boards of examiners are in continuous session throughout the year. It is only necessary for any physician of the required age and citizenship desiring to enter the Medical Corps of the Navy to apply to the Secretary of the Navy for permission to be examined to insure being given an opportunity.

The examinations to determine the fitness of candidates for these appointments are conducted in the following order: (1) physical; (2) professional; (3) collateral. The physical examination is thorough, and the candidate is required to certify, on oath, that he is free from all mental, physical, and constitutional defects. If found to be physically qualified, his examination is continued as follows: Letter to the board describing in detail his general and professional education. The professional examination includes anatomy and physiology, surgery medicine, pathology and microscopy, obstetrics and medical jusisprudence, materia medica and physiological action of drugs, chemistry and physics, hygiene and quarantine, general aptitude, literary and scientific branches. Required aggregate of marks 750 out of a possible 1,000.

In addition the candidate must satisfy the examiners in the following subjects: Bandaging, tourniquets, four operations on cadaver, clinical cases, urinalysis, practical microscopy and recognition of five mounted specimens, recognition of surgical instruments. The oral examination follows the written work in each branch, and the required percentage is made up from the combined results of the written and oral examinations. The percentages given are not absolute, however as losses in some branches may be made good in others, provided the standard is reached in the cardinal subjects of anatomy, physiology, medicine, and surgery. The collateral examination is to show that the candidate has received a good general education. The following is the pay table of the Medical Corps of the Navy: Assistant surgeons, rank of lieutenant (junior grade), at sea, $1,650; on shore, $1,402.50. Allowances, per annum, in every case only when quarters are not furnished by government, $228. Passed assistant surgeons, rank of lieutenant, at sea, $1,980; on shore, $1,683. Allowances, $432. After five years in the service, at sea, $2,340; on shore, $1,836. Allowances, $432. After ten years in the service: at sea, $2,340; on shore, $1,989. Allowances, $432. Surgeons, rank of lieutenant-commander, after ten years in the service, at sea, $3,250; on shore, $2,762.50. Allowances, $576. After fifteen years in the service: at sea, $3,500; on shore, $2,975. Allowances, $576. Medical inspectors, rank of commander, after fifteen years in the service: at sea, $4,000; on shore, $3,400. Allowances, $576. Medical directors, rank of captain, after fifteen years in the service: at sea, $4,500; on shore, $3,825. Allowances, $720. Surgeon-general, rank of rear admiral, at sea, $5,500; on shore, $5,500. Allowances, $720. The navy medical service, as a career for a young man, offers many advantages. The pay is sufficient, promotion is fairly rapid, and the professional opportunities provided are good. The medical man in the navy also sees the world under very favorable auspices. In short, it may be said that the lot of a naval medical officer is far better than that of the majority of civil practitioners.

Salt Cure for Cancer.—It is reported from Simla, India, that Captain Rost of the British Army Medical Service has announced that he has discovered what he believes to be a cure for cancer. Captain Rost has been investigating the matter for three years at the hospital Rangoon, Burmah, and states that he has found in both carcinomata and sarcomata cancers distinct germs of saccharomycetes, which can only develop when the natural chlorine in the tissues falls below the normal quantity. Captain Rost proceeded with treatment suggested by this fact, reinforcing the chlorine of the body by special diet, enabling large quantities of common salt to be absorbed. Eight patients have been made the subjects of experiment. One is said to be completely cured and the condition of the others improved. The experiments are being continued.

Obituary Notes.—Dr. Mathew Gardner, Chief surgeon of the Southern Pacific Company, died in the railroad hospital at San Francisco on April 18, as the result of an operation for appendicitis.

Dr. Frank B. Wiliams died on April 19 at 533 Bedford avenue, Brooklyn, aged thirty-nine years. He was a graduate of the College of Physicians and Surgeons.

Dr. James Bonaparte Greeley, great-grandson of Dr. Matthew Thornton, signer of the Declaration of Independence, died at Thornton's Ferry, N. H., on April 19, of heart disease, aged seventy-three years. His paternal great-grandfather fought at Lexington and Bunker Hill, in the latter of which he was wounded.

Dr. F. W. Anderson of Salt Lake, Utah, who attended President Brigham Young in his last illness, died in that city on April 20, aged eighty-one years. He was the oldest practising physician in Utah.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HOSPITAL SUNDAY—HONORARY DEGREES—PARLIAMENTARY ACTIONS AT LAW—ACROMEGALY—BILHARZIA—GANGRENOUS BOWEL—HÆMOGLOBINURIA AND TRAUMATISM—MOLLUSCUM FIBROSUM IN CHILDREN—TUBE RAILWAY—NOTIFICATION—CHANGE OF A DISPENSARY—OBITUARY.

London, April 3, 1903.

Hospital Sunday Fund is fixed for June 7, and the King and Queen have intimated their intention to attend the service at St. Paul's on the occasion. The London University will confer the degree of Doctor of Laws on the Prince of Wales, Doctor of Music on the Princess, and Doctor of Science on Lord Lister and Lord Kelvin on June 24. Parliament has only lightly touched medical matters. The sale of poisons, the medical services of the navy, army and volunteers, the Royal Army College, vaccination, physical tests for recruits, cremation, adulteration of butter—all these at home have been the subject of questions or representations, but I cannot say that the answers or statements are of much interest or importance.

After a hearing, extending over three days in the High Court, a jury has found damages (£250) against a district Council for alleged negligence in its provision for smallpox. On the notification of a case the Council fitted up a disused stable as a temporary isolation hospital and removed the patient to it. A child living some distance off died of the disease and her parents took it. They brought this action. No evidence was offered as to whether the child went near the stable. Contradictory evidence was given as to the burying of all refuse with quicklime. The judge put to the jury: (1) Was the hospital a nuisance occasioning damage to plaintiffs? (2) Was there want of proper care and skill by the authorities or their servants? He said every one would sympathize with a health authority on an outbreak like this, but he hoped it would be a warning to all public bodies to prepare in advance for such outbreaks. Expert medical evidence testified that the hospital was properly fitted up for the purpose and was at a reasonable distance from houses. The plaintiff worked on the land near the hospital and had not been revaccinated. Query—was not he as negligent as the Council?

An action was commenced by a nurse against Professor Byers for breach of promise. But when it came to be heard the nurse would not appear in support of her charge, which the professor had all along denied. The judge remarked that he presumed she had no cause of action and entered judgment against her with costs. But will these costs be recoverable? In these cases of attempted blackmail that is seldom the case. It is one of the dangers to which medical men are liable. It seems hard that when a false charge is brought of this kind the accuser cannot easily be brought to book for attempted blackmailing.

Dr. H. A. Lediard related to the Clinical Society on Friday a case of acromegaly with goiter in a woman of forty-three years. The patient was shown, and her feeble muscular power demonstrated. The features and expression were characteristic. In June, 1902, the left lobe of a bilateral goiter of several years' growth was removed on account of stridor and dyspnœa, due to pressure. Radiographs and microscopic slides were shown. There was no general increase in size, but the features were so enlarged she could not be recognized by her relatives. Since operation she has gained some pounds in weight, but there was no change of pulse or temperature.

Dr. Andrew Duncan read notes of a case of bilharzia contracted in South Africa. The urine contained numerous ova, as well as blood, mucus and a little albumen. Three papillomata round the anus on removal were stuffed with the ova. Methylene-blue had been given, but so far treatment was without effect. It was now proposed to try male fern. Dr. Manson remarked that condylomata round the anus were uncommon, though internal growths were frequent in the rectum. It was remarked by others that the Boers in some districts knew that drinking from some streams produced the disease. Treatment was generally considered of little avail, and any suggestions would be welcome. Ova discharged from the bladder usually had a terminal spine, but from the rectum a lateral spine, though this was not invariably so. Some thought the distinction represented two species of the parasite. Mr. Makins, C.B., then read notes of two cases illustrating the employment of imagination and stitching over gangrenous patches of intestine in the treatment of strangulated hernia. The first was in an old man, eighty-seven; the second, a male infant of nine weeks. The man had been subject of hernia for seventeen years. On strangulation an operation revealed a sac containing red, offensive fluid, six inches of small intestine with a gangrenous patch perforated in the center, and a single free apple pip. Thus the case was rather one of perforation. But the gangrenous patch was inverted by Lembert's sutures, the gut cleansed, the neck of the sac removed, and the bowel returned. The wound was plugged, granulated well and the man left hospital on the forty-eighth day. The infant's case was an ordinary gangrenous partial enterocele, and invagination successful. Some other cases were mentioned by the surgeons present. Mr. Bowlby said he had for some years adopted the plan of bringing together the peritoneum over gangrenous bowel rather than the extensive resection which some surgeons frequently resorted to. The President, Mr. Howard Marsh, hoped that free resection would be less practised. He had often adopted the practice advocated by Mr. Makins, especially in femoral hernia.

Drs. C. W. Ensor and J. O. W. Barratt read a paper at the Medico-Chirurgical Society on "Paroxysmal Hæmoglobinuria of Traumatic Origin." The patient was a lunatic, who for some years had the habit of beating his forehead with his hand. At intervals he did this with extreme violence, keeping on for half an hour, an hour, or longer. Such bouts were quickly followed by oxyhæmoglobinuria, and this was always the case, and restraining the patient from beating his forehead tended to reduce the number of the paroxyms. The amount of hæmoglobin lost was equal to that contained in from 1.5 to 2 grams of the patient's blood. The authors suggested that the violence caused extravasation into the subcutaneous tissue, and that the hæmoglobin rapidly passed out of the red cells, owing to the local development of an antolysin and entering the blood stream, was filtered off by the kidneys.

To this surmise it may be objected, as Dr. Sambon remarked that the authors found no appearance of bruising even "after severe beating." He was inclined to regard the patient's violence as an accompanying phenomenon. He thought a more specific cause must be sought. Dr. J. W. W. Stephens compared the case with blackwater fever. Dr. V. Harley suggested that vibration might liberate the hæmoglobin from the stroma of the corpuscles. Dr. A. E. Garrod thought the formation of a hæmolysin more likely than friability of corpuscles. Dr. Bulloch said hæmolysis might occur from such substances as ether, or from more complex animal products, *e.g.* cobra poison. Dr. Barratt, in his reply, held that proof had been given that the attacks were due to traumatism. By grinding up the blood cells with salt-solution in a mortar they failed to liberate hæmoglobin, and that was against the vibration surmise. There was no apparent bruising, and yet the prolonged violence must have given rise to extravasation. It is only now and then that the subsequent history of cases exhibited at the societies are recorded. But at the Medico-Chirurgical Society, on the 24th ult., a report was made on the remarkable cases of molluscum fibrosum in three children, communicated by the late Dr. John Murray as long ago as 1873. Drs. A. H. Robinson and A. Whitfield stated the sequel. The three patients of Dr. Murray were two girls and a boy, who had then numerous tumors, varying in size from that of a pea to a walnut, scattered over the head, face, ears, back, and extremities. Similar growths were found on the gums. The terminal phalanges of the fingers were buried in purple growths. The youngest, aged two years, has now been dead some time, and no further account is obtainable. The eldest, a girl of seven years at that date, had lived in a home for some years and was visited this year. The boy died in an infirmary, and photographs and material for microscopic examination were obtained.

The chief change noted on visiting the female is enormous growth of the tumors in size. Some are described as lobed masses larger than oranges, those on the ears as the size of the fist, one or two new ones have appeared, and one seems to have disappeared during these years. Her head is so disfigured that she keeps it wrapped up in linen. In the male, also increase of size had gone on, and many smaller subcutaneous tumors had formed about the fingers and toes. Histologically, the tumors proved to be fibromata—not neurofibromata. Those from nose and ear blended with the corium and might be called cutaneous—the one from a finger was distinctly subcutaneous. Sir Thomas Barlow said he had had these cases under observation for years after Dr. Murray's death. The father had malignant disease years after their birth. The children were mentally defective. They had febrile attacks at times, when the growths increased in size, but not always. As we are extending our "tube" railways, considerable interest attaches to a report on the microorganisms found in the air of the present "tube" prepared for the County Council and issued by that authority on Wednesday. The report seems fitted to discount most of the loose statements made by the sensational papers. Taking the results of all the experi-

ments, Dr. Andrews does not seem to have found a very great excess of microorganisms in the tube over that of the air outside—the exact proportions being as 13 to 10. The chief excess was in the carriages and lifts and stations —in fact, just where the passengers were most crowded. The air of the tube, in fact, did not compare unfavorably, so far as microorganisms are concerned, from the air to be found in most inhabited rooms.

The City of Westminster has adopted a scheme of voluntary notification of tuberculous disease of the lungs.

The Chelsea, Brompton, and Belgravia Dispensary held its ninety-first annual meeting last week. At that ripe age and locality in an improving quarter it seems to have fallen on bad times. The subscriptions are so scanty that it has been necessary to make an important change or give up its work, accordingly it has adopted the provident system, and is erecting a new building at a cost of £2,500, for which an earnest appeal is made to the charitable. But why should charity be invoked at the moment when all pretense of charity is being abandoned?

Surgeon Major-General W. R. Rice, M.D., C.S.I., died on Friday, in his seventy-first year. He had served in the army from 1843 to 1877. He was in the Crimea and afterward throughout the Central Indian Campaign, receiving the medal with clasp and brevet of major.

Dr. Thomas Sowerby of Welshpool, died on the 25th ult., at the age of eighty-one years. Another octogenarian, whose death is announced at eighty-seven years, is Dr. Paddon, J.P. He retired from practice many years ago. He took his degree in 1840. Dr. J. Adam Hunter of Edinburg died on the 28th ult., in his eightieth year.

OUR PHILIPPINE LETTER.

(From Our Special Correspondent.)

SANITARY CONDITIONS OF HONGKONG—NEW QUARANTINE STATION FOR MANILA—NEW AMERICAN STEAM LAUNDRIES—DAILY BATHING IN MANILA.

Dr. J. C. Perry, U. S. Marine Hospital Service, who has been in charge of the quarantine service at Manila for the past three years, has just been ordered back to the United States for duty. He will be relieved by Passed Assistant Surgeon U. G. Heiser, Marine Hospital Service, who has just arrived by way of Egypt, where he was the representative of his department at the international convention on tropical diseases, and after a short stay in India, where he investigated the question of cholera and bubonic plague. With Dr. Heiser, who came to Manila via Hongkong arrived Dr. J. S. McMillan, the U. S. Marine Hospital Service physician stationed at the latter city, who came for the purpose of satisfying himself as to sanitary conditions in the Philippines and arriving at an understanding with the quarantine officers here.

Sanitary conditions in Hongkong have a close relation to the public health in the Philippines, by reason of the great amount of traffic between Hongkong and Manila and the short distance between these ports. Steamers make this distance, 600 miles, in two days, and sailing vessels in twice that time. Many Chinese are continually going back and forth, and much merchandise and foodstuffs are constantly being brought into Manila for their use. The occasional imp rtation of plague infection into Manila can thus scarcely be prevented by ordinary methods of quarantine. While the late development of plague and cholera in Manila was undoubtedly due to relative inefficiency of the Manila quarantine service, the quarantine officials cannot be fairly judged as to the quality of their work, except in the light of a full knowledge of the geographical relations and existing sanitary conditions of Eastern Asia. That Dr. Perry and his excellent assistants were able to keep the original infections out for so long a time, and to prevent the introduction of new infections since these diseases first gained entrance, is just cause for hearty praise. If plague could not be kept out of San Francisco—three weeks from infected points by the fastest steamers and in communication with them by only relatively few boats—it was scarcely to be expected that Manila, within easy reach by small boats of a hundred infected points, and with a quarantine service which the shortness of the time since the abolition of Spanish sovereignty scarcely permitted to be brought into a perfected condition, would be able to escape unscathed. Japan, with its highly efficient and thoroughly organized quarantine service, lying at a greater distance from the infected ports, possessing a climate far less favorable than that of the Philippines for the multiplication of germ life, and with a peaceful population possessing the highest respect for laws and official control, has suffered to no small extent from both plague and cholera. Bearing these facts in mind, one cannot but feel that the quarantine officers in the Philippines deserve the highest credit for what they have accomplished in spite of the geographical and climatic obstacles already mentioned, combined with the existence in the Philippines, until lately, of a state of insurrection and anarchy.

The newly constructed quarantine station for Manila, located at Mariveles, at the entrance to Manila Bay, is most comprehensive in plan and complete in detail and equipment, and is a monument to the energy and ability of Passed Assistant Surgeon Perry, U. S. M. H. S., who carried out the work of its construction during the troublous times of the insurrection, and in addition to the performance of his arduous duties as Health Officer of the Port of Manila. The cost of construction of the buildings of the disinfecting station, isolation camp, and hospital amounted to $210,000. Under Spanish rule a quarantine station had been maintained at Mariveles, but the buildings were so old and the station so poorly planned and equipped as to be of little value in the work of reconstruction. Of these old Spanish buildings but two have been preserved, and these are used for offices, storerooms, and officers' quarters.

Mariveles quarantine is distant thirty miles from Manila and directly inside the entrance to Manila Bay. It is located at the end of Mariveles Bay, a small harbor completely sheltered on nearly all sides by high mountains, having a sandy bottom, and affording perfect protection and anchorage. At low water there is a depth of thirty-five feet at the end of the short station wharf, so that the largest vessels can readily come alongside the disinfecting station. There is an abundant water supply of unimpeachable quality, piped from an uninhabited and uncultivated water shed three and a half miles away and delivered under sufficient pressure to throw water over any of the buildings of the station in case of fire. The disinfecting plant is completely equipped with bichloride tank, sulphur furnaces, fixed and portable formaldehyde generators, and two steam sterilizing chambers. There are ample disrobing rooms for the steerage passengers, and fifty shower baths for this class of passengers. On leaving the shower baths they receive cotton pajama suits and pass into the waiting-room, where they remain during the disinfection of their clothing. Before entering the bath-house each passenger receives a numbered tag, which he ties around his neck during bathing. Any valuables he may have are placed in a box having the same number and he is given a sack bearing the same number, into which his clothing is put after disrobing, and in which it is carried by an attendant to the disinfecting chamber; where it is exposed for twenty minutes to superheated steam at 240° F. At the end of this time the sack is taken out and returned to the passenger, who has finished his bath in the meantime. By this means, articles are promptly returned to the owner without the loss or confusion incident to their becoming mixed with art cles belonging to others. Shoes are disinfected by being dipped in bichloride solution. As the Chinese are particularly averse to bathing, attendants remain in the steerage bath-room to see that each person properly bathes himself with a sufficient use of soap. Two smaller bath-houses are provided for the bathing of first and second-class passengers. In these the arrangement is somewhat different, there being a number of small disrobing and dressing rooms with the shower baths between. As some of the first-class passengers seem to delight in trying to evade the bath, an arrangement is being tested by which a passenger, on entering the bath-room, steps on a movable floor, which turns on the shower bath automatically, and thoroughly wets the passenger, who might then just as well continue the sometimes involuntary bath to which he has been subjected. General waiting-room, with comfortable chairs and reading matter, are provided in these smaller bath-houses As the whole plant is built on piles over the waters of the bay, the dirty bath water, excreta, etc., create no difficulty as to their disposal. Two medical officers and about twenty-five men, of whom sixteen are Filipinos, form the personnel attached to the station. To show the efficiency of its operation, it may be mentioned that a large army transport with more than a thousand passengers aboard has been disinfected throughout in but ten hours.

At the head of the wharf on shore are located the buildings of the detention camp hospital and offices. These, like the buildings of the disinfecting station, are well constructed of hard wood. The building for first-class passengers is of two stories, well-ventilated and provided with small bedrooms on each side of central corridors, each room having two beds and a window. The buildings for the steerage passengers are so arranged as to divide the passengers into five groups of two hundred persons each; no one group having any contact with another. The buildings are comfortable one-story affairs, with the kitchen in a semi-detached out-building. Bunks are constructed in three tiers, and split

bamboo frames rest inside these bunks and form very comfortable beds. High fences of barbed wire separate each group and these are so laid out that a single watchman guards the yards of all five groups. A small army post is located just outside the quarantine reservation, and the soldiers are used for guard duty and to enforce the maintenance of quarantine. The whole station is amply shaded and very attractive, while the cool sea breeze, which always blows, makes the climate far more pleasant than that of Manila. The Filipino attendants are said to be very efficient, even more so than the ordinary class of whites, as the pay given is so high as to secure the very best class of native labor. As Mariveles is shut in by an almost uninhabited and mountainous country, there is practically no communication by land, and its site for a quarantine station could hardly be improved. The station cannot be commended too highly. It is far better than the quarantine station at San Francisco, or many United States cities, and is surpassed by few. Its creation by Dr. Perry is a work which ranks favorably with the best improvements made by the United States in the Philippine Islands, and one of which Americans may justifiably be proud.

The United States Marine Hospital service here has not limited its good work to Manila, but now that the main station has been established at Mariveles, it is going ahead with the work of organization of stations at the six ports of entry for the Philippine Islands. Marine Hospital surgeons have already been stationed at several of these ports, and others will be assigned as soon as their services for these islands become available. These men will be able to do much toward preventing future epidemics of cholera, and to limit the dissemination of the plague infection now in Manila. Their assignment to stations in the southern islands is very important, in view of the trade relations with Borneo and Singapore. The fact that the previous disastrous epidemic of cholera in the Philippines began from an infection brought into Jolo from Singapore—always an unclean port—should not be forgotten.

While on the subject of quarantine in this part of the world, mention must be made of the methods in vogue in up-to-date Japan. The quarantine regulations of that country are largely modelled after those of the United States, as are their quarantine stations. The quarantine rules are most strict, as they necessarily must be with Chinese and Corean pestilence centers only two or three days away by steamer and much commerce being carried on by the Japanese with ports on the mainland. The Japanese are thoroughly imbued with the idea that it costs less in lives and money to keep out a disease than to stamp it out after it has once secured a foothold. For this reason, and possibly also because they feel that their modern civilization is on test with foreign nations, they carry out their quarantine rules with strictest detail. On entering a Japanese harbor a boatload of quarantine doctors comes alongside, their quarantine launch being equipped with microscope and accessories for the purpose of making any desired bacteriological examination on the spot. Besides their own language, each of these doctors is able to speak at least one foreign tongue, so that English, French, German, Russian, Chinese, and other nationalities can be questioned in their own language. Every passenger and member of the crew is lined up on deck, called by name, and the total number verified. While this is going on, the other physicians pass along the line, feel every man's pulse, make him put out his tongue, and if he shows any appearance of sickness they produce thermometers and take his temperature.

Nothing escapes them, and it is useless to try the old dodge of sending a man around the deck-house to be counted twice, for the place where every man not in the rank can be found must be stated, and these men are inspected and their condition verified while the count on deck is going on. It is also useless to expect that the condition of a sick man, sent on deck, will not be noted. Such men are set aside and carefully gone over by several of the quarantine doctors in a way which show their proficiency in the latest methods of diagnosis and familiarity with modern diagnostic appliances. The disinfecting stations, as already mentioned, are modelled after those of the United States, but the Japanese go us one better in that, after the bath, any drinks desired, except champagne, are served to the first-class passengers at the expense of the Japanese Government. So carefully are the quarantine regulations observed in Japan that complete inspection of the crew is carried out even where vessels are making short runs from one port in Japan. Thus a vessel touching at Nagasaki and arriving at Kobe a day later, would be again completely inspected, and returning at once to Nagasaki would be reinspected at the latter port with every detail required in the original inspection made on arrival from Shanghai or other infected port.

There is a fairly efficient quarantine service in the French colonies of Tonkin and Annam. In the English free ports of Hongkong and Singapore every effort is made to attract commerce. The sanitary inspections are perfunctory and the quarantine regulations lax perhaps also to some extent as a result of the great difficulty of controlling the movements of small native craft. In British Borneo the country has not developed to the point of an efficient quarantine service; one is in operation at Sandakan, but it exists more in name than fact, at that port. The quarantine system at the Russian ports in Siberia and Manchuria is good, but not so thoroughly carried out in detail as in Japan. The Germans have been established such a short time on the Shantung coast of China that it is hardly fair to judge their system at the present time. Of course, under the Chinese and Corean governments the ports in those countries possess no quarantine service of any kind.

Because of the uncleanly habits and improper methods of washing of the native laundresses, the two American steam laundries in Manila are proving a great boon to the foreign population. One of these laundries is a purely commercial enterprise, which has not been a thorough success because of bad administration. The other establishment is owned and operated by the Army Medical Department. It was established primarily for the laundering of the linen of the various hospitals and transports, but also laundry clothing for persons connected with the military service. At present, with the army hospitals much reduced in size, it gives employment to about fifty men, and laundries from 75,000 to 85,000 pieces per month. The clothing is all disinfected and boiled, and everything carried out in approved sanitary style. Since the establishment of this government laundry, the prevalence of "dhobie itch" and other parasitic skin diseases has been greatly reduced among the soldiers. Lately a number of small post laundries have been established and operated by the military authorities at a number of outlying stations. This was necessary in view of the fact that the infections of smallpox, cholera, and other diseases were frequently introduced among troops where clothing was scattered periodically through the insanitary native dwellings for laundering. These post laundries are under careful supervision and sanitary inspection. The clothing is boiled and the work carried out in a proper manner. There is no doubt but they have done much to prevent the occurrence of infectious diseases among the soldiers, as well as proved of financial benefit to them.

Judging superficially, the Filipino would seem to be a paragon of bodily cleanliness, for one of the most striking features of native life in these islands is the bathing of the person and washing of clothing which constantly goes on along every watercourse. From early in the morning until the sun gets high the shores are lined with women washing clothing, while late in the afternoon whole villages turn out for their daily bath. Unfortunately, for proper results, however, this energy is misdirected, with the result that a properly bathed native, or clothing clean from a sanitary standpoint, is rarely seen. The Filipino seems to care nothing at all for the character of the water in which he washes his clothing or person, and is as likely to resort to a filthy estero, acting as an open sewer, for this purpose, as to utilize a more cleanly water supply. The waters of the Pasig river, as it flows through Manila, receive all manner of filth, slops, dead animals, human excrement, and all kinds of organic refuse. At certain stages of the tide the water has the appearance, odor, and qualities of dilute sewage, yet hundreds and thousands of natives resort to it for purposes of cleanliness. The incongruity of attemping to purify clothing by washing them a few feet from where a house drain discharges its foul contents, or the river receives a constant addition of fecal matter from overhanging privies, never appears to strike the Filipino. Soap is but little used, but the garments are soaked, struck against a flat stone, beaten with a paddle, and spread out to dry on the dirty ground or over a flat bush. Clothes lines are almost never employed. As the clothing is never boiled and the germs of parasitic skin diseases, particularly "dhobie itch," seem to be omnipresent in the islands, garments washed in this way are certain, sooner or later, to convey skin disease to the wearer. One has only to watch the constant scratching of their persons by the natives to appreciate how prevalent parasitic skin diseases are among them, and where American soldiers are forced to depend upon the natives for the performance of their laundry work a large proportion of them contract tinea and other skin affections.

The average Filipino probably bathes the entire person at least once daily. This is a relatively easy matter, as water of some sort is usually available and the natives are

not encumbered with many clothes, or a high sense of modesty. In the country districts, men, women, and children often strip naked and bathe in the stream together, although the women sometimes wrap a strip of cloth about the loins. They seem to wash themselves most carefully, but soap is almost never used, and as a result the skin is not properly cleansed. Usually a native is perceptibly dirty about the neck and back of the ears. Sometimes a certain native root is mashed up in water and used to shampoo the hair, but generally cocoanut shells full of water are merely poured over the latter. As a luxuriant head of hair is the pride of these people, and as the hair is kept constantly greased with cocoanut oil, pouring water over it without the use of soap has about the same cleansing effect as pouring water on a duck's back. As a result of saturating the hair with cocoanut oil, seborrhœa is very rare among the natives, but as the oil soon grows rancid it imparts an unpleasant odor to the native and his immediate surroundings. The smell of rancid cocoanut oil probably pervades every native house in the Philippine Islands, so universal is its use for cosmetic purposes. On the other hand, while kept free from dandruff, hair greasy with cocoanut oil cannot be properly cleaned and soon becomes infested with head lice. A common domestic scene is to see three or four native women squatting down and carefully picking the lice out of each other's hair, and it is a common saying that where a native lies down lice rise up.

Although particular about the daily bathing of the body, the natives are not as particular about the frequent washing of the hands, which, from the filthiness of the surroundings of the Filipinos, are usually very dirty and liable to convey the germs of infectious disease or the ova of animal parasites. The finger nails are rarely kept in a cleanly condition. The teeth receive little care, but seem firm and resistant, to which it is said that the prevailing habit of chewing betel nut contributes in no small degree, though the teeth are discolored thereby.

ANTISEPTIC RULES FOR MONTHLY NURSES.

To the Editor of the Medical Record:

Sir: Apropos of the discussion on puerperal septicæmia, at a recent meeting of the Medical Society of the County of New York, I subjoin hereto a card* entitled "Antiseptic Rules for Monthly Nurses," that I have found of the greatest value in my obstetrical work.

I keep a supply of these cards on hand; one of them is given to the nurse in attendance on the case for her instruction and another to the patient who, by frequently consulting it, may be able to see that the nurse faithfully carries out its provisions.

The card and the method were the suggestion, years ago, of Dr. Playfair and, though slightly modified, are retained almost in the original form recommended by this eminent obstetrician.

Since I have employed this practical means of instruction to patients and to nurses I have had much less trouble in the conduct of my obstetrical cases.

Of course, the card may be altered or extended to suit the judgment of the practitioner—its design and invariable use that will go far toward diminishing the liability to septicæmia in puerperal cases, and hence remove much of the anxiety of the obstetrician who can not be always at the bedside of his patient, are the essential considerations.

Respectfully,

Henry K. Leake, M.D.

Dallas, Tex., April 8, 1903.

*Antiseptic Rule for Monthly Nurses.—(1) Nurses are not permitted to examine patients. (2) Before attending patients, nurses must take bath and change clothing. (3) Nurses must not go directly from septic cases to others, either before or during delivery. (4) Lysol is supplied to each patient. Solutions are made by adding one tablespoonful of lysol to two quarts warm water. (5) Hands and forearms are thoroughly scrubbed with soap and warm water and then soaked for five minutes in lysol solution. (6) A small basin containing lysol solution (frequently changed) must always stand by the bedside of the patient, and the nurse must thoroughly rinse her hands in it every time she touches the patient in the neighborhood of the genital organs for washing or any other purpose, before or during labor, or for a week after delivery. (7) Vaginal pipes, enema tubes, catheters, etc., should be thoroughly scrubbed and boiled before use. (8) Unless express directions are given to the contrary, the genitals should be sponged with warm lysol water twice daily, morning and evening, for two weeks after delivery. (9) All soiled linen, diapers, etc., should be immediately removed from the bedroom, and no old cloths used about the patient—cotton is supplied for this purpose. The latter is kept in place by a "square" of new cheesecloth.

N. B.—These rules are for the protection of the patient from the risk arising from accidental contamination of the hands and sponges. It is expected that they will be faithfully and minutely adhered to.

THE QUININE TREATMENT OF CHOLERA

To the Editor of the Medical Record:

Sir: Notwithstanding the fearful mortality of the recent epidemic of cholera in the Philippines, approximately two hundred thousand cases with one hundred and forty thousand deaths, I wish again to affirm that the disease is nearly as easy to treat successfully as is pernicious malaria, and by the same remedy. Moreover that the effect of quinine in cholera is much more promptly apparent than it usually is in malarial disorders, as the vomiting and purging are controlled in an hour or two after the administration of fifteen or twenty grains of the drug, and thereafter the treatment may be *pro re nata*. The quinine must be given by the mouth, of course, as its emunctory is the kidneys, and when given intravenously or hypodermically it does not reach the intestinal tract, the sole habitat of the germ in the human body. *It was the hypodermic syringe that killed the treatment.* While willing to give all credit to men of greater attainments in the *science* of medicine, I deny that any one is better able than myself to judge of the effect of a remedy in disease, be it quinine in malaria or quinine in cholera. It is nearly thirty years since I treated cholera in its latest, and it is to be hoped last, invasion of the Ohio Valley, where we have had it more frequently and for more years continuously than in any English-speaking territory of like extent, but I have never for a moment forgotten the prompt cessation of symptoms and the prompt reaction that occurred, even when the disease was well advanced and in malignant form.

Dr. H. C. Wood notices the treatment in the ninth and tenth editions of his "Therapeutics," and Dr. John V. Shoemaker in all recent editions of his "Materia Medica and Therapeutics." It seems to me impossible that any unprejudiced medical man can read the articles on this subject in your issue of October 1 and December 10, 1892, and more especially that of April 29, 1893, or, the whole matter epitomized in the *New York Medical Journal* of August 18, 1894 without being convinced that the better treatment of cholera has been discovered more times than America or than anæsthesia.

The quinine treatment has, I believe, been wholly overlooked in the Philippine epidemic, resort being had mainly to salol and tannin enteroclyses. If these gave a result of 48.4 per cent. mortality in Hamburgh hospitals, where all appliances for their use were at hand and physicians and skilled nurses for their employment, what result may be expected where a country physician must ride miles in one direction to see a cholera patient and then as far in the opposite direction to visit another? Moreover, before the last European epidemic was over the treatment was discarded and resort had to the beggarly element of chamomile tea.

My claim for the quinine treatment is that, from a scientific standpoint, it should be of all remedies the best in the disease, and that when given in proper doses, by the mouth, it has done all that could be expected of any remedy in curing it. In support of this claim I offer not my own experience alone but the united unfaltering testimony of good men and true in every epidemic from 1831 to 1873 inclusive.

Erskine B. Fullerton, M.D.

Columbus, O.

HOW TO REMEDY THE EVILS OF THE MEDICAL PROFESSION.

To the Editor of the Medical Record:

Sir: The apathy of medical men in regard to the evils besetting the medical profession is astounding. Here is, for example, the dispensary evil. According to the report of the Committee on Dispensaries of the State Board of Charities, there were treated in the dispensaries of Greater New York, in 1901, not far from a million patients! If we consider hospital treatment in addition, over a third of Greater New York gets free treatment yearly, and this in spite of the Dispensary Laws.

There is also the contract practice in lodges and societies, which, on the East side of New York, has reached incredible proportions. Thus, for instance, on the East side, physicians enter into agreements with associations, of various kinds, which are very numerous in New York, to treat every member with the whole family at the rate of two dollars a year! Nay, some physicians even offer their services free, just on trial! And the competition among the doctors to get elected as a physician to a lodge

or society is so keen that they must resort to electioneering, and very frequently they follow the methods of the ward politicians.

It is hard to see what can be more detrimental and disgraceful to the medical profession as well as to the community at large. The doctors who get the lodges and societies work themselves to death for very little remuneration, and those doctors who cannot get them have nothing to do. Thus there is demoralization on all sides.

Here again, for example, is the Board of Health. The community, by the way, seems to have such a poor opinion of physicians that the Charter of Greater New York debars a physician from being a president of the Board of Health of New York, on the plea that physicians lack executive ability! A physician can be a prime minister of France or a governor of Cuba, but not a president of the New York Board of Health! And the doctors holding these inferior positions are treated like medical clerks. Under the former administration they had to curry favor with the district leaders in order to get and to hold their positions, and now they must get the good graces of other powers. Thus many doctors who had been connected with the Department of Health for years were removed on the plea of lack of funds; at the same time, however, new men who had been only recently appointed were retained, and this in spite of the civil-service laws. The doctors in the Health Department are ordered about, scolded like school-boys, spied upon, punished for trivial offences by being given extra work, or they are entirely removed, just as it pleases the powers that be. Of course this demoralizes them, instead of making them render services worthy of a physician.

This shows how terrible the condition of the medical profession is, when doctors are found who are willing to undergo such humiliations, which even foreign unskilled laborers would not stand for a day.

I therefore respectfully suggest that the following measures be adopted in order to improve the condition of the medical profession in New York, and I say in New York, for we must begin here first: (1) That physicians in dispensaries be paid by the city a reasonable amount, the same as are teachers, policemen, etc. The fact that doctors are found who are willing to give their services free is no justification for the city to take advantage of it. As things stand now, the really poor do not get proper attention in the dispensaries, as, with some exceptions of course, the dispensary doctors prefer to work up a class of well-to-do patients in the hope of getting them as private patients at his office. If dispensary physicians were paid, the dispensary laws could be strictly enforced. From $500.00 to $600.00 yearly would be a reasonable sum to pay a doctor in a dispensary. The whole amount would be less than a million dollars, and there is no earthly reason why the city should not pay so much in order to give medical treatment to those who need it. (2) That lodge and society practice be declared by the medical societies to be un-ethical, the same as is advertising in the newspapers. And (3) which is the most important, that the control of medical matters in New York be in the hands of a board of medical men elected by the several medical societies of New York; that appointments to dispensaries be made by said board, on competitive examinations, and that the control of the Health Department be also in the hands of said board. I would suggest that only heads of classes in dispensaries be appointed, on competitive examinations, and be paid, and that assistants be allowed to attend without examinations, in order not to debar from the opportunities for clinical observation those who do not care to take the examination. Of course consultants should also be appointed, who, it is needless to say, are to render their services free.

These measures can easily be realized if the several medical societies of New York would take up the matter. And subsequently there can also be introduced needed reforms in the appointments to positions in hospitals and colleges, but at first it would be unadvisable to undertake too much.

Such an arrangement would create many openings to able young men, and the congestion in the medical profession would be somewhat relieved. The deserving poor would be properly treated; and the dispensaries would become centers for real scientific work instead of means for getting private patients, and the whole tone of the medical profession would thereby be raised. At the same time the benefit to the public at large would be incalculable, for the health and the lives of the public being in the hands of the medical profession, the elevation of the latter redounds to the benefit of the former.

E. Palier, M.D.

33 Jefferson Street, New York.

Progress of Medical Science.

The Boston Medical and Surgical Journal, April 16, 1903.

Variation in the Composition of Human Milk.—Philip P. Sharpless and Eugene A. Darling state that the average composition of human milk as shown by 117 analyses, is: Fat, 2.91; sugar, 7.01; proteids, 1.34; ash, 0.13. Total solids, 11.39. Solids, not fat, 8.48. There are wide variations from the average in milk from the same individual at different items. There are marked variations in the average composition of milk from different individuals. The average composition of human milk does not vary to any marked extent at different periods of lactation. During the first lactation, the milk, on the average, is weaker in fat and proteids, but stronger in sugar than in subsequent lactations. These differences may or may not be due to age.

Cream for the Home Modification of Milk.—Charles W. Townsend gives the following conclusions of his studies into the subject: (1) Centrifugal cream is probably less desirable for infant feeding than gravity cream. As obtained from dealers it is often far from accurate in percentage. (2) Siphonage for obtaining gravity cream is an accurate method, but one requiring considerable skill to perform accurately and safely. (3) Dipping off the top milk is an accurate and safe method if reasonable care is used. (4) The method for obtaining gravity cream by pouring off the top is very accurate and extremely simple. There is no instrument to be bought and kept clean. By this method it is possible to obtain cream of any desired percentage up to 26 per cent. (5) To ensure perfect accuracy frequent examinations with the Babcock machine are required; but for practical purposes this is not necessary, provided the mixed milk from a well-regulated dairy is obtained.

Trikresol in Para-urethral Abscess.—M. L Heidingsfeld reports four cases of para-urethral abscess which he treated by the hypodermic injection of trikresol. An ordinary 15-minim glass syringe, provided with a retaining screw was used, and after it was filled with the remedy was armed with a 26-gauge needle; the air was expressed, and the retaining screw run down until the fraction of a minim could be carefully measured by adjustment of the retaining screw. The proper dose could then be estimated, a drop the size of a bead sufficing for the smallest abscess, and a minim or more for the larger ones, and then injected into the center of the abscess. In all four of these well-defined cases, not only was there a complete cure of the abscess in from seven to fourteen days, but in three of the cases there was cut short an exceedingly obstinate, refractory, and unduly protracted gonorrhœal urethritis. In two of the cases it effected a prompt and complete cure of the abscess when radical extirpation, free incision, and drainage, and the free use of the actual cautery, measures which find a very esteemed and valuable place in the therapy of some of the most successful and celebrated genitourinary surgeons, utterly failed. Although four cases scarcely afford sufficient experience to determine the full efficiency of the preparation in all cases and under all conditions, yet the marked success which attends its use in analogous conditions, pustular acne, and furunculosis, its ease of administration, and the absence of any marked distress or serious, complication, thoroughly suffice, in the author's opinion, to warrant its use in every accessible case, until its efficacy, unfailing or otherwise, is fully established.

American Medicine, April 18, 1903.

Angioneurotic Purpura.—Raymond Wallace speaks of the unsatisfactory etiology of this affection. He divides the causative factors into three general classes: infectious, toxic, and vasomotor. The exact pathology of this condition is unknown. The symptom complex, although not characteristic, may be summarized as follows: Relapses or recurrences extending over several years, cutaneous lesions of a clearly purpuric nature; gastric crises, intestinal crises, pain, vomiting and diarrhœa; marked general hyperæsthesia with an angioneurotic œdema of extremities and face; hemorrhages from the mucous membranes; the blood picture of a pernicious anæmia.

Limitations of the Dimethylamidoazobenzol Test for Free HCl in the Stomach Contents.—Wilbur F. Skillman presents the following conclusions: If the test for lactic acid is positive, Gunzburg's or Boas' reagents or some other method should be used to determine whether our dimethyl reaction is due to lactic acid or to free HCl. If the stomach is normal both as to size and position and the peristaltic function is unimpaired, then dimethyl will give fairly accurate results. If the size and position of the stomach are not normal, or if the peristaltic function is delayed, then Gunzburg's or Boas' tests should be first performed

o test positively whether free HCl is causing the reaction r whether it is caused by organic acids, before proceeding o titration with dimethyl.

Bacteriologic Studies of the Skin and Th.oat in Cases f Scarlatina.—George H. Weaver concludes: The bacteria obtained from cultures from the skin, epidermic cales and the surface of the tonsil in cases of scarlatina re the same as those found in the same locations in health, nd no one of them is constantly present except the treptococcus in the throat. Because of the numerous occi which grow in such cultures, and which appear in roups of two and four or bunches of the same under the icroscope, it is impossible to identify them, except by a omplete study in pure culture. Cultures made by inexerienced persons or by those who do not fully appreciate he importance of avoiding the tongue are especially apt o contain large diplococci or sarcinæ. The streptococcus s present upon the tonsil of scarlatinal patients in enorious numbers in almost all cases.

Medical News, April 18, 1903.

Notes on Systemic Infections by the Staphylococcus ureus.—E. Libman states that children with systemic taphylococcus aureus infection are apt to have the bones involved, whereas adults with a similar infection are ore liable to have other forms of metastatic lesions. n the twenty-three cases in which this organism was ound during life, the finding has been confirmed in every stance. In 330 other blood cultures not a single colony f this organism has been found. Out of the twentyhree cases, five recovered. It is generally considered hat the more bacteria there are found in the blood the ss chance there is of recovery. This does not necessarily old good. The number of bacteria found depends, in me cases at least, upon the time at which the examinaon is made, as the great tendency is for the body to d itself of bacteria and for metastases to be established.

A Brief Review of Some of the Etiological Factors in ntestinal Dyspepsia.—E. Franklin Smith declares that ntestinal dyspepsia may be due to abnormalities of seretion of absorption, or of peristalsis. Among the redisposing factors are age, sex, and occupation. It is ost common between thirty and forty, and before ten. t is more frequent in males. Heredity plays an imortant rôle here. Previous attacks predispose to others. Iental labor predisposes to this affection. Exciting auses are pathologico-anatomical alterations of the ntestinal walls, nerves, lymphatics, or blood vessels; bsence or deficiency of the intestinal digestive secreons, especially of bile and pancreatic juice; qualitative r quantitative irregularities of diet; abnormal bacterial ctivity; abnormal gastric chemistry; abnormal subtances or irritation, reaching the intestines from the lood; activity of the intestinal parasites, worms; hyerperistalsis.

The Rational Treatment of Tetanus: A Report of uccessful Treatment by Spinal Subarachnoid Injections f Antitetanic Serum.—W. H. Luckett concludes that he shock or collapse so often following spinal subarachoid injection of cocaine for anæsthesia is not due to n upsetting of the equilibrium of the pressure in the pinal canal, but is due solely to the physiological action f the cocaine. Given a wound infected with tetanus, he writer is by no means positive that the anatomical eat of the wound does not play an important rôle in he production of the constitutional symptoms of tetanus. ccording to present views, any wound infected with etanus near a large nerve will be more likely followed y constitutional effects of the infection than a wound natomically remotely removed from the seat of a large erve. The writer believes in the spinal subarachnoid njection of the tetanus antitoxin, preceded by the withrawal of the active, concentrated, highly toxic spinal uid, supplemented by forced nutrition and proper care f the wound.

New York Medical Journal, April 18, 1903.

The Treatment of Some of the Surgical Complications n Typhoid Fever.—J. F. Erdmann discusses hepatic nd subphrenic abcesses, cholecystitis and perforations f the gall-bladder and intestines. From statistics hich he presents, he is inclined to believe that in cases f intestinal perforation we should not give more than hree or four hours for the shock to subside before operting. The suture to be employed is either the Lembert r the circular purse string when inversion is possible. he question of drainage can only be arrived at by experience. Erdmann is inclined to believe, if we can make fairly clean toilet, no drainage should be used, as we ly rely upon the leucocytes taking the same course ere as in our work in appendicitis and septic peritonitis ue to other causes.

The Work Performed by the Diagnosis Laboratory of the Department of Health in Connection with Ehrlich's Diazo-reaction During 1902.—This report is made by J. S. Billings, Jr., who concludes as follows: (1) The examination of the urine in cases of suspected typhoid fever is of value, provided that its limitations are recognized. (2) While not so absolutely pathognomonic of typhoid fever, yet the diazo-reaction is even more constantly present in that disease than the Widal reaction. So that its absence at a period when it should be present, if the case is one of typhoid fever, is of considerable value in making a negative diagnosis. (3) In a majority of instances the diazo-reaction is present in the urine at least forty-eight hours earlier than the Widal reaction in the blood. (4) It disappears much earlier than the Widal reaction, however, and negative results obtained later than the second week are of little or of no value. (5) "Doubtful reactions" have slight significance.

The Therapeutic Value of the Röntgen Ray in the Treatment of Pseudoleucæmia.—N. Senn reports two cases. He says of the disease that he has never known a case to be permanently cured by either medical or surgical measures. He has seen intercurrent erysipelas temporarily reduce the size of the affected glands. The *x*-ray was used with great benefit in the cases reported. Constitutional disturbances following the treatment and setting in simultaneously with the progressive diminution in the size of the glands were due to a toxæmia caused by the absorption of the products of degeneration of the pseudoleucæmic product. This toxic condition unquestionably was likewise the cause of the increased enlargement of the spleen noted after a second series of applications. Senn says that there can be no doubt of the curative therapy of the rays in pseudoleucæmia.

Journal of the American Medical Association, April 18, 1903.

Bromide of Ethyl in Adenotomy and Tonsillotomy.—A. R. Solenberger gives the following rules for administration of the remedy: Do not use bromide of ethylene; do not use an old or impure solution; do not administer it in small and repeated quantities; give *en masse;* admit no air; do not continue its administration longer than one minute.

Transplantation of Omentum in the Operative Treatment of Intestinal Defects; a Clinical and Experimental Contribution.—E. J. Senn offers the following conclusions: (1) Transplantation of omentum over defects in the stomach is an established operation. (2) Transplantation of omentum over intestinal defects is recommended, but is still in the developmental stage. (3) Transplantation of omentum over defects in the cæcum is the most favorable portion of the intestinal tract. (4) Transplantation of omentum over defects in the small intestine should only be done after fixation of the segment of intestine to the abdominal wall. (5) Gauze drainage should be resorted to, excluding the general peritoneal cavity.

Treatment of Puerperal Fever.—C. S. Bacon considers this subject along conventional lines, and closes with a word on the subject of hysterectomy for this form of sepsis. He believes that its field is exceedingly limited. It is indicated only when the infection is confined to the uterus and when nature is incompetent to combat the infection. It is evident that the difficulties diagnosticated in this condition are so great that they are practically insurmountable. Therefore he believes this operation may be omitted from our list of measures to be employed in the management of puerperal fever. The surgical treatment consisting in the evacuating of a puerperal abscess, whether located in the abdominal cavity, the pelvic connective tissue or elsewhere, is, of course, indicated whenever this condition is determined.

Accessory Pancreas.—G. F. Ruediger gives five classes of abnormalities of the pancreas: (1) Those with abnormal excretory ducts; (2) the annular pancreas; (3) the divided pancreas; (4) the "pancreas minus," of Winslow, which consists of an accessory pancreatic lobule springing from the head of the main gland and extending along the wall of the duodenum, and (5) the accessory pancreas. He reviews the literature of the latter variety, reports one case found on autopsy, and discusses the theories of the normal development and the etiology of anomalies. Concerning the clinical importance of the subject, he notes that the "minus" and divided forms, although interesting from the standpoint of anatomy, are of little practical importance, as they do not bring about any serious pathological conditions, nor can they be detected during life. Abnormalities of the duct may occasionally be a factor in causing hemorrhagic pancreatitis from impaction of gallstones in the ampulla of Vater. Annular pancreas may so constrict the bowel as to cause marked dilatation above the point of constriction, or perhaps even complete obstruction. Accessory pancreas may sometimes be a

causative factor in the production of diverticula of the intestine, by exerting continuous traction on the intestinal wall, during development; or, it may at any time become the starting point of a carcinoma. This has, however, never been observed. If the swelling protrudes into the lumen of the bowel, and attains a considerable size, it might produce some obstruction to the movement of the intestinal contents; or, perhaps it might cause an intussusception by continuous traction on the inner surface of the intestinal wall, from the passage of the contents over it.

Philadelphia Medical Journal, April 18, 1903.

Pernicious Anæmia Following Thyroid Enlargement.—V. S. Merritt reports this case. The patient was a woman of forty-three years. She complained of marked dyspnœa on exertion, weakness, and enlargement of the thyroid gland. The illness began a year ago. Two years before the patient was thrown from a carriage and badly frightened, though not physically injured. In a little over a year she first noticed the enlargement of the thyroid gland. During the progress of the anæmia, the thyroid enlargement grew progressively less. In a little over two months after seeking medical aid, the patient died. There might be a question as to whether this was a case of exophthalmic goiter, followed by anæmia.

The Surgical Treatment of Tuberculous Peritonitis.—D. S. Fairchild concludes that: (1) If an intraabdominal focus of tuberculosis is diagnosed, or is suspected, an abdominal section should be made with the view of efficient treatment. (2) If a chronic tuberculosis of the peritoneum with ascites is diagnosed or believed to exist laparotomy is indicated as soon at it is found that medical and hygienic treatment has failed. (3) In fibrous tuberculosis of the peritoneum the same course should be pursued, and if cheesy degeneration has not commenced or progressed too far, a certain percentage of recoveries will follow. In acute tuberculous peritonitis with ascites and high temperature, laparotomy is useless. In extensive adhesive tuberculosis with matting of the intestines laparotomy is useless, and the attempt to separate the adhesions is dangerous in its immediate results.

Pulmonary Abscess Producing Dextrocardia; a Case Report.—Thomas L. Coley reports the case of a man of twenty-four years who was brought to the hospital cyanosed and pulseless. Foul-smelling pus was pouring from his mouth and nose. He had worked to within a few hours of the rupture of the abscess. Physical examination revealed the presence of a large cavity in the upper lobe of the left lung. Diplococci were constantly found in the sputum. The lower lobe of the left lung became solid, flat on percussion, and no breath sounds could be heard. With the increased area of dulness, the heart became displaced, and the apex could be felt in the fourth interspace on the right side, two inches from the right of the sternum. The normal heart area became tympanitic as high as the fourth rib. The tympanitic note in the downward direction, fused with that of the stomach and abdomen. At autopsy the pus-sac was found to occupy almost the whole left pleural cavity.

The Lancet, April 4, 1903.

Iodipin in Cases of Uterine Fibroid.—J. A. Shaw-Mackenzie records two cases in which this remedy was used with benefit. It is a combination of iodine and oil of sesame. It is given by injection into the tissues (buttocks) in doses of five c.c. In one case there was no local or general disturbance from the injections. In the other numerous superficial veins became visible over the buttocks, and there was a slight cough with some hoarseness. The bowels were troublesome, and the punctures became congested with slightly bruised areas. The treatment is merely one form of giving iodine. Possibly iodine may influence the vasomotor or trophic centers themselves, in addition to its presumable action on the muscle element and nutrient vessels. No particular local or general inconvenience followed the injections or treatment. At one time there were some slight induration and tenderness at the site of the puncture, but they soon passed off. Neither were there any of the disagreeable effects often associated with the administration of iodide of potassium. An irritating dry patchy eczema appeared, continuing more or less, and some darkish stains, lasting a day or two, but disappearing without trouble.

Smallpox Treated by Serum from Immunized Heifers.—R. S. Thomson and J. Brownlee give their experience with serum injections in the recent Glasgow epidemic. Regarding the influence of the injections on the symptoms of the disease, an analysis of their cases shows the following facts: (1) No action of any kind was observed in the hemorrhagic cases. (2) In certain cases in which the serum was administered from eight to eighteen days before death or commencing desiccation, no influence whatever seemed to be exercised upon the course of the disease, though in these there was ample time for the serum to act. (3) In six cases the serum was administered from four to seven days before desiccation commenced. In all of these the course was modified, and there was probably sufficient time for the serum to exercise an immunizing influence, but as all, with two exceptions, were undoubtedly vaccinated, and as these two were probably vaccinated, it is impossible to determine whether the modified course resulted from the primary vaccination or from the treatment. (4) One case showed that the serum completely failed to modify the course of a revaccination. (5) It is possible that the eruption which appeared on the eighth day after the serum was administered may have been due to the presence in the serum of some agent identical with, or closely resembling, substances present in the blood of variolous patients. (6) That the serum in one case did exercise some influence upon the tissues, though none so far as could be determined on the vaccination, is suggested by the development of the cutaneous erythema on the eighth day after the administration of the serum was begun. Details of this eruption and of its distribution are given, but the authors observe that the characters and distribution were precisely those so frequently present in the erythematous and some other of the prodromal eruptions so commonly found in variola and varicella and exceptionally after vaccination. This suggests that some active body may be present in the serum in sufficient quantity to produce a distinct reaction in the absence of variola—that is to say, when the individual has not been immunized by passing through the earlier stage of smallpox against the toxins presumably present in the serum.

The Lancet, April 11, 1903.

The Local Treatment of Psoriasis and Molluscum Contagiosum.—J. Wishart advocates the following method The involved areas are subjected to a liberal application nightly of the following ointment: 15 minims of strong solution of iodine, 15 minims of solution of carbolic acid, and one ounce of boric acid ointment, and they disappear within a fortnight. Papules are gently pricked with a sterilized needle until they bleed slightly, when a drop or two of liquor epispasticus is insinuated into each papule and also applied over its surface. This process is repeated every second night until three or four applications have been made. A small blister results in the case of each papule so treated, which, when left alone, go through the usual stages of healing attendant on any other form of simple blister. In other words, the papules are aborted and the areas of skin implicated again become normal. Illustrative cases are given.

Operative Treatment of Chronic Suppuration within the Temporal Bone.—C. A. Ballance describes in full his operative method, the steps of which may be summarized as follows: (1) The removal of the disease and the fashioning of the meatal flap; (2) one week later the epithelial grafting operation; (3) a few days (from the sixth to the ninth day) after this, and the earlier the better after the graft has taken, the removal of the dead portion of the graft as a deliberate measure, and (4) dry gauze tamponning through the meatus until the gauze comes away unstained. In three weeks the inner bony boundary is dry, and any moisture which appears on the plugs later is from the inner surface of the mastoid flap. The critical part of the healing process is thus early completed What happens afterward is of less moment. In from five to six weeks from the first operation, in the majority of cases, the operation cavity is soundly healed. The author knows of no other method which can be relied upon to give such results.

Infective Eidocarditis.—In the first Lumleian lecture T. R. Glynn considers the disease mainly in its clinical aspects, devoting special attention to etiology. In the majority of his cases he has noted general debility—25 per cent. were intemperate. Symptomatic anæmia and chlorosis must be reckoned as predisposing causes. Brights' disease may possibly predispose to this form of endocarditis. Not infrequently it follows pneumonia. In Glynn's cases there was a rheumatic history in 53 per cent. of the males and in 71 per cent. of the females; 16.3 per cent. had suffered from rheumatism within nine months of their admission. Ten—that is, 16.3 per cent.—were admitted with symptoms of rheumatism. About the same number experienced pain, with sometimes slight swelling of one or more joints during the progrd, of the fatal disorder, but these are not included among the rheumatic cases, as the arthritic manifestations may

have been pseudo-rheumatic and due to the septicæmic condition. There was post-mortem evidence of chronic disease of the heart in 83 per cent. of his patients, including 8.4 per cent. where the lesion was congenital.

Some Dangers of Hypnotics.—N. Tirard utters a caution against careless use of the this class of remedies. He says that (1) they may all involve danger; (2) the conditions under which they may procure undesirable results are not always limited upon the dose; (3) the danger may be limited to the patient; (4) it may involve the prescriber or dispenser; and (5) before the employment of a hypnotic, the bare symptom sleeplessness is perhaps the least important factor to be considered. He then goes on to narrate several cases in which untoward effects followed the administration of common remedies in the usual doses. He concludes by emphasizing his conviction that in the use and selection of a hypnotic, sleeplessness is perhaps the least important factor to be considered, although it may be the sole symptom of which complaint is made. The cause must be ascertained, together with any indications of idiosyncrasy. The co-existence of other diseases must influence the selection of the hypnotic, and even when, for the individual case, a suitable hypnotic has been found, risks of repeating moderate doses must be borne in mind. Generally the dose has to be gradually increased, especially when the cause has not been ascertained or satisfactorily dealt with, but with some drugs—e.g. sulphonal, trional, and tetronal—the danger appears to lie in the total quantity taken, even though each dose may have been small. But perhaps the greatest danger of all is incurred when the patient is given a prescription for a hypnotic, and this danger has certain analogies with the medicinal employment of alcohol. Many of us believe that at the height of fever, or in conditions of collapse, alcohol is often necessary, but it is never recommended to our patients for indefinite use, still less for increasing doses. Armed with a prescription for a hypnotic, patients commonly go on taking the drug long after the relief of the special circumstances for which it was prescribed, and the prescription may be used to facilitate the acquisition of large quantities of a dangerous drug obtained, perhaps, at several establishments in small amounts.

British Medical Journal, April 4, 1903.

The Surgical Treatment of Sciatica.—J. Crawford Renton exposes the nerve below the gluteus maximus, and separates the inflammatory adhesions around the nerve and up to the sciatic notch. No stretching of the nerve is employed. In perineuritis there is no pain when resting, but whenever the patient walks for a few minutes the pain commences. In some cases it takes six or eight weeks for improvement to take place, because the nerve has been dragged on by adhesions.

Head-drop Following Diphtheria.—Joseph Beard reports the case of a girl of six years upon whom he performed a tracheotomy. For about three weeks she improved. When it was noted that she had a nasal intonation of her voice and a little fluid returned through the nose when drinking. Her legs did not bear her body well, and she had trouble in raising her head and keeping it raised. The dropping of the head grew worse till she had no control over it. In about nine weeks from the onset of the illness, however, she had almost entirely recovered from the paralysis.

The Meaning of the Term "Neurasthenia" and the Etiology of the Disease.—P. C. Smith says that there is a condition not far removed from the etymological meaning of neurasthenia which stands in need of a name; it is an important factor in the etiology of the disease neurasthenia, and it is one of the most potent factors of unhappiness among men. This lesser condition may be described as neurasthenia minor, while the name neurasthenia major is given to the recognized disease. The former condition is hereditary, and is also congenital. It consists apparently of an inborn feebleness of nervous impulses, both centripetal and centrifugal. The conditions of neurasthenia minor and postnasal adenoids are very often associated. As to neurasthenia major, there appear to be two classes of cases from the pathogenetic point of view: (1) Cases arising from shock. (2) Cases due to the exacerbation of neurasthenia minor by depressing (or toxic) influences, such as worry and anxiety.

British Medical Journal, April 11, 1903.

Clinical Lecture on the Importance of Early Removal of Doubtful Tumors of the Breast.—J. Crawford Renton emphasizes the importance of early operation in any patient over thirty years of age. If the patient complains of a small hard lump in the breast, the sooner the lump is removed, along with the breast and the glands, in the majority of cases, the better it will be for the patient. A simple cyst may be dissected out and examined microscopically for malignancy, but when multiple cystic disease exists, the whole breast should be removed. The writer quotes a number of cases which come under the category of doubtful tumors of the breast, examination of which, after their removal, proved them to be cancerous.

Puerperal Hyperpyrexia of Malarial Origin.—Percy B. Spurgin reports this case: The patient had lived in India for some years prior to her marriage. The labor at the time of this report was most difficult, owing to contracted pelvis. The temperature for thirty-six hours afterward was normal, and the patient was doing well. But on the evening of the second day there was intense headache and dull aching in every limb. The temperature was 103° next day, it was the same in the afternoon, but had risen to 103.2° in the evening. There was itching of the skin all over the body. On the following day a rash developed. The diagnosis was tertian ague, and the chart bears it out.

On Recurrent Abortion, with Special Reference to that Form Due to Deficient Vitality of the Mother, or Both Parents, and Often Associated with Some History of Tuberculosis.—John W. Taylor states that of the rarer forms of recurrent abortion, a few are due to intraperitoneal adhesions, and especially to those associated with chronic appendicitis. Another very occasional cause is a deep laceration of the cervix. There is a definite group of cases of nearly equal importance to that belonging to syphilis, and the most distinguishing features which bind these cases together are: (1) Indications of a low vitality on the part of the mother or father, or both parents. (2) A "strumous" family history. (3) The remarkable result of an essentially "antistrumous" treatment when carried on for a long period of time or throughout the whole of the pregnancy.

Berliner klinische Wochenschrift, March 23, 1903.

Osmotic Pressure of Human Bile.—H. Strauss shows that the osmotic pressure of human life is practically the same as that of the blood. The bile was obtained from two persons who had biliary fistula, and the osmotic pressure was estimated on the basis of the freezing point These results are opposed to those recently reported by Messedaglia and Coletti, who found that human bile taken post-mortem shows a higher osmotic pressure than that of the blood—this is probably to be accounted for by the renal insufficiency which develops shortly before death. The administration of water has no influence upon the osmotic pressure of the bile, but when salt-solution (5 per cent.) is given the freezing point is lowered from two to three degrees centigrade.

French Journals.

A Case of Primary Epithelioma of the Uterine Tube.—Danel states that primary epithelioma of the Fallopian tube is a rare affection. The patient was forty-seven years old. Her trouble was diagnosed as uterine fibroma. Two years before, she was seized with pain in the lower pelvis associated with the rectum. It was thought that there was a purulent pocket which had pressed against the rectum. It opened spontaneously into the intestine at the end of a few days. The pain ceased and the patient thought she was well. In about five months the patient was suddenly seized with pain in the kidneys. An abundant white discharge also appeared. Examination was made, and the diagnosis of old perimetrosalpingitis was established. Operation was undertaken, supravaginal hysterectomy being performed. The uterus was the size of two fists. The wall was hypertrophied. All of the posterior surface was covered with adhesions. The adnexa were abnormal. The right tube was epitheliomatous. In a few months the patient returned with symptoms of intestinal obstruction. An artificial anus was made, but death soon occurred. The diagnosis of primary epithelioma of the Fallopian tube has probably never been made before operation.—*Journal des Sciences Medicales de Lille*, March 14, 1903.

Two Observations of Multiple Hæmatomas in the New-born.—Bouchacourt and Jeanin have observed these cases of new-born children who presented phenomena of infection not clearly understood, with jaundice, and in which were found, at autopsy, a series of hæmatomas. The first infant was a "bleeder," and probably syphilitic. He suffered from repeated umbilical hemorrhages, which could not be arrested by any treatment, even adrenalin. There were various hæmatomas and ecchymoses over places where there had been any pressure, whatever. Death rapidly supervened. The second child presented an eruption which looked like erysipelas, but which was not due to the streptococcus. At autopsy an enormous hæmatoma was discovered in the left psoas. Its origin was unknown, as the birth had been spontaneous and

normal. Although in the first case the infection was certainly of umbilical origin, this could not be affirmed of the second case.—*La Presse Médicale*, March 28, 1903.

Thoracic Traumatism and Pulmonary Tuberculosis.—Franchomme states that the development of pulmonary tuberculosis consecutive to traumatism of the thorax is considered possible by pathologists. However, the conditions of this evolution are not set forth in an explicit manner in classic works. The writer then reports a case: The patient suffered an industrial accident, by means of which the second, third, and fourth ribs on the left side were broken. The ribs were set. The hygienic surroundings were poor. In six weeks after the accident the patient seemed in very good condition. But shortly after this, in the tenth week, he began to cough; fever appeared, his appetite diminished, and he began to lose flesh. In spite of all precautions, pulmonary tuberculosis advanced, and he died five months after the accident. The defective hygienic conditions favored the development, in a soil prepared by the results of the accident, of the germs of this disease which are scattered everywhere.—*Journal des Sciences Médicales de Lille*, March 28, 1903.

A Case of Cerebral Rheumatism.—F. Vandeputte reports this interesting case. The patient was a man of thirty-nine years, who had an attack of rheumatism in the left knee, on December 13, 1902. There was nothing striking in the family history. The patient was a hard worker and an alcoholic. Salicylate of soda was prescribed. Nothing abnormal was noted in the urine. A slight murmur developed at the cardiac apex. A blister was applied over the precordial region. There was great prostration and much sweating. Drinks were ordered to be given in abundance. An eruption developed over the thorax and abdomen. The writer fearing cerebral complications, ordered the cold pack, but this was refused by the family. Insomnia persisted, accompanied by tranquil delirium and professional preoccupations. The temperature and pulse rose, and the patient became comatose, while from time to time there were convulsions localized to the inferior members. On December 24 the respiratory became difficult, the face cyanotic, and the patient died some hours later in hyperthermia. The writer asks if it was alcohol which had put the brain into a condition of least resistance.—*Le Nord Médical*, April 1, 1903.

The Nasal Origin of Iritis.—L. C. Bachand concludes that (1) The etiological causes of iritis are numerous, and iritis called idiopathic tends more and more to disappear from pathological records. (2) The infectious origin of iritis is demonstrated by the existence of numerous and indisputable facts. (3) The nasal origin is demonstrated: (*a*) By the absence of causes generally invoked in the production of iritis; (*b*) by the coincidence of the beginning of iritis with a nasal inflammatory attack; (*c*) by the influence of treatment or the rapid disappearance of ocular accidents coincident with the amelioration of the nasal affection. (4) The pathogenic study of this affection is represented by three theories: (*a*) The nervous theory, the vascular theory, and the infectious theory. It is the last, based on recent observations, that seems the best. (5) The symptoms of iritis of nasal origin are those of iritis in general. (6) The prognosis is good, excepting the old cases, in which pupillary occlusion necessitated surgical intervention. Treatment consists in allaying pain and avoiding synechiæ, and especially in treating the primary nasal affection.—*Le Bulletin Médical de Quebéc*, February, 1903

The American Journal of the Medical Sciences, Feb., 1903.

A Case of Multiple Melanotic Sarcoma Unsuccessfully Treated by X-Rays.—James P. Marsh urges *x*-ray therapeutists to have their work in large, rapid-growing sarcomata checked up by a frequent examination of the blood, especially as regards the leucocytosis. Although the *x*-ray seems to be of inestimable value in the ordinary slow-growing epitheliomata of the skin before glandular development has occurred, still the *x*-ray therapeutist should be willing to apply the same three-year rule to his work as does the general surgeon. Several times during this treatment of cases of recurrent cancer of the breast, the writer has felt that although the local condition has been much benefited, metastases in the internal organs occurred much more quickly than they used to do under the old methods of treatment. In the case reported, of multiple melanotic sarcoma, the writer had the question of leucocytosis investigated, and the blood examinations showed a steady fall in the number of leucocytes with each treatment. It seemed as if the *x*-ray treatment was having a direct detrimental effect, and, in the interest of the patient, it was discontinued

The Pathology of Labial and Nasal Herpes and of Herpes of the Body Occurring in Acute Croupous Pneumonia, and Their Relation to the So-called Herpes Zoster.—William Travis Howard concludes that: (1) Herpes zoster is a pathological condition, like pneumonia, for instance, with definite lesions of certain sensory ganglia sensory nerves, and the skin, capable of being excited by a variety of causes. It is probable that the primary ganglionic lesions are commonly due directly or indirectly to the soluble toxins of various microorganisms. The skin lesions may be on the head, neck, trunk, or extremities, corresponding to the Gasserian and posterior root ganglia affected. (2) Various forms can be distinguished: spontaneous or primary herpes: herpes occurring after certain definite toxic agents, as arsenic, etc.; herpes occurring in the course of certain acute infectious diseases, as pneumonia, cerebrospinal meningitis, and probably of malarial and typhoid fevers; herpes simplex, so-called. (3) As far as changes in the skin in herpes are concerned, they are illustrations of particular forms of necrosis and inflammatory reaction, and, as in similar lesions in other organs, can probably be excited in a variety of ways. (4) Herpes should be classified according to its relation to changes in the nervous system, and to this end every possible opportunity should be embraced for extending our knowledge in this direction.

Diseases of the Pancreas.—John B. Deaver states that the pancreas holds a relation to many important structures, and the severity of the symptoms when it is attacked by disease is undoubtedly due to this relation. Pancreatitis may be divided, clinically, into acute, subacute, and chronic. The acute form is characterized by the sudden onset of pain in the epigastrium, colicky, and accompanied by prostration and anxiety. Vomiting is an early symptom and is, as a rule, severe. There is a tender swelling in the epigastrium, tympanitic upon percussion. Constipation develops. Collapse may rapidly follow, with a distending and rigid abdomen, small, rapid pulse, irregular temperature, delirium, and death. In the less acute cases life may be prolonged for days, and recovery sometimes occurs. The diagnosis is difficult. Subacute pancreatitis will present the general symptoms of the more severe type, but in a lessened degree. Chronic indurative pancreatitis is probably a more common disease than the number of reported cases seems to show. The chronic form must be treated by abdominal section and cholecystostomy. Of the new growths occurring in the pancreas, carcinoma is the most frequent. Malignant disease of the pancreas is better left alone, or a palliative measure performed, such as cholecystostomy or cholecystenterostomy. The writer concludes his paper by a short summary of *x*-ray findings in pathological conditions of the pancreas, by M. I. Wilbert.

A Study of Some Cirrhoses of the Liver.—Beverley Robinson gives as the principle forms of cirrhosis: Atrophic, hypertrophic, and syphilitic. As to their pathology, in the hypertrophic, the fibrous tissue is finer, less formed, accompanied by a cellular growth, and runs along the smaller branches interstitially. In the atrophic form this fibrous tissue is coarser, better formed, shows greater tendency to contract upon and disorganize liver cells, extends along larger branches of the interstitial tree, and is not accompanied by cellular growth to the same degree at all. In syphilitic cirrhosis there are broad bands of fibrous tissue, which penetrate between the lobules and draw the liver down near the surface in such manner as to leave the puckered, scarred appearance, with bossy, prominent, irregular masses between, which are so characteristic. In atrophic cirrhosis the main distinguishing clinical feature is the evidence of marked portal obstruction. Abdominal effusion arises. Jaundice is a rare sign. The real duration of these cases is long. In the hypertrophic form ascites does not often occur, but jaundice is a marked and almost omnipresent symptom. Like to atrophic cirrhosis, hæmatemesis is not infrequent. As to clinical symptoms, syphilitic cirrhosis resembles one of these two forms. There may be jaundice and no ascites, or there may be both ascites and jaundice. Or, neither sign may be present. Despite the fact that it is affirmed that jaundice does not occur in atrophic cirrhosis, it would seem as though we may and do have jaundice in all forms of cirrhosis. Jaundice occurs earlier in the hypertrophic form than in the atrophic. The prognosis of hepatic cirrhosis has usually been most gloomy. To-day we are more encouraged, and regard certain cases very hopefully. The first indication of treatment is from the point of view of arresting growth of fibrous tissue in the liver, and to the preservation of the remaining healthy liver cells. This is accomplished, if at all, when alcohol has been an etiological factor, by the abandonment of its use.

Society Reports.

THE PRACTITIONERS' SOCIETY.

One Hundred and Seventy-eighth Regular Meeting, Held on Friday, February 6, 1903.

Limitations of Diagnosis and Results.—By Dr. EDWARD G. JANEWAY (vide page 641).

Dr. BEVERLEY ROBINSON said that every practitioner of medicine could doubtless recall instances in which he had been mistaken in his diagnosis, and there was comfort in the fact that such mistakes could not always be avoided. He agreed with Dr. Janeway that there were certain limitations of diagnosis, which could be pretty distinctly drawn. In doubtful cases, when the probabilities pointed in a certain direction, he thought it better to make a provisional diagnosis, even if it subsequently proved to be wrong, rather than to make a "snap" diagnosis and be correct.

Dr. ROBERT ABBE said that the subject of Dr. Janeway's paper appealed to both the physician and the surgeon, and in the diagnosis of doubtful cases he was more and more inclined every day to take the advice of the late Dr. Geo. A. Peters, and "let it simmer." The trend of the times, however, was to make a diagnosis as quickly as possible, and get results promptly. In certain surgical conditions, particularly in tuberculous lesions, a positive diagnosis was often very essential. The speaker inquired whether the injection of tuberculin for diagnostic purposes, would be safe and reliable and justified as a routine measure—for example, in tuberculous peritonitis? There were certain other surgical conditions in which a positive diagnosis could not be made promptly, particularly in abdominal cases. For the purpose of clearing up such a case, he thought an exploratory operation was more justifiable nowadays than formerly, providing the operator was willing to stop short at a certain point, and not do more than he had planned to do nor the patient was willing to have done.

Dr. ROBERT F. WEIR said that Dr. Janeway's paper offered many opportunities for discussion. The possible difficulty of recognizing tuberculous lesions had been suggested by Dr. Abbe, and the following case, which the speaker saw in consultation a few days ago, had some bearing on that point. The case was one of orchitis, the testis being swollen and very painful. The physician in charge had made an injection of tuberculin, which produced no reaction, and this had led him to suspect that the case was one of sarcoma. Dr. Weir, however, still believed that the lesion was tuberculous, and a second injection of tuberculin was followed by a satisfactory reaction. At a subsequent operation, the epididymis was found to be tuberculous. In doubtful lesions, especially of the tongue, when the diagnosis rested between epithelioma and syphilis, the results of a test treatment with potassium iodide were not always to be relied upon, because cancers of the tongue often improved temporarily under the use of large doses of that drug. But unless this treatment was followed by a decided and continuous improvement, too much importance should not be attached to the result of it. In such cases a more prompt diagnosis is made by the removal and examination of a section of the growth. In reference to the mistake made by a prominent Western surgeon, alluded to by Dr. Janeway, who had operated for the removal of a tooth-plate which was supposed to be obstructing the œsophagus, Dr. Weir said there was much justification for the error. It has been made apparent in the published report of this case that during the desperate efforts that were made to remove this supposed obstruction, before the surgeon saw the patient, the hyoid bone was grasped by an instrument and the tissues of the lower pharynx were considerably lacerated, resulting in œdema, which spread to the larynx, producing such severe obstruction to respiration that a tracheotomy became necessary. This clouded the instrumental examination of the œsophagus. The *x*-ray shadow, which was supposed to be the foreign body, was produced by a calcified plate of the aorta.

Dr. GEORGE L. PEABODY reported the following case as an example of a mistaken diagnosis: The patient was a man who was unable to speak English, and it was impossible to get his previous history. He had a high temperature, several chills with sweating, and on the skin there were a few perfectly distinct, punctate hemorrhagic spots. A blood culture was made, and the pathologist reported that streptococci were present. The case was thereupon regarded as one of clinical sepsis and a bad prognosis was given. About ten days later the patient had a copious hemorrhage from the bowel, and subsequent observation showed the case to be one of typhoid fever, from which the patient made an uneventful convalescence. The only explanation Dr. Peabody could offer for the presence of streptococci in the blood was the supposition that the pathologist had confused the blood with that of another patient. As to tuberculin, Dr. Peabody said he did not hesitate to use it for diagnostic purposes. Occasionally, harmful results had been reported from its use, but these occurred so rarely that he considered it perfectly proper to resort to it.

The speaker thought the numerous laboratory aids now availed of in diagnosis were likely to make the rising generation of physicians more careless observers, and lead them to place less reliance upon their own skill and experience. There were many able young physicians to-day who would not make the diagnosis of typhoid fever without the Widal reaction, in spite of the fact that the latter often could not be obtained until the end of the second week. Too much reliance was also placed upon the presence or absence of tubercle bacilli in the sputum in cases of suspected pulmonary tuberculosis to the neglect of history, symptoms, and physical signs. The speaker mentioned a case of fatal pulmonary tuberculosis in which the tubercle bacilli were never found, and only on one occasion during several weeks of observation could sufficient purulent sputum be obtained for a satisfactory examination. All the other symptoms of the disease, however, were present.

Dr. Peabody agreed with Dr. Weir that potassium iodide would temporarily relieve the symptoms of a non-syphilitic tongue lesion, and he recalled a case of cerebral tumor, which subsequently proved to be a sarcoma, in which the symptoms were markedly improved for a time by large doses of the iodide. He explained this fact by the diuretic action of the drug and its effect upon the heart, which tended to relieve local congestion and pressure in the neighborhood of the lesion. It had no permanent good effect, excepting in syphilitic lesions, but one might easily be misled by its transitory influence.

In some cases of syphilis of the liver, after bands of connective tissue were formed and pressed upon important branches of the portal vein, with the subsequent development of ascites, no amount of anti-syphilitic treatment would remove those bands. If the treatment were given sufficiently early in the course of the disease, it would relieve the pain and fever and the general hepatic symptoms, but after the formation of cicatricial bands, it would have very little effect. Such a case had recently come under his observation. He mentioned this as illustration of a syphilitic lesion which would not yield to specific treatment, and in the case of which, treatment would not assist in making the diagnosis.

Dr. HERMANN M. BIGGS said the difficulties in recognizing smallpox were often very great, and sometimes even insurmountable, especially in the country. Last December he went to a town in Connecticut to inspect a number of doubtful cases which had given rise to much uncertainty. The first case had been seen several months before, and had been pronounced impetigo. Subsequent

cases were regarded as chickenpox. During Dr. Biggs' visit he found thirty cases of smallpox, all of them, with one exception, of an exceedingly mild type, most of the patients being up and about. The exceptional case was one of confluent smallpox. In order to illustrate the difficulties surrounding the diagnosis of smallpox in certain instances, the speaker mentioned the following case: A patient with an eruption of doubtful character was sent to the Reception Hospital and examined by all of the diagnosticians of the Board of Health—men who had been seeing smallpox for ten years and more—and the consensus of opinion was that the case was not one of smallpox. A year or two ago the discovery was made that it was possible to differentiate between smallpox and chickenpox by inoculating monkeys, as they were very susceptible to the former disease. In the doubtful case referred to above, which had not been regarded as smallpox by the diagnosticians of the Health Board, inoculation upon a monkey produced typical smallpox pustules. Dr. Biggs said the inoculation test with monkeys was a very useful one in the very mild cas s of smallpox, which have occurred in large numbers throughout the country during the past few years. Such a doubtful case could be kept under observation for four or five days, and during that time the inoculation of a monkey would determine the true character of the disease. The speaker said that three or four years ago he had a conversation with Koch in regard to the use of tuberculin for diagnostic purposes, and Koch had informed him that every patient who was admitted to the Institute for Infectious Diseases in Berlin, who did not show well-defined symptoms of tuberculosis was given tuberculin in order to exclude the presence of that disease. In the well-defined cases of tuberculosis the test was omitted, but patients who were suffering from any other form of infectious disease were injected with tuberculin in order to exclude tuberculosis. At that time it had been administered to over 5,000 patients as a routine measure, and Koch said he had never seen any unfortunate results follow its use. The first injection was limited to one milligram, and if, after three or four days had elapsed, no reaction followed, a second injection of two and one-half milligrams was given, and if this was followed by no reaction after three days, a third injection of five milligrams was given. If there was any reaction at all, after any one of the injections, then a second dose of the same amount was administered. A slight reaction after one dose was usually followed by a more severe reaction after a second similar dose. Koch stated that he was never satisfied with the result of a single injection, and that the dose varied in different individuals. The observation of a single case often occupied two weeks.

Dr. Charles Stedman Bull said that cases of optic neuritis like those referred to by Dr. Janeway were not particularly rare. He could recall eight cases of optic neuritis, with hemorrhages and marked disturbance of vision, occurring at the age of puberty without any apparent cause. He had under his care at the present time a girl of seventeen who had never menstruated, and who recently developed a double papillitis, with hemorrhages strewn all over the retina. There was apparently no other symptom, either subjective or objective, anywhere in her body. He had put the case down as one of papillitis at the menstrual epoch, but with no menstruation. All of these patients, Dr. Bull said, regained a certain amount of useful vision, and in two of his eight cases normal vision was regained after a varying length of time. The actual loss of vision was more dependent upon a general retinal œdema than upon the hemorrhages or the swelling of the optic disk.

Dr. Abbe inquired whether a single tuberculous nodule in the body, without general tuberculosis, would give a reaction to the tuberculin test? He recalled the case of a small mammary tumor which, after its removal, proved to be tuberculous, although its true character had not been suspected before. In order to learn whether any tuberculous tissue was left in the system, an injection of tuberculin was given. This was followed by no reaction, and the patient had remained well since the operation, a period of over four years.

Dr. Janeway, in closing, said that one difficulty with the tuberculin test was that it did not tell you where the lesion was located. Councilman of Boston obtained a reaction in a syphilitic lesion of the lung. Dr. Janeway said he could not agree with the statement made by Koch that the use of the tuberculin was practically harmless, or, at any rate, that he had never seen a single bad result follow the injections. Personally, he would not resort to it unless he considered it absolutely essential. He understood that Koch himself had changed his method in regard to the use of tuberculin, and now practically followed the same practice as Dr. Trudeau, and gave it only in the afebrile cases—not in the febrile cases. Dr. Janeway said he had seen four cases of optic neuritis, three in girls and one in a boy, which developed at the age of puberty, and for which absolutely no cause could be discovered. There were no other symptoms anywhere in the body. In former years, the speaker said, such an optic neuritis would, no doubt, have been regarded as an evidence of brain tumor.

Successful Removal of a Piece of Steel from the Interior of the Eye.—Dr. Charles Stedman Bull reported the case of a man, who, as the result of a machinery explosion, was struck in the eye by a flying fragment of steel. It perforated the cornea, iris and lens, and entered the vitreous body, which became filled with blood. Three hours after the accident, when Dr. Bull first saw the patient, it was decided to make an attempt to extract the foreign body by means of the great Haab magnet. At a distance of one and three-quarter inches the action of the magnet produced such a violent disturbance within the eye that it seemed as though the latter would be pulled from its socket. This left no doubt as to the location and nature of the foreign body. The wound in the cornea was thereupon enlarged, and when the eye was then brought into almost actual contact with the magnet, a piece of steel, about four millimeters long, and about three and one-half millimeters wide was drawn out through the original hole in the lens, iris and cornea, and became adherent to the pole of the magnet. An ophthalmoscopic examination made subsequent to the removal of the foreign body showed a hemorrhage of the vitreous. After a period of ten days' treatment the patient was discharged from the infirmary with the hole in the cornea and iris partially closed, and his vision was about two-thirds normal. There was no further cloudiness of the lens, in spite of its having been perforated. Dr. Bull said the case reported was the most favorable one of the kind he had ever observed. The future of the case would be interesting. In many instances in which a foreign body had entered the posterior part of the eye, the eyeball was ultimately destroyed, even after removal of the foreign body.

The Changes in the Uterus in the Course of Acute Infectious Diseases.—Stravoskiadis, after an exhaustive analysis of cases, comes to the conclusion that infectious diseases are frequently complicated by an acute inflammation of the endometrium, which is often hemorrhagic, but may be of a different nature and vary in degree. This inflammation is usually caused by specific organisms which correspond to those producing the original infection; though when complications supervene it may be their organisms which excite the endometritis. This infection of the uterus is effected by way of the blood current, and is predisposed to by pregnancy or the puerperium. The abortions and premature labors occurring in the course of the acute infectious diseases are frequently induced by such an endometritis of hæmatogenous origin. —*Monatsschrift für Geburtshülfe und Gynäkologie.*

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held April 16, 1903.

VIRGIL P. GIBNEY, M. D., VICE-PRESIDENT, IN THE CHAIR.

THIS meeting was in charge of the Section on Laryngology and Rhinology.

The Relation of the Diseases of the Upper-air Passages to the Diseases of the Gastrointestinal Tract.—Dr. LEWIS A. COFFIN presented this paper. He said that these diseases were of special interest because of their almost universality. He had been struck with the large number of patients complaining solely of the symptoms of chronic nasopharyngitis, or postnasal catarrh. The disease *per se* was a local one, and might or might not be associated with disease of the other parts of the upper-air passages. Considerable modification of the voice might occur, and complaint was sometimes made of affection of the middle ear. The stoppage of the nostril lying next the pillow at night was probably dependent upon enlargement and hyperplasia of the posterior ends of the inferior turbinate bones. Where the condition was of very long standing there was apt to be atrophy of the mucous membrane. The pathology was the pathology of a cirrhotic membrane. Among the various causes of postnasal catarrh were: (1) direct irritation from the inspiration of impure air; (2) extension of the catarrhal inflammation from the mucous membrane lining the nasal cavities; (3) structural deformity of the nose; (4) irritation from the drainage of secretions from diseased accessory sinuses of the nose; (5) reflex action from disordered digestion; (6) lithæmia, and (7) direct irritation from the gases and products of fermentation from a disordered stomach. The mucous membrane of the anterior nares of such a patient might or might not be diseased, and this fact led one to look for the cause outside of the respired air. Children, although seldom presenting great structural deformity of the nose, were quite as frequently affected as adults. Examination revealed a thoroughly diseased condition of the inferior meatus, whereas no such change was observed in the middle or superior meatus. The author believed the chief cause was to be found in the escape of gases from a disordered stomach and the consequent direct irritation of the mucous membrane. Dyspeptic children were constantly throwing up food and the irritating products of disordered digestion into the pharynx. The pharynx of such a child presented an appearance very similar to the granular condition observed in adults. The speaker said that quite recently he had predicted the development of an attack of otitis media in an infant whom it had been found very difficult to feed, and who was constantly vomiting. Within a week or two the prediction was fulfilled by the occurrence of an otitis media first on one side and then on the other, evidently the result of the irritation produced by the vomited matter. The irritating quality of certain subacid contents of the stomach was almost as great as that found in persons suffering from hyperacidity. Many of those suffering from acid dyspepsia had nasopharyngeal catarrh and were not aware of the existence of dyspepsia, but careful inquiry would usually reveal the presence of symptoms of gastric hyperacidity. He believed the enlargement of the posterior ends of the turbinates was often responsible for the catarrhal and empyemic conditions found in the anterior nares and various sinuses, as it acted by preventing drainage, thus favoring bacterial growth and infection. With the kind coöperation of Dr. W. D. Roberts he had succeeded in securing a careful examination of the stomach in fifteen children with adenoids and in thirty adults showing postnasal catarrh. Ten of the children and twenty-four of the adults presented more or less disorder of the stomach. Among the adults, twelve suffered from chronic gastric catarrh.

Some Relations between Diseases of the Nose and Throat and Those of the Thoracic Cavity.—Dr C. G. COAKLEY was the author of this paper. He said that, in order properly to appreciate the influence that the upper respiratory tract had upon the lower one must recall the fact that the function of the upper portion was to warm, moisten, and filter the inspired air. By the time the air had reached the nasopharynx it was completely saturated with moisture. The filtration of the air was accomplished partly by the hairs at the nostrils and partly by the sticky mucus secreted by the glands of the nose. Mouth breathing, if persisted in, was certainly most injurious. Although very vascular, the mouth had no cavernous tissue by which its blood supply could be so nicely regulated as in the nose. In cold weather one noticed the cold sensation when breathing through the mouth, and the absence of this sensation when air of the same temperature was breathed through the nose. The dust particles were not so readily entrapped in the mouth because the cavity was large. One of the commonest causes of mouth breathing in early life was enlargement of the tonsils and the associated condition, hypertrophy of the adenoids of the pharynx. In cases of anæmia, owing to the insufficient blood supply, the air was not sufficiently warmed, and the result on the upper-air passages was the same as already considered. Here local treatment was of no avail; constitutional treatment was called for. In the treatment of asthma it was most important to search carefully for special sources of irritation, whether they were located in the upper air passages or in the digestive system. In cases of chronic asthma it was highly probable that the nerve endings had become so sensitive that the asthma would continue even after removing the original sources of disturbance. Many practitioners were of the opinion that polypi and asthma were intimately associated, yet in his own records only about 15 per cent. of the patients showing polypi suffered also from asthma. It was not uncommon for nasal operations to be followed by relief from asthma for a period of several months, and then the disease would return as before. With regard to diseases of the lower respiratory tract giving rise to disease of the upper-air passages, the speaker said that cough should receive more attention. Coughing, if long, paroxysmal and severe, gave rise to hoarseness. Paralysis of one or the other vocal cord was sometimes seen. The left recurrent laryngeal nerve might be involved in a tuberculous deposit. Lesions of the heart frequently caused pathological changes in the throat which were readily recognized. The treatment in such a case should be directed first and foremost to the cardiac condition. The veins along the walls of the pharynx and the root of the tongue were very frequently enlarged in connection with cardiac lesions. Paralyses of the left vocal cord due to aneurysm of the aorta were common enough. In such cases the *x*-ray was occasionally of great service in detecting the source of the trouble.

Dr. MAX EINHORN objected to the position taken by Dr. Coffin with regard to the relation of disorders of the stomach to nasopharyngeal catarrh because eructations of irritative gases, such as sulphuretted hydrogen, were quite exceptional, occurring only in cases of obstruction of the outlet of the stomach. In the majority of cases of belching up of gas these eructations were totally unnecessary and were largely a matter of habit. Moreover, these eructations consisted chiefly of air. Again, his own experience showed that many patients, suffering from severe and long standing disorder of the stomach, the result of organic lesions and associated with eructations of gases, were wholly free from nasopharyngeal catarrh. In few cases disorder of the stomach resulted from disease of the nasopharynx, as, for example, in cases in which there was frequent swallowing of mucus. He had known transient attacks of acute diarrhœa to result from the swallowing of large quantities of this acrid mucus.

Dr. D. BRYSON DELAVAN said that he had been interested

in this subject for many years. Early in his experience with throat diseases he had noted that many cases of dry pharyngitis were associated with constipation, and that by curing the latter and applying stimulating applications to the throat, recovery ensued. He had not found it very often necessary to treat surgically the diseased lingual tonsil, because this condition was usually very amenable to treatment directed toward improving digestion. It was very common to find hypertrophy of the adenoid tissue of the pharynx in dyspeptic children, and, he thought, there could be no doubt that the products of defective digestion tended directly toward adenoid hypertrophy. Many cases of hyperæsthesia of the pharynx were relieved by the cure of the associated indigestion. While he believed all the conditions mentioned by him were dependent upon indigestion, one should not go too far in ascribing to this cause the many affections of the upper-air passages. He was of the opinion that paralysis of the vocal cord due to pleuritic adhesion must be excessively rare, and that many cases reported as having this etiology were really examples of ankylosis of the crico-arytenoid joint.

Dr. George R. Lockwood said that he recognized that there was a close connection between disease of the stomach and of the upper-air passages, yet on going over his records with the object of separating and classifying the cases it seemed almost impossible to make a satisfactory analysis. The cases giving a gouty history were not as numerous as he had been led to believe from a study of the literature. He had been astounded to find so many confirmed alcoholics with good gastric digestion and a normal condition of the throat. The morning retching of alcoholics, together with the irritation of the throat produced by the alcohol, must necessarily be powerful factors in the production of pharyngitis. Another group of cases having disease of the throat was that in which the individuals were addicted to over-eating and refrained from taking sufficient exercise. Cases in which the stomach and intestine were atonic, especially the colon, often exhibited a chronic congestion of the pharynx, probably as a result of toxæmia, for, in these cases the urine was loaded with indican and the patients suffered from congestive headaches. A third class comprised cases of hyperacidity, especially those associated with atrophy. In these cases, more frequently than in any others of acute gastric affection, there was apt to be pharyngitis, and they were also prone to develop areas of hyperæsthesia at the base of the tongue. He did not believe that the eructations of gas were etiological factors, because in most instances the gases eructated were atmospheric air and carbon dioxide. The patients suffering from hyperacidity were always troubled with an excessive secretion of saliva. These were the persons who were always salivated on passing the stomach tube. He was inclined to think that this free secretion of saliva was an effort of nature to dilute the acid secretion.

Dr. Beverley Robinson said that it was evident from this discussion that there must be a close and undoubted connection between throat affections and the state of the digestive tract. He had long deplored the strong surgical tendencies in laryngology and rhinology, and hence these papers and this discussion were reassuring as pointing to a better understanding and a closer association between this specialty and general medicine. Twenty-one years ago he had given to the profession a paper on impaired cardiac action as a cause of certain affections of the throat, and was surprised to find that after the lapse of so many years his views on this point had undergone but little change. In this connection he desired to say that very marked relief could be given in certain rather acute congestive conditions of the nose and throat by the administration of carbonate of ammonia and small doses of digitalis and strychnia.

Dr. Emil Mayer spoke of the importance of relieving reflex coughs those coughs occurring without secretion and without cessation, and aptly termed "useless coughs." It was not uncommon to find that the removal of some small and possibly hitherto unnoticed abnormality would promptly and permanently relieve a reflex cough of several years' standing. The speaker then spoke of the remarkably interesting and important experiments of Professor Dunbar on the relation of certain pollen to hay fever, and expressed the belief that it was reasonable to hope that in the near future one would see the effective treatment of hay fever by an antitoxin.

Dr. Charles E. Quimby thought there was no fixed connection between gastric disease and the throat and gastric disease and almost any other part of the body; it was only a question of the point of susceptibility in the individual.

Dr. Walter F. Chappell said he was not disposed to accept unconditionally Dr. Coffin's theory about irritation resulting from the eructation of gases being the cause of postnasal catarrh. He had seen more than one case of spasm of the larynx result from the excessive secretion of saliva following the eating of candy, particularly chocolate.

Dr. Coffin, in closing the discussion, said that those who had taken part in the debate had overlooked the fact that when he spoke of the eructation of gases he also mentioned that associated with this was the regurgitation of a most irritating fluid from the stomach. He did not remember a single case in which the patient had stated that the treatment of the throat had made the stomach well, but he could recall scores of cases in which appropriate treatment of the stomach had caused a prompt disappearance of the symptoms of the throat affection, although the local appearance might not yet appear to be quite normal.

SECTION ON SURGERY.

Stated Meeting, Held April 13, 1903.

Robert T. Morris, M.D., Chairman.

Observations on Retraction and Retractors in Abdominal Surgery; Demonstration of an Automatic Cœliotomy Retractor.—Dr. A. Sturmdorf read this paper. He said that the defects of ordinary retractors were made evident in prolonged abdominal sections which were rendered difficult by extensive adhesions. The edges of the wound were apt to be bruised and devitalized by the retractors ordinarily employed, and he was disposed to think that the late gaping of cœliotomy wounds recently reported might be explained in this way. To obtain a maximum of distension with a minimum of force the blades of retractors should be shaped as to exert their pressure upon the center. The shape of the retracting blade should conform to the line of the distended, and not the relaxed, wound. To accomplish this he made use of a retractor blade fitting the wound in the shape of an ellipse. In addition to this he used an automatic device for retaining the instrument in position. The retractor blade was modified from Fritsch and the self-retaining attachment from Kelly. The parts of the instrument were detachable for sterilization.

Dr. H. Lilienthal said that there was certainly room for a good automatic retractor, and while he did not believe this instrument would actually take the place of good hand retraction, still it should prove very useful.

Dr. M. S. Kakels said that he was familiar with the operation of this instrument, and had been surprised at the large field exposed for operation and the little damage done the tissues.

Dr. Robert T. Morris said that he had not given much consideration to the question of the amount of damage done to the edges of the wound by retractors. Personally he almost never used a retractor in abdominal work, and hence that would not explain his reported

case, in which there was late gaping of the abdominal wound.

The Relation of Cholelithiasis to Acute Pancreatitis with a Report of a Case—Dr. Joseph Wiener read this paper. He said that it was only in recent years that pancreatitis had been given the attention which it warranted. The brilliant paper of Fitz in 1889 had done much toward directing renewed attention to pancreatitis. Disease of the pancreas was often found associated with disease of the biliary system. When the duct of Wirsung was obstructed fat necrosis resulted, *i. e.* a splitting up of the fat into its component parts, fatty acid and glycerin. Besides fat necrosis, the signs of pancreatic obstruction were the presence of fat and undigested muscle fibers in the stools and glycosuria. The latter only resulted when the islands of Langerhans were involved, while fat in the urine was decidedly rare. A moderate inflammation in the head of the pancreas might cause that organ to enlarge sufficiently to obstruct the flow of both bile and pancreatic fluid into the duodenum. Infection of the gall-bladder and ducts often occurred without the presence of stone. Generally, the symptoms of acute pancreatitis at the onset were those of peritonitis in the epigastric and hypochondriac regions. According to Deaver, there was usually colicky pain in the epigastrium with prostration and anxiety, while vomiting was apt to be an early symptom. The pain was usually agonizing in character, differing in this respect from the pain in cholecystitis. In many cases tenderness and swelling were either very slightly marked or entirely absent. In twenty-six of the thirty-two cases collected by Opie there was fat necrosis. Dr. Wiener then reported his own case. The patient was a married woman of forty-one years who had been free from previous intraabdominal disease and had been in good health up to January 28, 1903. At that time she experienced sudden and agonizing pain in the epigastrium. The attending physician, Dr. Davidson, was disposed to make a diagnosis of appendicitis. When first seen by Dr. Wiener on January 30 there was a pulse of 120 and a temperature of 102° F., with rigidity of the upper half of the rectus muscle. Exploratory incision was advised and done. The appendix was long and tightly bound down by old adhesions. It was removed. The omentum was thickly studded with small, irregular opaque white patches. There was a large stone in the cystic duct, which was milked back into the gall-bladder and cholecystectomy rapidly performed. No other stones were found. The head of the pancreas felt distinctly hard, but was not thought to be enlarged. The operation lasted one hour, and free hypodermic stimulation had to be resorted to. The gall-bladder was found to be enlarged and elongated, and its walls were dark and thickened. The omentum was found to be the seat of typical fat necrosis. Albumin and many casts were present in the urine. Gas and ether were the anæsthetics employed. On February 15 there were dulness and bronchial voice over both lungs. For some time after the operation the patient suffered from pulmonary consolidation, but this cleared up eventually, and on the eighteenth day after the operation she was allowed up. Four days later, the wound having completely healed, she left the hospital. These cases constituted another potent argument for early operation in cholelithiasis as well as for acute pancreatitis. In this case it was true a correct diagnosis was not made, but the successful issue was due to the early resort to exploratory operation.

Dr. Davidson, who was the attending physician in the case just reported, said that no doubt these cases were much more frequent than was supposed. There was no reason why septic organisms should not enter the pancreatic duct just as they did into the cystic duct. Four cases had been reported by Opie in which persistent vomiting had caused the affection. Four varieties of acute pancreatitis were usually described, viz.: (1) The ordinary; (2) the hemorrhagic; (3) the suppurative, and (4) the gangrenous. It was only in the simple form that there was much prospect of relief. In the case reported the agonizing nature of the pain seemed to be the most characteristic symptom. This pain was localized in the epigastrium and not over the liver or in the right iliac fossa. Palpation usually afforded no information. The fæces should always be examined, and if much muscle fiber or free fat were present, this finding would go a long way toward establishing the diagnosis of acute pancreatitis.

Dr. Sturmdorf said that cases in which the cystic duct alone was involved were not usually the ones in which acute pancreatitis was commonly found; hence the case appeared to be unusual, and in need of further elucidation.

Dr. Lilienthal believed that it was practically impossible to make a diagnosis of the more acute forms of acute pancreatitis. He was of the opinion that the disease was not always a surgical one by any means, occasional instances of recovery without operation being on record. Chronic pancreatitis was more important from the standpoint of the diagnostician, for such cases demanded operation, and indeed were commonly operated upon under an erroneous diagnosis. In the chronic form every effort should be made to make an accurate diagnosis. Here, a cholecystotomy could be done, thus draining the gall-bladder and relieving the pancreas to a certain extent, and massage could be applied to the pancreas. There were numerous cases on record in which recovery had followed operation in suppurative pancreatitis. He had had several cases in which there were occlusion of the common duct and deep jaundice in connection with pancreatic tumor; he had also found a stone in a common duct and none in the gall-bladder, the latter being atrophied and very small.

Dr. C. A. Elsberg said that a large number of experiments had been carried on to determine the cause of fat necrosis, and it had been found that only exceptionally did fat necrosis result from artificial obstruction of the duct of Wirsung. Normally the pancreatic and common bile ducts opened by a common mouth, but close examination would show the presence of a distinct septum, thus giving two separate openings.

Dr. A. V. Moschcowitz said that he had seen two cases of acute hemorrhagic pancreatitis without operation and without fat necrosis. In both cases the autopsy revealed extensive retroperitoneal hemorrhages. Acute pancreatitis was evidently especially common in alcoholic subjects. No mention had been made in the discussion of a peculiar cyanosis of the abdomen that was observed in some of these cases.

Dr. Charles H. Peck said that last summer he operated upon an obscure case presenting certain symptoms suggestive of an acute cholecystitis. There was considerable fever associated with tenderness and rigidity on the right side. An exploratory operation revealed thickening of the gall-bladder and some adhesions. The region of the appendix was normal. There was no suppuration of the gall-bladder and exploration of the ducts revealed no stones. The gall-bladder was drained and the patient recovered after a time, the temperature falling slowly.

Dr. Churchill Carmalt said that the septum between the two ducts at their openings was not so common as some seemed to think, being met with about once in four subjects in the dissecting-room of the College of Physicians and Surgeons, Columbia University. Experiment had shown that most of the so-called symptoms of pancreatitis could arise from mere traumatism of the pancreas without the ducts being affected at all.

Dr. R. T. Morris said that he had had a case in which a gallstone ruptured near the ampulla and escaped. The resulting hemorrhage apparently dissected away the

peritoneum in such a way as to entirely decapsulate the pancreas; at any rate, when he operated it was found converted into a slough. The patient made a good recovery, but developed a glycosuria. He thought the agonizing pain was due to the proximity of the pancreas to the semilunar ganglia. It was probable that obstruction plus sepsis accounted for the large proportion of the cases in which fat necrosis was associated with obstruction of the common bile duct.

Dr. WIENER closed the discussion. He expressed the opinion that acute pancreatitis was quite a common disease, as might be expected by reasoning from analogy. In quite a number of the reported cases the pain was not in the epigastrium; moreover, in about 30 per cent. of cases of appendicitis the pain was epigastric during the first day or two, and in many cases of cholecystitis the pain was also in this region, so that epigastric pain could not be considered at all characteristic. The swelling of the common bile duct could just as well obstruct the duct of Wirsung as could a stone. It was quite probable that a large number of cases of acute pancreatitis recovered without operation, and, indeed, without recognition.

Mesenteric Cyst.—Dr. ROBERT T. MORRIS presented this specimen. Although possessing a well-marked capsule, it was found to be a papillomatous sarcoma, probably derived from a lymph grand.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending April 18, 1903:

	Cases.	Deaths.
Measles	298	1
Diphtheria and croup	345	51
Scarlet fever	272	28
Smallpox	2	1
Varicella	83	..
Tuberculosis	318	183
Typhoid fever	64	5
Cerebrospinal meningitis	..	..

This Germ-infested Globe.—A German scientist announces that 12,000,000 bacteria inhabit the skins of half a pound of cherries. Currants come next with 11,000,000 to every half pound and grapes next with 8,000,000. Clean all fruit before eating, says this bacteriologist; peel or wash it. Evidently in the midst of life we are in death. How anybody manages to keep alive is a mystery. One would suppose that the planet would long ago have become a vast graveyard, in which about, in reel and rout, bacteria might dance in undisturbed supremacy.

When you sit down to dinner swarms of germs attend you. Is the drinking water boiled? A paltry five or ten minutes will not do. There are bacteria that will not succumb in less than an hour or two of vigorous boiling. And then who knows whether a few million germs failed to be washed out of the tumbler. Be careful of the milk. Salt the meat with disinfectants and butter the bread with germicide. By the time the tomatoes are peeled to get rid of the surface bacteria, and seeded to avoid the danger of appendicitis, there is not much left, to be sure, but then what remains is at least healthful. It is no small job to remove the skin from a currant in accordance with the latest recommendations of science. But much better work half a day over a saucerful than be dead the rest of one's life.

Mince and pumpkin pie by all means should be sterilized before eating. Boil carefully for an hour the day before serving, set away in a hermetically-sealed glass case and pasteurize on the day of the dinner. But the danger in food is only one of the variety of perils which modern science has revealed. Everybody knows that kissing is insanitary and that handshaking is frowned upon. Billions of noxious creatures lurk in the dust of the most carefully-kept house. The hygienic home should be constructed with curves to avoid corners. It must have no curtains, no rugs or carpets, no pictures. Have the housemaid scrub it every day with carbolic acid.—*Kansas City Star.*

The Use of Steam in Gynecology and General Surgery.—Steam as a disinfectant and hæmostatic, suggested about fifteen years ago by Prof. B. L. Suegeron, is, according to M. F. Kozleuko, gradually coming into general use in gynecology and surgery. In gynecology it is used in cases of persistent metrorrhagia and leucorrhœa occurring about the menopause. Such affections during the relaxed condition of the uterus at the menopause may be so persistent as to defy all treatment and make an hysterectomy imperative, while, at the same time, in the majority of such cases the general condition of the patients, weakened from prolonged hemorrhages and leucorrhœa, the condition of their hearts and kidneys, their atheromous arteries—all these conditions contraindicate a radical operation. In such cases the application of steam for the removal of the entire diseased mucous membrane, being painless, and obviating the use of narcotics, appears almost as a life-saving means, the more so, since after the application of steam, coalescence of the uterine walls occurs, with complete cessation of the metrorrhagia, leucorrhœa, and the menstrual discharge. In surgery steam may be used in operations on the liver as an hæmostatic without the addition of any other means. The parenchymatous hemorrhage from the wounds of the liver is stopped with the steam saw; the arterial hemorrhage—with the saturated steam passing through a tube applied obliquely to the wall of the artery. This is the more valuable to us, since up to the present time we have no absolutely safe hæmostatics in operations of parenchymatous organs. Lately B. F. Aregerov has used the steam saw in an operation of the kidney in pyelitis, without the loss of a single drop of blood. Steam may also be used in diseases of the eye and ear, nose and throat. —*Russkii Vratch.*

Old Methods of Treatment Which Are Not Necessarily Obsolete.—H. W. Syers decries the use of so-called hypnotics and an ipyretics in the treatment of fevers to the neglect of opium. This he considers the most reliable and the safest and most satisfactory drug in these cases. The antiseptic treatment of the alimentary canal in typhoid fever he believes to be as hopeless a proceeding as to undertake to empty the Thames with a tablespoon. Mere reduction of the temperature is of little value, and has a deleterious influence on the circulation. Ice packing gives too great a shock. In many cases of perityphlitis, in which there is no evidence of suppuration, medical measures should be preferred to surgical. The tendency to discard the use of opium he thinks is simply disastrous, and the foolish view that it should be denied must inevitably lead to a large number of cases being operated upon when such a procedure might easily have been avoided. In chronic renal disease, too, opium should not be denied. Bleeding in many diseases should be restored to favor; wet or dry cupping and flying blisters have their place in therapeutics. There is danger of overdoing the open-air treatment and the overfeeding practised in phthisis, and there is the greatest possible danger in the craze for the treatment of heart disease by baths and exercise. Gout can be better treated by the resin of guaiacum given in cachets than by modern methods founded on the uric-acid theory, the same drug being effective in rheumatism. The author would also call attention to the value of stimulating liniments in the joint affections of these diseases. Free purgation is less used than formerly in all cases, and in these days of self-indulgence and overfeeding this is a mistake. The author believes that there will be a reaction in favor of many of the methods of treatment which are

at present considered obsolete.—*Treatment*, February, 1903.

On the Use of Citric Acid in Uterine Hemorrhage.—The *Lancet*, March 14, contains the following: "In No. 8 of the present volume we gave an abstract of a paper read on this subject at the Royal Academy of Medicine, on January 13. Dr. Macleod, considering the introduction of a lemon into the cavity of the uterus to be a very novel, not to say an ingenious procedure, submitted it to the notice of the Westminster Medical Society, for the purpose, we suppose, of eliciting the opinions of the persons present respecting it. A discussion ensued: Dr. Granville expressed himself as opposed to the remedy, considering it to be unsafe and ineffectual Some gentlemen conceived that there would be great difficulty in getting the lemon out. It might be introduced easily enough, but how was it to be extracted? A silence followed: the question was so important that it required the most serious deliberation, and such it received. With the greatest imaginable gravity, and with the air of one "profoundly skilled in analytick," Dr. Copeland arose—Dr. Copeland, physician to the Queen's Lying-in Hospital, *cum multis aliis honoribus*—modestly suggested "that a small bit of string should be fastened to the extremity of the decorticated lemon, by the aid of which it might be safely withdrawn!' This suggestion was excellent; it dissipated all doubt and difficulty; it was a very *quod erat demonstrandum* of the question, and the society testified their approbation by great laughter and applause.

Successful Removal of 265 Centimeters of Gangrenous Intestine.—The patient of Roswell Park was a young man of twenty-one years. Abdominal symptoms called for operation which revealed a gangrenous condition of the appendix, about which three or four coils of small intestine had united themselves and adhered to the cæcum, and that all these adherent surfaces were in a gangrenous condition with threatening perforation at numerous points. At least four large areas of this character were found upon the small bowel, the uppermost being apparently near the middle of its length, *i. e.* a long distance above the cæcum. It now became a question whether to undertake several intestinal resections or to remove the entire length of bowel which contained these gangrenous patches. The patient's condition was bad and it seemed that the measure most indicated was that which could be most quickly performed.

Accordingly, a Murphy button was used and with it the ascending colon was connected with a loop of intestine just above the uppermost gangrenous area. The mesentery was then tied with a series of silk ligatures, and the entire section of small intestine involved was removed down to the ileocæcal valve. A considerable part of the cæcum being gangrenous the colon was divided at this point by an oblique incision, and in this way all of its gangrenous portion was removed. After the operation the portion of intestine which was removed was straightened out and carefully measured. Without undue stretching it was found to measure 265 cm.—8 ft. 9 in. The Murphy button did not come away until nearly four months after its insertion. The patient had a tedious convalescence, but eventually made a perfect recovery. —*Buffalo Medical Journal.*

Knife-blade in the Ear.—J. C. Thompson reports the case of a man of twenty-seven years who had had a bloody and purulent discharge from the right ear for seven weeks. Examination showed a mass of exuberant granulations in the meatus, bathed in a bloody pus. A probe passed through the speculum to press these granulations out of the way encountered a hard, rough, foreign substance, which felt like a piece of steel. After part of the granulations were curetted away a black substance could be seen in the external meatus. It was grasped with forceps and an attempt made to remove it, when it was found to be so firmly fixed that it could not be withdrawn. A hook passed behind it failed to dislodge the foreign body. Examination was then made behind and below the ear, and a foreign substance extending down an inch into the tissues of the neck could be plainly felt. When the projecting portion in the ear was moved by the forceps the portion in the neck could be seen and felt to move. Further questioning revealed the fact that the man had been stabbed two years previously. Under local anæsthesia through an incision behind the ear, there was removed a broken knife-blade more than an inch in length and of the usual width. The part projecting into the ear is very much corroded. That buried in the deeper tissues of the neck, while blackened, shows little signs of oxidation. It lay beneath the deep cervical fascia, and was partly imbedded in the fibers of the sternomastoid muscle—*Cincinnati Lancet-Clinic.*

Remarkable Case of Coma, Apparently Due to Acid Intoxication Sui Generis.—D. L. Edsall reports the case of a man of sixty-three years, who, while apparently in good health, was suddenly overcome by vertigo followed by coma, which lasted about ten hours. He was treated by alkaline transfusions. During this time he exhibited the symptoms and the urinary signs of acid intoxication. He then rapidly recovered and remained perfectly well. The signs of diabetes were absent at all times. The only satisfactory diagnosis that could be made in the case was one of cryptogenic acid intoxication, which was, in all probability of gastrointestinal origin. The man's tendency to digestive disturbance and the presence of such disturbance for some hours preceding his attack, made this source of the intoxication a likely one. He was completely saturated with alkalies in the treatment, receiving two and a half ounces of sodium bicarbonate intravenously; and his urine, which was tested with each portion passed, remained distinctly alkaline for about seventy hours after the alkaline transfusions were given.—*Indian Medical Record*, February 25, 1903.

Glycocholate of Soda.—Charles I. Hill, from a very considerable experience in the use of this drug, is convinced that it is of the greatest value in all cases of hepatic insufficiency, and that it is almost a specific in hepatic colic. It is contraindicated when the duct is occluded, as an increase in the amount of bile during this condition will increase the amount in the circulation. The dose is fifteen grains per diem, and upward, though the minimum dose is usually sufficient, as the drug should be administered over a considerable length of time, its effects not being observable till after a week or two of treatment. From its bitter taste it can be administered only in capsules, and even then it sometimes produces nausea for the first few days, which disappears if the medicine is persevered with, a few grains of magnesium oxide with the capsule will often prevent the nausea. Occasionally it produces diarrhœa at first, but after a day or two this also subsides. —*The Carolina Medical Journal*, March, 1903.

A New Anæsthetic.—At the meeting of the French Academy of Medicine, held on March 17, M. Courtade gave an account of a new local anæsthetic. It is para-amidobenzoin ether, and has been named anæsthesine. It is a derivative of orthoform, and is but slightly soluble in water, but freely so in glycerin and in fatty bodies. It is not poisonous, which gives it a great advantage over cocaine, while its action is much less transitory than that of that drug. M. Courtade has used the drug, especially in cases of patients suffering from tuberculosis or syphilitic ulceration of the pharynx which rendered swallowing very painful, or even impossible. After an application of anæsthesine in powder they were able to swallow without pain.—*The Lancet.*

Urates.—Young lady reading report of urinary examination: "Doctor, what are urates?" Doctor: "$5 per visit."

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CRANIAL FORM IN MAN, TOGETHER WITH SOME REMARKS ON THE ATTITUDE OF THE PROFESSION TOWARD ANTHROPOLOGY.*

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WHEN first I undertook the delivery of this address I was uncertain with which particular part of my subject I should deal. For this reason I was led to select a title which would afford me the opportunity of varying the details of the matter I might possibly discuss.

There i no lack of interest or variety in the science which I have the honor to represent. The difficulty consists, rather, in the choice of such an aspect of this particular branch of knowledge as may appeal alike to those who are specialists and those whose interests are less technical, for I am anxious to lay stress upon the fact that even the busy practitioner may render immense service to science, if only he will accurately record the observations which often he alone has the opportunity of making.

I have no wish to delay you with a detailed reference to the history of medicine, but I may perhaps be permitted to point out that science owes much to medicine. It was Erasmus who described theology as the mother of the sciences. This may be true as regards the philosophies, but it can hardly be considered applicable so far as the natural sciences are concerned. When we remember how closely blended in the past, were the interests of the healing art with those of anatomy, physiology, botany, chemistry, and physics, we recognize how much each owes the other and how much the cultured physician of the time was of necessity an authority on, and oftentimes an exponent of these several branches of study. With the acquisition of knowledge, however, and the vast accumulation of new facts and theories, it became no longer possible for one man to attain proficiency in his calling and at the same time maintain a position as an authority on all or even one of these kindred studies. In consequence, we find that this state of things early led to specialism, and so, in course of time, these sciences became severed from and developed apart from medicine.

Of the more recent of the offspring of medicine we may cite bacteriology and anthropology.

It is of anthropology that I wish more particularly to speak; somewhat of a weakling, it may be regarded as the adopted child of medicine, a child possessing no very marked individuality, but displaying traits of character which certainly render it attractive. Its many-sidedness is the source of its weakness and the explanation of its lack of independence. It is little wonder, then, that it should have fallen to the lot of medicine to lend a helping hand to assist it through years of adolescence. Its growth is slow rather than feeble, and every decade marks a record of sure and steady progress.

It may not be amiss to consider for a moment why anthropology, in its physical aspect, should have fallen under the protection of medicine. Its processes and developments concern themselves with all that appertains to man, and no class is better qualified to assist in the solution of its problem than the profession whose lot in life brings it perhaps most intimately in contact with man in his different conditions and environments.

A skilled observer by education and training the doctor in the performance of his duties is brought into relation with aspects of human nature denied to most others. A pioneer, as much as the missionary, he is ever in the front rank, seeking to soften by the exercise of his art, the harsher visitations of nature. His work and eagerness for information often lead him into regions hitherto unexplored, whilst his skill in the relief of suffering usually enables him to win the confidence of those who have profited by his assistance. Thus he has opportunities of studying man which the zoölogist or the lay explorer can never rival. But although I have laid stress on that aspect of his work which leads him far afield, along the untrodden paths, I would have you bear in mind that even the more familiar walks of life there is much for him to do. He is the constant witness of the ever-varying influences of nature, operative from birth through adolescence to old age and death. The examination of his patients provides him with opportunities for studying their bodily characters and peculiarities in a manner unavailable to others; whilst his observations of disease, nutrition, food, soil, and climate enable him to form an especially valuable estimate of the influence of environment on the individual and on the community. In matters of heredity too his experience often ranges through three and sometimes four generations. For all these reasons the medical man is especially well qualified to play an important part in the development of physical anthropology. He has done so in the past, and there is every reason to hope that he may continue to do so in the future. What is wanted is more coöperation and greater unity of purpose. Whilst individual observations are always valuable, some attempt should be made to combine in research Just as nowadays the inquiries into cancer and tuberculosis are being conducted in a systematic manner, so, many of the problems of anthropology can only be solved by united effort. I am aware that various attempts have been made in this direction, but the great mass of the profession has never been approached to share in the work. I cannot help thinking that if medical men in various parts of the world were requested to furnish such data as were wanted, by a duly elected and properly constituted central authority, much useful information would be acquired, whilst it would lend an added interest to the professional duties of those who helped. The appointment

*Address delivered before the International Medical Congress, held in Madrid, Spain, April 23-30, 1903.

of an international committee of experts would be the first step toward the realization of such a scheme. Were any such plan adopted it seems to me imperative that those whose coöperation is sought should be instructed regarding the relation to the enquiry of the facts they are requested to record. In this way you are more likely to obtain satisfactory results than if you merely propound questions and expect answers.

I may perhaps best illustrate my meaning by taking a somewhat detailed example. It is natural that I should select a branch of the subject to which I have been devoting considerable attention lately, and whilst I would by no means presume to hint that it is of all others the most important, yet it will serve to enable me to point out lines of inquiry which might with profit be pursued by those who are actually brought in contact professionally with peoples of different nationalities and race.

The subject I propose with your permission to discuss is the vexed question of cranial form and the significance of the cephalic index. I know full well that the matter has engaged the attention of many more competent than I. Yet I think there are aspects of the question which have been overlooked, or at least insufficiently commented on, and that must be my excuse for venturing to address you on what at first sight seems a threadbare topic.

For purposes of convenience, it may be well to group the influences at work in the determination of cranial form under two heads:

(*a*) Those operative from within.

(*b*) Those operative from without.

The former includes such factors as volume of brain, growth of sutures, and ossification of bones, compensation as to balance of head, heredity and breeding. The latter embraces muscular influence dependent on jaw development more or less intimately related to the size of the teeth and consequently associated with diet. In this way environment plays a part in the modification of man's cranial form in the same manner as it is productive of the variety of shapes met with in other types.

I propose to deal with the mechanical influences enumerated under (*b*) first, because I shall have most to say on this subject, and because, if novelty there be in any of my observations, it is mainly concerned with this aspect of the question.

The time at my disposal is so short that I can only touch very briefly on some of the points which require consideration.

In regard to the teeth, it is obvious that large teeth must require large jaws. Abundant proof has been furnished by Flower and others that the races of mankind display remarkable variety as regard the size of their teeth. Large teeth are characteristic of the lower races, whilst small teeth are the attribute of the more highly civilized types. Apart, however, from the size of the teeth, testimony is not lacking to prove that a reduction in their number is also taking place. The tendency for the wisdom molar to disappear is much more common in the higher than in the lower races, and when we remember that examples are not wanting of jaws in which a fourth molar has been present on each side, there appears ample justification for the assumption that a reduction in the number of molars has already taken place and is still in progress. But it is not only the wisdom teeth which occasionally fail to appear the lateral incisors also in some cases abort or are never developed. If then the number, as well as the size of the teeth, is undergoing a reduction, it cannot but be doubted that this must be accompanied by a diminution in the size of the jaws. Other reasons have been assigned to explain the development of the mandible, such as its use for prehensile purposes, its growth in association with the tongue, and the changes induced by the altered conditions of the circulation referred to by Fauvelle,[1] but none of these need seriously affect the issue since none can compare in potency with the influence exercised by the teeth. This is perhaps best illustrated in the case of the apes during the period of the eruption of the permanent dentition, when as Hüter[2] has pointed out, a great increase must necessarily take place in the molar sedgment of the body of the mandible to provide accommodation for those teeth which are not represented in the milk dentition. The changes which are so characteristic of the apes one would naturally expect to see displayed in the case of man, but here, unfortunately, the evidence is somewhat conflicting. Pruner Bey held that at birth the negro child displayed no prognathism, whilst Hrdlicka asserts that the face of colored children is generally more prognathic than that of white. Here, then, is an instance of the necessity for further information.

Although we accept it as correct that large teeth necessarily require large jaws, it by no means follows that the jaws are more projecting. A moment s consideration will enable you to realize that, given an equal alveolar length, two jaws may display quite different appearances, in one the curve may be of the parabolic type with consequent projection, in the other it may assume an elliptical form with less forward thrust. In one the jaw will be associated with a narrow, in the other with a broad face.

But whilst we have seen that the jaws are liable to many varieties of size and shape due to alterations in the number and magnitude of the teeth, we must also consider what effects these changes will have on the development of the muscles connected with the mandible.

The extent and development of these muscles lead to many variations in the form and extent of the temporal fossæ, to mention only one instance of muscular attachment: and no one who has examined a series of mammalian or avian skulls but must have been struck by the remarkable modifications in the cranial shape induced by a greater or less development of the muscles of the jaws or beak.

As Dr. Keith, to whom I am indebted in this inquiry for much valuable assistance, has pointed out, the expansion of the temporal area over the side of the skull in the anthropoids is correlated with the developing jaw and the eruption of the permanent teeth. In this group of animals the changes induced are very manifest, because the results are not masked by undue expansion of the cranial cavity. In the anthropoids the average cubic capacity of the adult exceeds that of the young animal by from 50 to 150 ccs., whilst in man the difference between the cubic capacity of infants a few days old and children of fifteen years of age amounts to 978 cc. (Topinand). As we will see hereafter this expansion reacts on the influence of the temporal muscles.

Whilst these facts have been widely recognized and their influence more or less directly referred to, so far as I am aware, no attempt has been made to estimate their value as determining factors in the production of cranial form. Nor need we be surprised at this since the methods of mensuration of the lower jaw now, apparently, universally adopted by Craniometrists is one altogether useless to enable us to analyze the mechanism of the jaw and its muscles. The only paper to my knowledge, dealing with the lever like action of the jaw is one by J. Gorham.[3] In this, however, the author was con-

cerned with the arrangement and the form of the teeth as set in the jaw, and the forces necessary to raise them. In the present instance we are concerned not so much with the forces exercised on the jaw, but with their secondary effects on the parts from which they arise.

The width between the condyles of the jaw is, necessarily, correlated with the width of the cranial base. The condylo-symphisiaz length, which is the measure of the distance between two verticals passing in front of the symphysis and behind the condyles whilst the jaw rests by its body on a horizontal plane will indicate pretty precisely the long arm of the lever. By comparing this length with the intercondylic width—100 we get what for convenience, may be termed the mandibular index.

$$\frac{\text{Condylo-symphisial length} \times 100}{\text{Intercondylic width}} = \text{Mandibular index.}$$

I find this index ranges from 70 to 100; when the index is high it means the jaw is long proportionately to its width, whilst when the index is low the jaw is short, relatively to its width. Grouping together my results it appears that thirteen brachycephalic skulls yield an average mandibular index of 84.8, eleven mesaticephalic skulls an average of 88.3, whilst twenty dolichocephalic skulls yield a mandibular index of 90.6. There is this distinct proof of a correlation between jaw length and head length.

Discarding for the time being the influence of the other muscles closing the jaw, and confining our attention to the temporals only, it is obvious that a long jaw will require a more powerful muscle than a short jaw to produce the same result at the "bite," provided the force is applied at the same distance from the fulcrum. Were such the case, the problem would be fairly easy, but, unfortunately, nature provides compensation by varying the position of the point of application of the force. Assuming that the tip of the coronoid process represents the poin of maximum intensity of the power exercised by the temporal muscle, we find that the distance of that point from the axis of rotation of the temporo maxilary articulation varies considerably in individual jaws.

The length of the short arm of the lever may be somewhat roughly estimated by measuring the distance between the posterior edges of the condyle and the tip of the coronoid process. Reducing this to its proportion to the length of the mandible (condylo-symphysial length) we can obtain an index, thus:

$$\frac{\text{Condyo-coronoid width} \times 100}{\text{Condylio-symphysial length}} = \text{Coronoid index.}$$

This enables us to determine the proportion of the short arm of the lever to the length of the long arm. I find from comparison of the specimens I have examined that this index ranges from 43 to 31. That is to say, assuming that the force is applied at right angles to the lever and also that the coronoid process always lies in the same horizontal plane as the lever, the jaw with a high coronoid index will act, provided the same force is applied, with proportionately greater advantage than one with a low coronoid index; for in the case of the jaw with a high index, the force is applied at a point further removed from the fulcrum than in a mandible with a low index. In estimating the amount of force necessary to effect the same result in the masticatory apparatus of two skulls, we have these two factors to consider: First, the length of the lever or jaw as a whole, and second, the disposition of the force on that lever. The subject thus becomes much more complicated than before, for an examination of a considerable number of specimens proves that these two factors do not always interact upon each other in the same way. Thus we may have a long mandible which will obviously require the exercise of greater muscular force to discharge its functions, were it not that this is compensated for by the fact that that force is applied at a point more remote from the fulcrum. On the other hand a jaw of similar porportions, owing to the fact that the coronoid process lies closer to the condyle, will require a much greater muscular effort to produce the same result.

There seems to be a correlation between the coronoid index and the cephalic index, for I find that the higher coronoid index is more usually associated with dolichocephaly, whilst the lower coronoid indices are met with in skulls of the brachycephalic type. The number of observations, however, is too few to draw any conclusions from, and further data are required before we can arrive at any definite result. Since, then, it appears that we are unable to harmonize the counteracting influences of the two factors at work, it occurred to me that perhaps the best way to attempt the solution of the question would be to determine experimentally the amount of force necessary to overcome the same amount of resistance in jaws from different skulls the measures of which (the skulls) were known.

As the reader will understand, my object in thus studying the mandible has been to attempt to estimate in each particular skull the amount of force exercised by the temporal muscle to produce a like result. Were we successful in doing this we should be able to form some idea of the relative developments of the temporal muscles, and thus see whether, as I have already hinted, this development of the muscles has any correlation with the cephalic index, and if that be so, whether we are justified in regarding it as one of the predisposing causes in cranial formation. For this purpose I devised an apparatus, details of which are published elsewhere, which enabled me to estimate with fair accuracy the amount of force necessary to overcome a similar resistance applied over the incisor teeth of the jaws I experimented with. Thus I found that the weights necessary to act as a counterpoise to the jaw loaded with 100 grams placed over the incisor teeth or at the "bite," ranged from 320 to 448 grams. In other words, assuming that we closed the jaws with a force equal to 100 grams at the incisor teeth, we would require to exercise a muscular effort equal to from 320 to 448 grams. And if at the same time we neglect the influence exerted by the other elevators of the jaw, we may regard this as some index of the development of the temporal muscles. Such being admitted, it must also be obvious that a corresponding force will be exerted over the area from which the muscle arises. Granting that this be so we would naturally expect a correlation between the weights recorded and the cranial form, assuming of course that we are prepared to admit that the shape of the head can be affected by any such influences.

Happily for my argument, we find this view abundantly supported, for whilst the brachycephalic skulls average a weight of 370 grams to counterpoise their jaws loaded to the extent of 100 grams, we find the dolichocephalic skulls require a weight of 390 grams to produce a like result under similar conditions—that is to say, a difference of over 5 per cent. in the amount of forces necessary to produce the same effect in the two types. Now when we consider the large amount of force a healthy man can exert by closing his jaws, it will be at once recognized that the amount of effort necessary to produce this result will vary very greatly; in other

words, that the dolichocephals are, as a rule, furnished with more powerful temporal muscles than the brachycephals, and further, since we have already shown that the mandible of the long-headed races is more projecting than that of the round heads, we are justified in assuming that this increased muscularity is necessary to overcome the mechanical disadvantage at which so long a lever acts.

I will not dwell on this aspect of the question further than to remind you that the sides of the cranial vault to which the temporal muscles are attached are the parts of the cranium which are most intersected by sutures of a complicated arrangement. We can therefore readily understand how this, the region of the pterion, is less able to withstand long-continued pressure, or perhaps it would be better to describe it as that it is more susceptible to the influence of prolonged stress.

Passing now to the consideration of the causes operative from within, I need say nothing of the influence of sutural growth except to refer to the recent work of Papillault,[4] who has shown that the occurrence of the metopic suture is more common among races with large c anial capacity, and is due to a superiority in the bulk and relative weight of the cerebrum.

What I should particularly like to lay stress upon are the observations of Boas [5] in regard to the cephalic index. That distinguished anthropologist has succeeded in establishing certain correlations which are most valuable. Thus he shows that the diameters of the skull are primarily determined by its capacity, the height appears to be most closely associated with the capacity, the length least so. On the other hand the correlation between the breadth of the face and the horizontal diameters of the head shows the two transversal diameters to be very closely correlated, while the length of the head is more closely correlated with the height of the face. Boas further states that when capacity is introduced into our consideration of the question a compensatory growth is found to exist between the breadth of the head on the one hand and height and length on the other. "The relation between capacity and head diameters is found to be of fundamental importance, and among these, the relation between the transverse diameter and the capacity is most significant."

Failing the time to refer to other considerations of interest in this connection I must content myself with drawing your attention to the confirmation these views receive from those classes of pathological cases in which there is either a diminution or an excess in the volume of the cranial contents. I refer to microcephaly and megacephaly of a hydrocephalic type.

The apelike characters of the former have frequently been referred to, whilst the "old fashioned" or intellectual appearance of sufferers at an early stage of the latter disease has often been remarked upon. For our purpose it is important to note that these appearances are entirely dependent on cranial capacity. The microcephal is usually a pronounced dolichocephal of a simian type, whilst the chronic hydrocephal usually displays the appearance of exaggerated brachycephaly. Perhaps one of the most interesting points in connection with both these classes of cases is that while the cranial vault, *i. e.* that part of the calvaria developed in membrane, displays great variation in form and size, the cranial base, *i. e.* that part of the skull ossified in cartilage, shows little evidence as a rule of much alteration of its relative proportions.

It seems we have thus an explanation of how by increase in the volume of its contents the cranial capacity can not only be enlarged, but the shape of the cranial envelope modified. One might have expected to have obtained confirmatory evidence of these views by noting the changes which occur in the form of the head attendant on its increase in capacity during growth. The evidence adduced, however, is very conflicting, whereas some observers maintain that, as the child grows, its head increases to a proportionately greater extent in the transverse diameters, others assert that increased relative length is the rule. Both are probably right, and the discrepancy between them is due to the fact that their observations have been made on different tpyes, types in which the various factors interact differently so as to produce different results. Here we have an admirable instance of the kind of information much desired and surely readily obtainable, if only the want was proclaimed. It is highly probable that a negro child's head is much rounder than it is in the adult, in this respect resembling the anthropoids, whilst the head of a white infant is probably more elongated than it is in after life. The changes being due entirely to differences in cranial capacity and the influence of the masticatory apparatus, until such evidence is forthcoming, however, it would be rash to venture upon any conclusions.

Considering the membranous nature of the cranial vault during growth and development, as contrasted with the cartilaginous base, it stands to reason that the vault will be reacted on more readily than the base; and given a cavity of oval or elliptical form with elastic walls, the more its contents are increased the greater will be its tendency to assume a spherical shape.

That man is descended from a pronounced dolichocephalic type with a cranial capacity lower than that of any existing race is generally conceded, it follows that the modifications in shape consequent on an increase in the volume of the brain will tend toward sphericity; in other words, the cranium will become rounder. All the evidence seems to point this way, and although there may be some who doubt the validity of such an argument, they will, I trust, be convinced with the proof I now propose to supply.

It occurred to me that it might be possible experimentally to test the influence on the form of the skulls of those mechanical agencies which we have just discussed. This I have done, in the models which I show you. In these, the vault and sides of the cranium have been cut away, leaving only the base. To this has been cemented a rubber bladder which can be inflated through a tube passing through the foramen magnum. To the sides of this bladder have been cemented a number of silken cords arranged as are the fibres of the temporal muscles. By affixing weights to these, or by putting a strain on them, we can exert an influence over the area of the bladder to which they are attached, comparable to that which the temporal muscles exercise on the cranial walls. We are thus provided with a means of testing the changes induced by increased capacity, for by altering the degree of this tension of the bladder we can simulate pretty closely the natural process. We can further test the influence exerted by the temporals by putting a strain on the fibers of the imitation muscles in the model. Let me now proceed to demonstrate what takes place in these models under different conditions. I have one model here in which the temporal muscles are not represented. On this we can test the influence of increasing distension on the cranial envelope. With just such an amount of air within the bladder as is

necessary to slightly distend the walls we obtain a form which is distinctly reminiscent of the anthropoid apes. The internal pressure is not yet sufficient to distend the forepart of the cavity, and in consequence, the brow ridges remain prominent and outstanding, whilst the shape assumed by the vault is that of pronounced dolichodephaly. On increasing the internal pressure by the injection of more air, the frontal region becomes gradually inflated, with consequent gradual disappearance of the prominent supraorbital arches. In fact, as the internal tension is increased, the envelope alters so as to display successively the contours associated with such types as that of pithecanthropus and the skulls of the Neanderthaloids and Australoid races. As yet, however, the vault preserves its elongated and narrow form, thus exhibiting in almost every detail the characteristics of the skulls of what may be termed the primitive races of man. On proceeding still further with the inflation of the balloon, the expansion, whilst general throughout, particularly affects the height and width of the vault, passing through all the stages of decreasing dolichocephaly, through mesaticephaly to pronounced brachycephaly. The consequent elevation of the frontal region at length causes the entire obliteration of the projecting brows, and the appearance presented by the model displays all the features of a skull of elevated type.

It may be argued that the foregoing experiment proves nothing, yet whilst admitting that the means employed are only a crude imitation of Nature's processes, it must be conceded that the model displays in a very striking manner the appearances exhibited by skills of different types.

The cause of the production of the supraorbital ridges and their subsequent disappearance by the further distension of the cranial cavity is most instructive. We see now the necessity for the massing of the bone in this region in skulls of small cranial capacity. The craniofacial axis is as essential to the face as it is to the calvaria. A reduction in the size of the latter does not necessarily reduce the length of that base from which the skeleton of the face depends.

As a consequence, however, of the reduction of the size of the cranial cavity, the bone over the orbital ridges must be thickened in order to afford a base of resistance, through the superior maxilla, against the bite of the mandible. When, however, the distension of the cranial cavity leads to an expansion of that space over the orbits and a consequent elevation of the frontal region, the necessity for this heaping up of the bone over the brows disappears, since the orbital and ascending plates of the frontal bone are now disposed at such an angle as to enhance greatly the strength of this part of the skull without entailing so much bony deposit.

The experiment further demonstrates the gradual transition from the dolichocephalic to the brachycephalic form which accompanies increased cranial expansion. It seems absurd, after this exhibition of the influence of internal pressure, to discuss the independent origin of the dolichocephalic and brachycephalic types. Everything points to the dolichocephalic as being the older stock, and though it may have taken many thousands of years to have evolved the rounder head of races, we have only to consider the evidence adduced in connection with hydrocephaly, and the facts demonstrated in the above experiment, to realize how readily this transformation may occur and how intimately it is associated with increased internal capacity.

Whilst undoubtedly the influence of capacity is of paramount importance in man we can study in the models the modifying influence of the temporal muscles by exercising a certain amount of traction on the silken fibers which represent these structures. This is best done by the application of weights, and, as the results show, considerable alterations are effected thereby. As will be seen, the effect

SERIES 1. Bladder slightly distended with air.

Series 2. Bladder moderately distended.

Series 3. Bladder considerably distended with air.

produced varies with the degree of distension of the capsule and the amount of weight employed, and whilst the results are not so striking as might be expected, still they are sufficient to prove that there must be taken into account in considering they varieties and subtilties of cranial form to which, of late, Sergi has directed special attention.

Further, as will be seen, the results differ accordingly as different parts of the muscles contract (as represented by the tension exercised on the silken cords). Now an examination of skulls of different types clearly demonstrates the fact that the expansion of the area of attachment of the temporal muscles does not always take place in the same direction. Some tend to rise on the side of the cranium, whilst others spread further backward. In this connection there seems reason to believe that the posterior fibers of the muscle are better developed in those who use their jaws in a grinding fashion, and probably this is correlated with the wear of the teeth so characteristic of certain races. No doubt the tough and gritty nature of their diet may to some extent explain the attrition of the teeth in certain races, but it would also be a direct cause of the more powerful grinding movements necessary to reduce the food to pulp, thereby increasing that part of the muscle more particularly concerned in the grinding movement. Be that as it may be, the fact remains that, when in the model the capsule has been distended so as to assume an ovoid form, an increased traction of these posterior fibers at once converts the shape into that of an ellipsoid.

The time at my disposal has prevented me from touching on many subsidiary details of no little importance, nor have I been able in this general survey to refer, in even a general way, to the researches of others. My endeavor has been rather to prove that the shape of man's head in his higher developments is the outcome of those physical and intellectual environments which have led, on the one hand, to the reduction in size of his jaws, and on the other, to the increased volume of his brain. These attributes are perpetuated by the influence of heredity and modified by cross-breeding and the laws of natural and sexual selection, but there is no constancy about them. Primarily they are dependent upon the physical forces which we have just discussed. We have I trust been able to trace the gradual ascent in the form of man's cranium from one group to the other; thus disposing of the necessity of explaining the existence of the dolichocephalic and brachycephalic types as due to independent origins.

Furthermore, I have endeavored to show how the confirmation of this solution of the problem of man's varied cranial form can be assisted by the careful and accurate records of those in practice, who have opportunities of noting the changes in jaw form, and head shape, during the periods of growth from infancy to maturity.

In conclusion, let me say that, as regards the cephalic index, I am in entire agreement with Professor Boas, who considers that whilst that index "is a convenient practical expression of the form of the head, it does not express any *important anatomical* relation." My own observations entirely confirm his view that the relation between capacity and head diameters is of fundamental importance, and that among these the relation between the transverse diameter and the capacity is the most significant.

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RECIPROCITY IN PATHOLOGY.*

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General Considerations; Reciprocity as a Universal Law; Reciprocity in Morbid Processes; Alternations between Diseases.—Permit me, gentlemen, to express to the Committee on Organization of the Fourteenth International Congress at Madrid my appreciation of the honor they have accorded me. In the reunion of so many specialties, differing, yet, at the same time, related; at a period when the question of boundary lines (Grenzgebieten) is in the order of the day, in the choice of a subject, I have found none more fitting than the great law of reciprocity, of which, however, it will only be possible to outline the salient points.

As you know, nothing is lost in nature; there is but a change of form. So it is in history; the events of the present must be viewed in the light of the past and future; of preceding events and consequences which will follow them. If it is thus with nations, so it is with individuals considered singly; action and reaction are shown in small things as in great. One strikes and is struck. "Kämpf und Gegenkämpf erhalten das allgemeine Leben," wrote the learned Jesuit, Athanasius Kircher (1598–1680),[1] now as then, one sees attraction and repulsion wherever one turns; ideas clash and cross, art is inspired by science, and *vice versa*: the sciences themselves impregnate one another, and it is not generally difficult to place one's finger upon the thread which binds them together.

That which concerns us now is not this universal reciprocity, nor scientific reciprocity in general, but only a part of the latter: that which relates to our own science, medicine, in which general repercussion is at least as pronounced as in any other sphere; and it is a living being who forms the basis of it.

The consideration of the human body as a purely physical apparatus has long since been abandoned. The resemblance to perfect watch works, in which each wheel must be exactly adapted to the other in order that the movement of the whole shall be perfect, may not be denied; but the comparison halts here, for a relatively slight disorder suffices to arrest the inert machine, which has not the power to effect spontaneous repair, while it is quite otherwise with the living machine. Certainly the resistance of the latter may be compromised by a given lesion, but more often than not it will continue, even in the face of grave disorders, to do its work. To account for this fundamental fact, it must be recalled that the normal human organism has at its disposal a reserve fund, by means of which compensation is established; or, at the worst, an accommodation to circumstances. This constitutes the most interesting chapter in pathology—a chapter to which the greatest minds have devoted exhaustive study.[2]

We now come to the consideration of the influence of various morbid processes upon one another: for example, necrosis and inflammation—the former preparing the way for the latter, as in circumscribed peritonitis in which inflammatory reaction opposes a barrier to gangrene which might otherwise be progressively fatal. Thus it is also among pathogenic agents which may react upon one another; the antagonism being in general, however, but relative, as between paludism and tuberculosis (Rokitansky),[3] between the latter and can-

*Address delivered before the Fourteenth International Medical Congress, Madrid, April 23-30, 1903.

cer,[4] etc. On the other hand, pathogenic agents associate themselves in full accord, and engraft themselves one upon the other, as in diphtheria and scarlatina, or in the secondary pyogenic infections. Acute diseases have cured chronic affections. This has happened in the superposition of erysipelas upon a subjacent exudate. A general infection has sometimes exercised a favorable influence, as typhoid fever occurring in a syphilitic. Certain necroses may also disappear in the course of divers fevers.

Unfortunately, the new disease often represents but an alternation with the old rather than a permanent cure. Thus it is that upon cessation of the new malady, the old returns in full force. On the other hand, it cannot be said that the temporary influence is always good. Tuberculosis especially, for example, may be most unfavorably influenced by infectious diseases, such as diphtheria. We must, however, abandon the more detailed consideration of bacteriological symbiosis or antibiosis, etc., as well as the pathological reciprocity existing between men and animals, and take up the relations existing, from the clinical point of view, between the different organs and systems of organs.

Reciprocity between Organs; the Internal Secretions; the Heart and Blood Vessels; the Abdominal Organs; the Nervous System; the Skin.—The means established are: Mechanical pressure from simple contiguity, the blood, lymphatics, glandular system, and nerves. Some light is thrown upon these questions through a study of the internal secretions; as, for example, those of the thyroid, suprarenal capsule, hypophisis cerebri, etc. The discovery made by my compatriot, Ramm, of atrophy of the prostate following castration, has an undoubted scientific value.

In studying these various systems, the attention is naturally directed to the heart as the site *par excellence* of reciprocity. This organ, as the center of the vascular system, constitutes one of the most important centers of the whole body; the centrifugal forces which emanate from the heart and the centripetal influences directed to it, succeeding one another without ceasing. In other words, the influence of the heart is felt everywhere and its working instrument, the blood, that "fluid" organ, is a means of transport between the different parts of the organism; while the alexins, or according to Metchnikoff's ingenious idea, the leucocytes, form our defense against anxious influences, toxic or infectious.

If now we pass to the abdomen we find that the displacement of these organs gives rise to Glénard's splanchnoptosis, which may be said to result from a letting down of the very walls of the edifice; the condition of the tisues being comparable to dead, inelastic matter, as contracted with the living elastic. Of great import are the relations existing through the blood and nerves between the peritoneum and the digestive tract and between the various parts of the latter; notably between the intestine and the stomach. As a rule, not however without exceptions, a disorder of the stomach—the organ of preparatory digestion—is accompanied by irregularities in the function of the large intestine, the organ of defecation, and *vice versa*. The study of perityphlitis, always in the order of the day, and pursued with so much zeal and perseverance, has brought to our knowledge many affections called appendicular, among which may be mentioned the larvated appendicitis of Ewald[5], which simulates and may be mistaken for a simple dyspepsia; and in this there may even occur hæmatemesis.[6] Anomalies of the gastric juice are far from rare in intestinal disorders, and an analogous condition is seen in acute paralytic dilatation of the stomach following laparotomy. On the other hand, certain reflex intestinal affections may be brought about by acting upon the gastric mucosa, as has been seen in the occurrence of ileus after lavage of the stomach. Finally, how can one account for the perfect digestion sometimes seen in gastric anacidity, unless it be admitted that the pancreas can take up the task alone?

The circulatory center of the abdomen is the liver. G. E. Stahl (1660—1734)[7] was, two centuries ago, the harbinger of our modern theory of autointoxication when he qualified the portal vein as the vena malorum. The liver constitutes, in asystole, the great reservoir for the retrograde blood column. The hepatic influence upon digestion was brought fully to light by the English when they gave the name of "liver diseases" to morbid conditions which, upon the continent, are prone to be attributed to the stomach. In our time the study of hepatic insufficiency[8] will no doubt contribute to the clearing up of obscure points in pathological physiology. Certain it is, that the liver, robbed of its former importance, is on the way to a reaquisition of its early prestige. With the pancreas it formed originally from the autogenous as well as the physiological point of view, a unique *ensemble*; the hepatopancreas; and now that they are anatomically separated, pancreatic diabetes as well as pancreatic necrosis with fatal hemorrhage point to the connecting links between the two organs.

Compared to the liver, the rôle of the spleen has been generally considered a subordinate one, dependent upon the portal vein; but Bant.[9] has recently described a splenomegalia as the antecedent of hepatic cirrhosis, and contemporary literature contains confirmatory observations of this nature. I myself having a few years since had a well-defined case of this kind, although I must add that the diagnosis was not confirmed by autopsy.

Nevertheless, if our knowledge of the spleen is rudimentary, this is not true of the kidneys, which through their daily diuresis constitute the manometer of cardiac labor. Thus Huchard[10] declares that, in arterial cardiopathies, the disease is in the heart and arteries, the danger in the kidneys. Their relation to the liver is most intimate by reason of the rôle they fill as the great emunctories for the waste products of nutrition formed in the liver. This is why puerperal eclampsia was formerly considered a renal affection, though now there is a tendency to attribute it to the liver,[11] and it can scarcely be doubted that there is a hepatogenous albuminuria.[12] This by no means lessens the importance of the kidneys, especially in relation to albuminuria; the frequency with which the latter occurs in the most diverse affections, shows the prominence of the rôle which these organs play; while their insufficiency brings in its train a legion of pathological processes. In unilateral lesions[13] the influence of the diseased organ upon the healthy kidney, due probably to the "reno-renal" reflex of Guyon, is of great importance, and is analogous to sympathetic ophthalmia,[14] though probably springing from a different cause.

It remains to us to take up the nervous system, the *sine quâ non* of physiological and pathological reciprocity, both general and special. As the nerves are in reality the life of the organs, regulating their movements and secretions, so the majority of affections react upon the nerves, be this reaction evidenced but in pain of greater or less intensity. The broad conception of general insufficiency—the atony of older writers—in the widest sense of the

expression, can be traced, for the most part, to defective innervation. It is through the nerves and reflexes that communication is established between the most widely separated parts. What an inexhaustible source is the domain of the nervous system in its bearing upon the subject of reciprocity! What a proof of precision in the harmonious play of intellectual forces is offered in a study of the various forms of aphasia! Finally, what marvelous coördination is required in the execution of voluntary movements, as for example, in walking!

Aside from the internal organs which we have rapidly passed in review, there is an external one which merits special mention; that is, the skin, which not only protects us from outside, hurtful influences, but which also, with its variations in appearance, energy of its functions at various ages and insensible perspiration, is in relation with the body functions in general and with each viscus in particular. This applies, above all, to the kidneys, but also to the respiratory and digestive mucosæ; the latter, which forms, from the embryological point of view, the endoderm, in contradistinction to the ectoderm, may literally be reflected upon the external surface. For example, we may mention pruritis due to internal causes [15]; cutaneous eruptions in uræmia, diabetes, digestive circulatory, respiratory and genital disturbances, as well as those due to infections, toxins and medicaments, and exanthemata due to serotherapy, pigmentations, etc., all of which are the visible expressions of internal influences. On the other hand, the effect of external influences acting within may be seen in duodenal ulcers occurring after extensive burns. Further, the skin exercises, by virtue of its wealth in blood vessels and blood, a marked influence on heat regulation, and is consequently concerned in the pathogenesis of fever and those most frequent and trivial affections, colds.

The Organism as a Unit; the Vicious Circle; the Defensive Circle; Therapeutical and Prophylactic Conclusions.—If, in looking back, we desire to draw deductions from the development of our subject, the facts we have gathered together—and which it would not be difficult to multiply—suffice to prove that, as has been frequently said, the various branches of medical science, whose domain extends from day to day, are more or less closely allied; while the various parts of the living organism form one great whole, though like the States of a federal republic they retain a certain autonomy. This is the reason why at the bedside of the patient we frequently find ourselves confronted with a malady which is not strictly localized in the affected area, even though complications may not exist. Not always is this so. On the contrary, and here pathology contributes largely to the elucidation of physiology, pathological groupings show that physiological affinities are directed by conducting forces through which the association of two or more organs is brought about. Notably in the domain of the great centers do we find groups of symptoms which we call syndromes. Of prime importance are the cardiac syndromes, such as the cardiopulmonary, cardiohepatic, cardioarticular, cardiorenal, etc. [16], the latter furnishing in granular atrophy of the kidney one of the best examples of reciprocal localization. While the affection known as permanent slow pulse, a malady which, as you know, is characterized by repeated epileptiform or syncopal attacks, constitutes the cardiobulbar syndrome, the respiratory type known as Cheyne-Stokes belongs to the bulbopulmonary. In the domain of the liver we have the syndromes known as the hepatorenal, hepatogastric, hepatoperitoneal, etc.

But aside from these syndromes and many others which might be mentioned, among which the cerebroabdominal should not be omitted, and of which Trousseu's gastric vertigo is an example, there are many other affections which must be taken into account, even though their anatomo-pathological nature is not clearly understood. For example such apparently trivial affections as a mild catarrh, a slight neuralgia, a temporary indigestion, etc., may suffice to affect the well-being of an individual otherwise healthy; the organism as a whole reacting to the condition. From this point of view G. H. Roger[17] is assuredly in the right when he maintains that no malady remains localized. And yet, by reason of reciprocal reaction, a localization or limitation may be brought about, as was stated in the beginning of this article. It is undoubtedly true that to a primary lesion a secondary affection is too often added, to the detriment of the organism, yet, on the other hand, reciprocal reaction may be exerted in its defense; a collaboration of labor being thus established, so that through a double or multiple alliance of forces, a defensive rather than a vicious circle is formed. As an example, aside from the limiting peritonitis already mentioned, we might cite certain pleuritic exudates; thus a hitherto progressive phthisis may be arrested, even though temporarily, by a pneumothorax. In my personal experience such an arrest has persisted as long as ten to thirteen years. The relative immunity to pulmonary tuberculosis enjoyed in certain cardiac affections, as noted by Rokitansky, [18] should be mentioned in the same connection. And when such a defensive circle is established, the physician's first principle should be—as Jacoby[19] declared nine years ago, at Rome—*non nocere*, it is the duty of the conscientious physician, I repeat, to respect this circle, and when possible, strengthen it. And what is more, the theory of so-called "salutary" diseases has given rise to new therapeutic methods, in combating one disease with another [20]. Thus it is that since the early studies of the late Cantani, bacteriology, in its steady progress, has given birth to serotherapy, of which Jenner's vaccination was the classical precursor.

Very often a disease cannot be attacked directly; one must strike it obliquely, that is through reciprocal action. In pneumonia, for instance, the treatment is generally directed to the heart; and the latter in turn is reached, in cardiac affections, through the blood vessels (the peripheral heart, as Huchard says); vasoconstriction being, as we know, an indispensable factor in the action of digitalis. And again, we seek to lessen the heart's burden by bleeding; having in view the reduction of blood-pressure and dilatation of the peripheral vessels. In line with the present argument is the utilization of the skin in combating internal affections through the application of hydrotherapy, vesication, and counterirritation.

I might continue further, but I will limit myself to a few words concerning opotherapy, or the substitution treatment which is the creation of Brown-Séquard, and which has yielded such brilliant results in myxœdema. But experience in this line of treatment shows that a therapeutic measure, rational in itself, may fail of its proper effect and even do more harm than good. It must not be forgotten that organic extracts are not altogether inoffensive preparations, and their use should not be lightly extended to unknown domains; and, above all, it is to be hoped that the warnings heard against the indis-

riminate use by the public of thyroidine for obe-ity[21] will be seriously considered.

But, as you know, "prevention is better than ure." From all that has been said, it is not diffi-ult to gather many prophylactic suggestions. Pro-hylaxis should have in view the increase of per-onal resistance and should seek to favor the har-nonious adjustment of forces—or reciprocity if you vill—between the body functions, and between the external and internal parts; but above all between he mind and body [22]. This has ever been the ighest aim in the education of the young. And ow, in closing, permit me to quote the immortal vords of Aristotle as my motto: "*Nihil erit in ntellectu quod non antea fuerit in sensu.*"

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The Value of Lectures.—Lectures depend entirely for their value upon the manner in which they are given. It is not the matter, nor the subject, so much as the man. —FARADAY.

International Congress.

THE ANTITUBERCULOUS CAMPAIGN IN LATIN AMERICA.*

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MR. PRESIDENT AND GENTLEMEN: I desire to thank most heartily the Committee on Organization for having chosen me as one of those to address this assembly. It has honored, in the person of an humble worker in medical science, South America; and in the name of my country, the Argentine Republic, I tender you the expression of our profound gratitude.

In January, 1901, the first Latin American Congress, which met in Santiago, the capital of Chile, formed a permanent international commission for the purpose of combating tuberculosis in Latin America, according to a plan submitted during its session. This assembly appointed me as the president of that commission.

In order to best fulfil its mission, it took for its model the Central Committee of Berlin, which pursues, with so much intelligence and perseverance, the same ends.

Inquiry showed that many South-American countries had undertaken such work some years previously, while others remained entirely inactive. Before taking up the task, it was necessary to ascertain the numerical importance of the common enemy, in order to form a plan of battle, and uniform method of action, to the end that the antituberculous crusade might attain the best possible results.

Investigation of statistics demonstrated to the permanent commission that tuberculosis prevailed extensively in Brazil, Chile, Peru, and Venezuela; to a lesser degree in the Argentine Republic, Uraguay, Paraguay, Colombia, Mexico, and San Salvador; and finally, that Bolivia and Ecquador were the most favored countries, tuberculosis being almost unknown in some of their centers of population.

As the campaign against tuberculosis now occupies the attention of the whole world, I thought it might be of interest to this learned assembly to know the progress and present state of the antituberculous campaign in the New World. I have therefore chosen this theme as the subject of my discourse.

The first resolution adopted by the permanent International Commission was to found a review which would serve the purposes of propaganda, make known the work of the commission, promote the formation of leagues in America, and bring about the harmonious relations which should exist among associations created with the same end in view.

The commission being without resources, the Argentine League against Tuberculosis offered it valuable aid in placing at its disposal the journal which was published under the name of *Review of Tuberculosis*, which name was later changed to *The Antituberculous War*.

The coöperation of this journal was of the greatest assistance to the international commission. Its propaganda has awakened from their apathy, the governments and American people, who realized

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how criminal it was to remain indifferent to the terrible scourge.

To-day anti-tuberculous leagues exist in Brazil, the Argentine Republic, Chile, Uraguay, Paraguay, Bolivia, Ecquador, and Cuba; and others are planned or in process of formation, in Peru, Colombia, Venezuela, Mexico, San Salvador, and Costa Rica. The governments of the latter countries have interested themselves in this important question.

In Peru the government, on January 5, 1900, named a commission of eminent physicians, who were charged to "seek the causes of tuberculosis in the country, and study measures to combat it, or at least reduce, as far as possible, the ravages of the disease."

In Colombia the Academy of Medicine of Bogotá has approved a series of motions bearing upon the prophylaxis of tuberculosis, and there is every reason to believe that the civil war devastating that country has, alone, retarded the formation of a league.

The same is true of Venezuela. The *Gaceta Médica*, in publishing the health statistics of that country, has shown a considerable mortality from tuberculosis in Caracas, and consequent need of special measures.

Mexico, through its "Superior Counsel of Health," under the presidency of Dr. Licéaga, has been engaged in the anti-tuberculous war for some years. In order to render it more efficacious, the counsel is in hopes that the formation of a league may not be long delayed, that the laudable efforts of the people, governments, and municipalities, may be united.

San Salvador, Guatemala, Nicaragua, and Costa Rica have not wished to be out-distanced in the work. It suffices to glance over the medical publications of these republics, especially the first—San Salvador—to be convinced that their sanitary authorities are beginning to manifest a real interest in that which concerns tuberculosis.

As to the other countries in which leagues have already been formed, it may be stated that the Argentine Republic occupies the first rank in South America, and Cuba in Central America. The problem has been dealt with in both these countries in a very practical manner, through the creation of antituberculous dispensaries, sanatoriums, vacation colonies, seaside hospitals, and promotion of popular education through an active propaganda. Moreover, their authorities have issued decrees concerning prophylactic measures of the greatest importance.

Contrary to the conditions obtaining in Europe in relation to tuberculosis, where private initiative plays a large part, Latin America is obliged to depend almost exclusively upon public coöperation in its campaign against tuberculosis; the latter having, as it were, a semi-official character. The better classes have failed to respond to the appeal made to them, and, sad to relate, the medical world in general exhibits the greatest indifference to the noble but arduous task undertaken.

The present social organization in the countries of Latin America does not permit dependence upon support from the mutual aid societies, which might lend powerful assistance to the creation of public sanatoriums, replacing, to a certain extent, the immense advantages of the German insurance against disease and incapacity. Thus, in the New World, the establishment and support of sanatoriums constitutes a problem difficult of solution.

Brazil, Chile, Uraguay, Ecquador, Peru, and Cuba have planned, or have in course of construction, sanatoriums in localities which leave nothing to be desired. We wish them a long and successful existence, trusting that they may not be compelled to close their doors, as was the sanatorium of Porta-Cœli in Spain.

The Argentine Republic has, for two years, possessed a sanatorium in the province of Córdoba, to which the Argentine Parliament has granted a subsidy of 200,000 nationales (about 420,000 francs). This institution, which is well located, constructed according to modern ideas of hygiene and comfort, and compares favorably with the best German sanatoriums, is also hampered by lack of funds.

The Argentine League depends for its existence upon the National Congress, executive and municipal powers, and upon the unremitting labor of a few physicians who have consecrated their time to the work, much to the detriment of their own interests. These physicians believe it best to concentrate their attention upon the work of anti-tuberculous dispensaries, vacation colonies, seaside hospitals, etc., and propaganda which they consider the basis of success. To obtain the best results, the anti-tuberculous campaign should begin with instruction of the people concerning the disease. To this end it has put in operation various measures, such as public lectures, and instructions on circulating leaflets or published in the journals. Its work has been completed in obtaining the passage of a municipal decree embodying stringent measures for the prophylaxis of tuberculosis.

If Germany and France occupy the foremost rank in Europe as far as anti-tuberculous propaganda is concerned, three countries in Latin America also merit mention: The Argentine Republic, Brazil, and Mexico.

This assertion is borne out by the following facts:

The Argentine League has, in the fifteen months of its existence, distributed more than 600,000 pamphlets bearing upon anti-tuberculous education. It has extended its instructions concerning tuberculosis and alcoholism to the most remote sections of the Republic. Finally, it has promulgated useful prophylactic knowledge through printed instructions upon match-boxes. One of the members of the league, a municipal counsellor, in April, 1902, succeeded in having regulations issued concerning the prophylaxis of tuberculosis, the details of which are the most complete known, and they have received the merited honor of publication in the French, English, German, Italian, and Portuguese journals devoted to tuberculosis.

To keep the public mind aroused, the league has, since the first year of its existence, given a series of illustrated lectures, which have been largely attended Moreover, it has distributed each month thousands of copies of its journal, which keeps the public in touch with what is being done the world over to combat tuberculosis.

In Brazil the initiative in the work was taken by Dr. Clemente Ferreira of São-Paulo as early as 1898. He then outlined a plan for the purpose of combating tuberculosis through instruction in prophylaxis and the hygienic education of the people, as well as by the establishment of sanatoriums for indigent tuberculous patients. The Paulist Society of Public Sanatoriums was founded under the patronage of the Medical and Surgical Society, and constitutes in itself an anti-tuberculous league. Dr. Ferreira has published, in Portuguese, the interesting pamphlet by Dr. Knopf entitled "Tuberculosis as a Disease of the People, and Means of Combating It." In collaboration with Dr. V. Godinho, he edits the *Defense against Phthisis*, the official organ of the Paulist Association of Public Sanatoriums.

Other cities of Brazil which have followed the ex-

ample of São-Paulo are: Rio de Janeiro, Bahia, Pernambuco, Juiz de Foro, Curytiba, Campos, etc. The antituberculous leagues play an important part in popular education, which they promote through public lectures, printed instructions, etc. The Municipal Counsel of Rio de Janeiro, in 1901, issued regulations concerning the prophylaxis of tuberculosis which embrace measures of the greatest value. Thanks to the efforts of the Brazilian League, under the presidency of Dr. Azevedo Lima, to whom the campaign against tuberculosis in Rio de Janeiro owes so much, a dispensary was opened in that capital in 1902.

A municipal ordinance places pulmonary tuberculosis among the diseases of which a report is obligatory, as is disinfection in that condition.

As before stated, the Mexican Board of Health has set itself vigorously to work through the dissemination of instructions concerning tuberculous patients and their surroundings. A pamphlet entitled "Defense against Tuberculosis" has been widely distributed. The work of Dr. Knopf has been translated into Spanish, and, finally, a free bacteriological service for the gratuitous examination of sputum has been organized.

The Chilian League, having its headquarters in Santiago, was founded May 26, 1901. It has done some important work, and disseminates instructions through booklets, notices attached to walls, etc. At present it is occupied in the creation of a hospital and dispensary, the latter to open in the current year. At the Institute of Hygiene, the league has succeeded in establishing a bacteriological service for the gratuitous examination of sputum.

Unfortunately, attempts to form similar leagues in the other principal cities have failed. Reporting of tuberculous cases is obligatory in Santiago, though disinfection is not.

An antituberculous league was founded at Montevideo, the capitol of Uraguay, in July, 1902. It has given public lectures, distributed instructions concerning the prophylaxis of tuberculosis, and founded a ladies' society, which actively coöperates in the collection of funds. The first dispensary is now in operation in the quarters occupied by the league. The Institute of Hygiene offers gratuitous examination of sputum.

In Venezuela the Council of Hospital Administration distributes leaflets containing the precepts relating to tuberculosis, which are published by the Imperial Sanitary Institute of Berlin. Drs. Razetti and Herrera Vegas are engaged in the formation of a league, which no doubt has been retarded by the war of which that country has recently been the scene. In Peru Drs. Belisario Sosa and Rómulo Eyzaguirre propose to form a league also, after the report of the special committee named by the government has been published.

In Asuncion, the capital of Paraguay, an antituberculous league, having for its president Dr. Hector Velasquez, has been formed, and has already commenced work.

Dr. Valentin Abecia of the city of Sucre has organized committees in various parts of Bolivia, and presides over the Bolivian League, which has obtained from the National Congress the obligatory reporting of tuberculous cases and isolation of patients in hospitals.

The Superior Council of Health at San Salvador has also made reports of tuberculous cases obligatory and sanctioned a series of prophylactic measures relating to churches, schools, public institutions, etc.

In conclusion of this brief review, mention must be made of the Cuban League, which has published, since June, 1902, a monthly report of its work. It has created delegations to the interior of the island, and has caused the formation of a commission for the special study of questions pertaining to tuberculosis. The provisional government, desirous of establishing a sanatorium for tuberculous patients, submitted the project to the league. The committee named for this purpose has selected the property of Asuncion, which has been acquired by the government. Fernandez de Castro has ceded to the league, land at the mouth of the Jaruco river as a site for a hospital for the treatment of tuberculous children. The Cuban League has delivered many lectures, and established a dispensary in Havana in February, 1902.

The first antituberculous dispensary in Latin America was established in Rio de Janeiro, January 26, 1902, by the President of the Brazilian League, Dr. Azevedo Lima. The President of the Republic and the archbishop assisted at its inauguration.

The second was established in Havana in February, 1902, by the Cuban League against Tuberculosis.

Two others in Latin America are located in Buenos Ayres. The first was thrown open to the public on July 1, 1902, the second in September of the same year. In the organization of these dispensaries, the German Polyclinic of Fränkel and the French and German dispensaries were taken as models. At present a model dispensary is in course of construction.

The scientific direction of these two Argentine dispensaries, which give daily assistance to 150 indigent tuberculous patients, being under my charge, I deem it of interest to make known the excellent results which we have attained, despite the short time they have been open.

We give to the tuberculous poor coming to our dispensaries the most complete protection and assistance, treatment and medicines, bed and body linen, sputum cups for the pocket, as well as for the home, and they are supplied daily with two liters of pasteurized milk, a half kilogram of bread, and 750 grams of beef or mutton. At the patient's first visit, he is given the requisite instruction concerning his disease.

After having been examined by the physician, he is given a card of admission, his sputum is submitted to bacteriological examination, and the following day an inspector visits his home and reports upon the hygienic conditions, poverty of the family, and takes steps toward remedying the latter.

The patient is authorized to send daily to the dispensary for what he needs; his card of admission sufficing for this purpose. Under penalty of deprivation of assistance, for the first offence, and erasure of their names from the register for the second, they are required to carry with them always the sputum cup, as well as to follow strictly the verbal or written instructions given them by the physicians or inspectors.

The weight of the patient, taken every two weeks, is inscribed in the register, as are also his clinical history, and the periodical examinations of his sputum. If the patient cannot leave his home (in cases of fever, hæmoptysis, prostration, etc.), a notice sent to the dispensary procures him attendance at the house.

Inspectors are required to visit patients in their homes once a week and report their observations to the director. Every two weeks they hand in a written report of the results of their visits. If the patient has no one to care for him, or his condition demands it, he is removed to the hospital.

Registered patients are required to present them-

selves at the dispensary once a week, in order that their progress may be watched. After having received their daily alimentary ration, they may consult the physician, receive hypodermic injections if necessary, and before leaving, obtain remedies from the dispensary drug room.

Those patients in whom the disease is far advanced, pregnant women, and those suffering from digestive disturbances, are entitled to a larger quantity of milk.

Excessive indulgence in alcohol is strictly prohibited, under penalty of withdrawal of assistance.

Our experience in these two dispensaries has been that the patients soon show decided improvement. A gain in weight is often seen, the appetite increases, and through the improvement in the general condition, the patient gains renewed strength and is able to resume his work.

Germany has been able to combat tuberculosis in sanatoriums by reason of the large sums derived from insurance societies. In Latin America the situation is quite different. As I said before, the antituberculous campaign cannot count much upon private beneficence, but must depend largely upon public support. The resources of the Mutual Aid Societies are as yet insufficient for the maintenance of sanatoriums. We must, therefore, depend upon dispensaries, which stand for prophylaxis,assistance in the home, and the hygienic education of families.

The dispensary, it is true, cannot replace the sanatorium as the sole factor in the treatment of tuberculosis. It must, therefore, be considered as the means through which may be extended to the greatest number of poor patients the benefits of medical and material aid to meet the most pressing needs; and it represents a valuable source of popular education and tuberculous propaganda.

The dispensary, by reason of the benefits it offers, attracts a large number of tuberculous patients, and consequently many recent cases are discovered.

It cures, economically, many patients, relieves a large number, and gives moral support and comfort, even to those whom death claims, sparing them the sorrow of breathing their last sigh in a hospital, by making family surroundings possible through the material aid which it offers.

It has the advantage over the sanatorium that it watches over those who are threatened with the disease, gives care to the incurables not admitted to hospitals and sanatoriums, according them treatment which relieves their sufferings and the necessary instruction through which they avoid contamination of their neighbors.

The dispensary may also serve for the selection of patients suitable for sanatoriums, and for the control of those who need home care and the assistance which is almost indispensable to the majority of those dismissed from the sanatoriums. Finally, it serves to combat alcoholism, unwholesome habitations, and overcrowding; and constitutes a veritable school of hygiene.

This communication, gentlemen, has had for its sole object, to show you how we of the New World try to put in practice the teachings of progressive Europe in all that concerns that most transcendental question, the warfare against the modern pest.

Mastoiditis Due to the Gonococcus.—C. Trow reports the case of a man of twenty-two years who denied ever having had gonorrhœa, but who developed a mastoid inflammation following a purulent otitis. Operation was done in the usual manner, and the wound healed without incident. Examination of the pus from the ear showed typical gonococci.—*Canadian Practitioner and Review*

THE EXPANSION OF A SPECIALTY.*

By HOWARD A. KELLY, M.D.,
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The history of medicine, as I contemplate its course, brings to my mind a vivid picture of the river Grand in America, a river which has its remote origin in thousands of brooklets and streams, and then in mighty lakes formed by their union. Leaving the wide expanse of Lake Erie, the silent flood continues its slow majestic course, moving onward with all the gathered forces of the many waters behind until it reaches the mighty precipice of Niagara. Over this it plunges 160 feet, in a vast cataract, rushing, whirling, and boiling onward to Lake Ontario, not many miles away.

Even so is it in the life of the medical body politic. For, if we except the barren periods during which wars have from time to time stirred individual countries, the history of mankind in all its phases has been none other than this: A broad stream, taking its rise in countless sources, advancing by slow increment from century to century, for years upon years seeming scarcely to move; then suddenly, in a period measured only by a single life, with a few discoveries come, in rapid succession, changes greater than those of all the previous ages, and we find ourselves standing in the midst of a rushing torrent, swifter than any ever yet noted in the world's history, about to be swept—we know not whither.

So wide-reaching are these recent changes in the medical world that it seems well-nigh impossible for those of us now living in their midst to form any adequate conception of the force of the new impulses which have been communicated to our art, or to conjecture the goal toward which we are being hurried. The one great principle governing the spirit of the times in which we live, is that of decentralization and diffusion, replacing segregation and separation. By means of these new forces the hamlet, the village, and the little town no longer exist, but have become part and parcel of the nearest great city. Even more, the city itself, in a sense, no longer exists, and humanity has become an organized unit. With this great transformation has come *pari passu* the rapid diffusion of knowledge, through which every man in the civilized world has suddenly become neighbor to every other man. The change in the face of the body politic is no less seen in its component parts. And where do we find a more striking example of these new ties of brotherhood than in the bonds which now unite us, practitioners of the healing art the world over, into a union made manifest by the community of interest and of aim distinguishing men who, regardless of worldly considerations, combine in devoting their time and their talents to relieving the sufferings of the human race. A noble calling if rightly exercised in a spirit of self-sacrifice without fear or favor of man.

The time was when this principle of diffusion was manifested by a few great lights of our profession, who delighted in peripatetic wanderings, adorning, it might be, one after another, the chairs of the great Italian, Swiss, Dutch, or French universities; when the peripatetic surgeon toiled over rough and dangerous highways from city to city, everywhere consulted, and every where distributing the benefits of his skill. This ancient practice, which I think has scarcely received its due consideration at the hands of the medical historian, has continued down the centuries, even

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as far as one of my own immediate predecessors in Philadelphia, the well-known ovariotomist, Washington L. Atlee, who was wont to take long journeys, travelling from town to town performing his hazardous operations.

Now, what a change! Once more, like the great lights of our profession in the past, we have become peripatetic, and the multitudes share what was once the privilege of a favored few. And what more fitting place could be found to celebrate this new activity than Spain and her capital, Madrid, the ancient land and early home of civilization and learning, which have boasted the names of such fathers in medicine as those who flourished in the reigns of the Emperor Charles the Fifth and of King Philip the Second. I refer to Francisco Lopez of Villalobos, to Andreas a Laguno, Christobel da Vega, Louis Mercado of Valladolid, Francisco Diaz, and to Nicolas Boccangelino, the great writer on the plague, as well as a host of others, including Fragoso and Charcon and Arcea. Would that such unity prevailed among those who practise law! Would that such harmony were the rule in the religious world!

The peripatetic tendency of the profession which has brought so many of us to share the generous hospitality of this great capital to-day, has been the responsible efficient agent in bringing about a condition of culture and an elevated status in the healing art never yet witnessed, nor even anticipated in the history of the world. I would that my powers were equal to a recital of the numerous blessings thus accruing to humanity, blessings which, I fear, can be only faintly conjectured. I must not, however, pass over so great a subject without emphasizing a few of these benefits; let me, therefore, cite some encouraging facts from my own country, with which many of you here present may not be familiar. In America, as you are perhaps aware, the standard of medical education has for many years been extremely low, owing to the multiplication of medical colleges. But of recent years, in my journeys from place to place, and in my intercourse with the many physicians who visit my clinics, I have everywhere discerned a marked improvement; and during the last twenty years the advance has been so rapid that even our smallest towns can to-day show some of the best surgery of the New World. Everywhere throughout North America, men are pouring into the clinics attached to large hospitals in order to improve their knowledge and technique, while others, as you know, are crossing the Atlantic in thousands to train themselves to do better work at home.

Transportation facilities are primarily responsible for this diffusion of learning, but another quickening impulse has entered as a significant factor into the medical culture of communities at a distance from the more noted seats of learning, and that is the establishment of small hospitals, both public and private, in towns and villages over our entire continent. These little hospitals are the living forces destined to transform American medicine and surgery, for they act as a continual stimulus to the men in charge, thus creating, sooner or later, an honorable rivalry wherever they exist, and they afford a constant and convenient field for accurate clinical observation, never found in centuries of private practice. In the women who enter them to study nursing we find a system of well-trained intermediaries between the medical profession and the public. With such coadjutors always at hand, the profession comes into touch with the laity, the people are instructed, and the whole sanitary life of the body politic, being quickened, enters new channels of life and growth. The public, which enjoys the blessing of such ministrations, then becomes interested, and as soon as the reasonableness of our aims is perceived, gifts are forthcoming, by means of which thousands of patients are sought out and benefited whose needs would never otherwise have come to light. These beneficial results are not the only outcome of the small private hospital system. The small hospital serves as well as an educational center for the surrounding professional community, each one of them attracting within its precincts the little army of practitioners scattered about in its vicinity, who never find it possible to leave home after their student days are over. The practical benefits of the object lessons thus given so near at hand are self-evident at once in the cases which begin to flow steadily in from remote places, representing patients who have neither the means nor the inclination to seek the distant large city. After a few years of education given in this practical fashion, the usefulness of these small hospitals becomes yet more evident in the changed character of the cases brought in for treatment. No longer do they come, as at first, in a desperate, and often hopeless condition; on the contrary, they now appear in the early stages of illness, nay, even on the suspicion of grave disease, if a consultation is thought advisable. In surgery, which forms the larger and more conspicuous part of the small hospital's work, I can think of no more ready and notable example of the improvement wrought than appendicitis. At first the surgeon of the small hospital, who had grown to be the consultant over a wide neighborhood, was only called in to see appendicitis cases when general peritonitis had ensued, or after the formation of a large abscess, when the case was often hopeless; but after a few years' teaching through his hospital clinics, his *clientèle* of country practitioners have become just as keen as their city colleagues in recognizing the significance of right iliac pain, and as a result the surgeon is at once called for and many lives are saved. I well remember a fervid oration by one country practitioner, who had become so impressed with the importance of early operation in appendicitis that he dramatically exclaimed: "if he himself ever had the disease, and did not have sense enough to demand an immediate operation, he wanted his medical friends to *down* him and do it," *vi et armis*. It must ever appeal to the surgeon who loves his art, as a subject for regretful consideration that his individual skill can reach so few of those who suffer; how heartily then ought he to rejoice at this multiplication of well-trained minds and skilful hands. Of all the unheralded silent influences working out from the medical profession for the benefit of suffering humanity, I reckon the small hospital as perhaps the most potent. Who, a generation ago, could have anticipated such a blessing? Yet to-day we find it ever expanding and spreading its beneficent aid farther and farther. Shall we not pause a moment and express our profound sense of thankfulness for the gift?

But changes are now taking place on all sides. The rapid acquisition and diffusion of knowledge that characterize the day in which we live, are like a swirling current engulfing the old ideas and dissolving them, only to deposit them again recrystallized in forms so entirely new that their bare presentation in the journals of to-day would often be more unintelligible than an abstruse language to our colleagues of a generation ago.

It is my desire now to discuss more particularly of the great changes that have taken place in my own line of work, which lies in part in those diseases peculiar to women; I propose to look briefly at the past out of which gynecology has

grown; to consider her present relations to medicine and to general surgery; and then to hazard a prophecy regarding her future. I do this in the hope that by thus discovering and correctly interpreting the natural tendencies of gynecological surgery I may exert a far-reaching influence. For such a body as I now address represents a temporary established brain of the medical world, which, if now impressed, will, in its process of disintegration, diffuse motor impulses, to be carried by the different members into distant lands and thus promote the natural evolution of the great domain of surgery.

I shall first try to bring before your minds a familiar historical picture, reminding you that gynecology is only of recent growth, being but an offshoot from the extensive and confused domain of general medicine somewhere about half a century ago. I shall then try to demonstrate that its domain as a specialty was at first but a narrow one, beginning with small issues and then shooting up in a marvellous manner to its present proportions under the wise hands of its master builders, many of them our immediate predecessors, some of whom are still living and honored among us to-day. Along with this demonstration goes the corollary, which I trust you will be prepared to admit, that a still further expansion of the gynecological field was natural and advisable. It is an indisputable fact that gynecology has grown to cover a wider territory; the question now before us is: Has gynecology ceased to grow territorially? Lastly, having, I hope, prepared you to accept my interpretation of the signs of the day, I shall urge upon you that the best interests of gynecology lie in the direction of a *rapprochement* with general surgery.

My subject is manifestly too broad for a detailed consideration, but I trust it will be possible for me to impart my convictions by briefly referring to facts which come within the cognizance of every medical man acquainted with history.

Any real growth in the art of medicine has ever been the product of two factors: on the one hand, a healthy philosophical speculation, controlled on the other by scientific observation at the bedside and the autopsy, aided by experiment. The great medical man of bygone centuries was essentially a philosopher, a man of greater calibre than most of his successors, but a regard for the facts which might have formed a substantial basis for his science was lost in the vagueness of his uncontrolled speculation. I think, for example, in this connection of the remarkable work of the Jesuit, Athanasius Kircher, on the Pest, and of the philosophical Bartholinus, of the great Bauhin family. I cannot help commenting in passing on the fact that we have now passed to the other extreme, for there exists to-day a notable lack of the speculative quality in our profession, the whole tendency of the age being pragmatic. Ehrlich's philosophical speculations concerning immunity and its relations to the formation of antibodies in the organism as a reactive response to the presence of certain albuminoid atom complexes, forms a notable exception, which draws attention all the more urgently to the lack of the speculative quality in modern medical literature.

As soon as scientific observation began to ally itself as a necessary co-worker in the development of medicine, the transformation was so widespread and so deep that a host of specialties was created, many of which, under the unifying effect of further discovery must tend inevitably to return to the general. Let me illustrate what I mean by evolution out of the general through a process of specialization followed by a return to the general. Take, for an example, those subjects which for the past decade have so occupied the medical horizon: the plague, malaria, and yellow fever; three of the greatest curses of our race. What volumes have been written upon these ancient foes, what labor has been spent in investigation, and with what self-sacrifice, and noble effort have a small body of scientists in Germany, France, England, and America devoted themselves to their extermination! At one time it seemed as if the whole world might be condemned to take toxins to ward off these pests, and that the great boon to humanity conferred by special researches was to be some potent poison, derived through the organisms themselves as intermediaries, which, when injected into the plague-stricken victims would save a large percentage of lives. And what has proved to be the source of evil? The rat, the flea, the fly, the mosquito! The answer to the problem is so simple that the whole question of immunity has been transferred again from the laboratory of the specialist to the field of the general practitioner, who is now able, with the assistance of the new light, to cope with these foes. The thought stirs me in passing that we have scarcely yet paused long enough to be truly grateful for benefits such as we have received. In my own country, we are now finding it difficult to secure adequate recognition of the services of the man who has wiped out the curse of yellow fever and saved millions of lives, without speaking of money. I refer to my late distinguished friend and colleague, Dr. Walter Reed.

The rootlets of gynecology everywhere interpenetrate our ancient medical literature from the Coan and from the Alexandrian schools downward; but in spite of the writings of Soranus, and the faithful transmission of his observations through the Greek down across the barren fields of the Arabic writers of the middle ages, there was still no gynecology in the true sense of the word. Hope first began to dawn when Versalius' great "Anatomy" appeared in 1545, and was quickened by scattered observations in the works of the great Paré and of Plater, together with the appearance of the pseudo-gynecologies of the sixteenth century edited by Caspar Wolf, Caspar Bauhin, and Israel Spach, those "*Gyneciorum libri de affectibus parientium et puerperarium, etc.,*" into whose pages we all look from time to time with such deep interest. In the works of Luis Mercado, the great Spanish physician of the sixteenth century, there is a precious little reference which cherishes our hopes; while speaking of fistulas of the womb he paints for the first time a vivid picture of the distressing effects of a vesico-vaginal fistula. I cannot let this occasion pass without congratulating our hosts upon the acute powers of observation displayed by their great predecessor. He remarks regarding the fistula: "*Verum quia aerumnosam calamitosamque vitam et multis periculis obnoxiam hujusmodi affectiones accersunt: siquidem ad intestina et ad vesicam adeo profunde aliquando permeant, ut urina et alvi excrementa per fistulam facile instillent, etc.*" But the fruition of the hope was not yet to be, and three centuries had still to elapse before the clear light broke upon the field which to-day is the common property of every surgeon. Time fails me, or I would gladly pause here to follow the example set by Louis Deroubaix of Brussels and trace the history of vesico-vaginal fistula, using this as an admirable means of developing the history of the gynecological specialty at large. I must content myself, however, by indicating on broader lines that gynecology did not, as might be supposed, begin after the manner of obstetrics as a specialty already established in

the hands of women. The practice of obstetrics was gradually transferred to the hands of men after the appearance of that quaint little book the "Hebammen Rosengarten" of Eucharius Rhodion, in 1513, followed by Paré's introduction of the principle of version, and the labors of his pupil Jacques Guillemeau in the same field, together with Rousset's work on "Hysterotomotoky." From these beginnings the obstetric edifice grew slowly toward completion during the next 150 years, under the united efforts of a host of great men, whose names I must not even pause to recall. The evolution of gynecology took place under other auspices. First established on the unstable foundations of Hippocratic teaching, it continued to grow under such occasional incidental increment as accumulated during the sixteenth, seventeenth, and eighteenth centuries. It remained entirely destitute of any scientific basis until the first half of the last century, when there arose a mushroom growth of pseudo-specialists, who frittered away their time and talents in the development and exercise of gynecological *fads*, which have not yet altogether passed away. I do not know whether the fair name of our specialty has suffered more from these fads in England and in my own country than elsewhere, but certain it is that there still exists among us a number of men, the acme of whose gynecology consists in discovering a little rent in the perineum, or a laceration or ulceration of the cervix. I have only lately received a letter of reproach for not sewing up a small tear in the neck of the womb which was to have the effect of curing a dangerous menorrhagia. The old régime is about passing away, and with it those whose whole science consists in finding and correcting a flexion, often an anteflexion, with a uterine sound or a lever, and then adapting a pessary. The man who runs to a fad will, however, always remain with us, and in these days he removes the ovaries for pelvic pain and for dysmenorrhœa, he does hysterectomies without number, and I am almost inclined to class with him my friend who desires to operate on every woman who has a fibroid tumor.

I spent some of the wasted months of my young life in a dispensary conducted on these principles, where we learned, without rhyme or reason, to paint the vault of the vagina with iodine, to pack the vagina with a glycerin tampon, and to prescribe daily prolonged hot vaginal douches. I will not be ungracious enough to mention any of the names of this group of gynecologists, for they lived among our immediate predecessors, and whatever we may think of their practice, we associated with them at our meetings and loved them individually too well to recall their memories with sentiments other than those of strong personal affection. And who of us now living, had our lot been cast with those days, would have done better?

There was no hope of advance for gynecology on such lines, and I have no doubt many a young recruit felt as I did myself, somewhat ashamed when he cast his lot for life into her lap. It was when matters were in these straits that hope received an impetus from two new and unexpected quarters: Two little streams appeared, one rising in 1809, in the hills of Kentucky, at the doorstep of Ephraim McDowell, honored the world over as the first ovariotomist; the other springing from the fertile genius of Marion Sims, of Simon, and of Jobert de Lamballe, the great pioneers in plastic surgery. These rivulets, speedily nourished from other rich sources in France, in Germany, and in England, rapidly swelled in one single generation into the mighty streams of abdominal and vaginal surgery, which, uniting together to-day, constitute the broad expanse of scientific gynecology.

Following these two lines of development, gynecology has opened up to successful cultivation on the one hand the entire field of abdominal surgery, which, therefore, belongs to her by right of conquest and eminent domain; while on the other she has shown the world the most successful and delicate plastic surgery as yet seen. The specialty as it exists to-day, is the outgrowth of incessant laborious cultivation, each step forward being controlled by thorough scientific investigation, by rigorous pathological study, and by accurate clinical observation. In the words of one of our greatest leaders, the eminent son of a distinguished father, who was himself a gynecologist: "*Wenn einer medicinischen Disciplin die pathologisch-anatomischen Methoden als Ergänzung sorgfältiger klinischer Beobachtungen und experimenteller Untersuchungen förderlich gewesen sind so kann man das zweifellos von der Gynäkologie sagen.*"

Let us now glance briefly over the achievements of gynecological surgery up to the point where she at present stands. From such a vantage ground, we shall, I think, be better able to estimate those things which are still to be done, and it may be to peer through the mists obscuring that which lies hidden in the womb of the future. Weigh well these gains as I name them, and do not tell me the truths they represent are trite. I shall be sorry for my profession if the day ever comes, when we, crying for somethink new, turn wearily from the considerations of our most precious possessions, because they are a decade or two old.

First of all, to the glory of Germany, England, and France, which have produced a Pasteur, a Koch, and a Lister, we have now a clear conception of the whole realm of microorganisms in their relations to infectious diseases and to surgical infection; and, as a result of this revelation, we have rapidly worked out efficient means by which the mortality of such an operation as ovariotomy has been reduced within a few years, from 50 to 25, to 5 per cent. or less. As a corollary to this discovery has come the disinfection of everything within the range of the field of operation, including the disinfection of the hands or their protection by gloves. Methods of dealing with pelvic inflammatory disease have been clearly established. The function of the peritoneum and the principle of its drainage are at length really understood. The treatment of uterine flexions is on a fairly settled basis. The great field of hernia is satisfactorily cleared up. Appendicitis has been plainly defined as a surgical disease and is treated as such. The technique of resection and anastomosis of the intestine, from being one of the most dangerous has become one of the safest operations. The whole realm of urinary infections is now accessible to diagnosis and treatment. Pause here for a moment to think what has been done in discovering the relative frequency and the proper methods of treating extrauterine pregnancy, of tuberculosis, and of carcinoma of the uterus; and note also what an achievement are the hysterectomies and myomectomies for fibroid uterine tumors. All these burning questions of a generation ago have been resolved by the labors of my colleagues in Germany, in Russia, in France, in England, and in America. Did time permit, what a galaxy of noble names I might here recount, each one of which would call forth resounding cheers! But I must pass on, and rather than make invidious distinctions among the great men of the past by recalling the names of a few, I will leave each one of

you to conjure up for himself the list of those he most delights to honor.

What now remains to be done? In my opinion, surgical possibilities in the gynecological field are almost exhausted, and the quickening revelations of sepsis and asepsis have been pushed almost to their limits. The really great and purning questions of the day are: Immunity and the causation of cancer; but these are matters relating to the broad domains of both medicine and surgery, not to the gynecological field alone.

Within the lifetime of some who are here present, and almost under the eyes of those who may still reckon themselves young men, scientific gynecology has grown up, and one after another its great questions have been met and answered, until, to-day, the few perplexing problems which still remain to be solved are largely identical with those that confront the entire surgical world. The distinctive mark of gynecology, that which has stamped it as a specialty *par excellence*, that which has elevated a body of workers in a special field to a commanding influence in the realm of surgery, and enabled them to take the initiative in many of the most important advances in that art, as well as to direct its thoughts into new channels, is the fact that here, in the female pelvis, thirty years ago, lay an unexplored surgical microcosm, and by addressing themselves assiduously to its particular problems, questions of the highest moment to surgery at large were to be solved. Thus year after year, in the great special journals, the *Archives*, the *Zeitschrift*, the *Centralblatt*, the *Annals*, the *Annali*, the *British Gynecological Journal*, the *American Journal of Obstetrics and Gynecology*, those storehouses of gynecological truth, discoveries rained down almost faster than we could appreciate them. But now the rain has ceased, or there remains at most only a gentle distillation of dew, and we may well cast about and ask once more: What new work is there for us to do? On what ground do we stand in our relationship to the whole domain of surgery? Are we, as heretofore, to remain specialists cultivating our own little corner of anatomy and pathology; or have we before us the prospect of more varied discoveries in a wider domain? And lastly, is a *rapprochement* in our relations to the field at large desirable? This uncertainty in regard to our future relations with general surgery is not confined to ourselves; our surgical colleagues may well inquire of us: Now that you have so clearly simplified the technique that it differs from our own field of activity in no essential particular, may we not safely and creditably adopt your methods and have a common part in your work?

Before attempting the answers to these questions touching our relations to the field of general surgery, let me speak briefly of the relations existing between gynecology and obstetrics on the one hand, and gynecology and general medicine on the other.

The most formidable hindrance to progressive change in the scope of gynecology would be its permanent *liason* with obstetrics; indeed the time is now come when the association which in their early days existed between the two has been discontinued in the interests of both. The relation of the gynecologist to the obstetrician has been a natural evolution. The earliest gynecologists were naturally obstetricians to whom their patients returned when they suffered from any pelvic ailments following confinement, or when they desired to ascertain why they did not become pregnant. Later on, when gynecology as well as obstetrics had become a science, the two fields of work still remained in the hands of one man, but he, as a rule, cultivated one at the expense of the other, a process of divergence between the two being thus established. I believe that Germany alone has shown the world a group of men equally great in both specialities. In other countries the tendency for men to devote themselves to one or the other exclusively has gradually increased, until to-day, with the exception of a few distinguished names in my own country, the divorce has been complete for many years. The reason for this lies close at hand in the natural incompatibility of a large private practice with gynecology. No gynecologist can afford to risk nights of uncertain rest and frequent broken engagements in order to practice obstetrics. I take it, it will always be impossible to effect a reunion between the two, but it would be, as I have already said, a serious injury to the future of gynecology should any unexpected turn of events result in their renewed association.

It is, on the other hand, hardly less essential to the best interests of gynecology that her relations with general medicine should become closer and more sympathetic than we find them to-day. It is not two generations since the specialist in diseases of women was preëminently a medical man, but with the advent of that great English star in the surgical world, Lawson Tait, the medical gynecologist sank into comparative insignificance. The severance of gynecology from general medicine has now become so complete, that it operates to the serious disadvantage of both, as well as to the detriment of many patients. There is noticeable at times a slight mutual distrust between the two branches of the profession; the medical man complains that the gynecologist is too often ready to operate without sufficient indication, and that the results of his handiwork are sometimes disastrous, while the gynecologist feels equally sure that his colleague frequently detains patients "under observation" for protracted periods, when the existence of some gross lesion demands immediate treatment. If I may take my own personal experience as a guide, both sides are unquestionably at fault. The average gynecologist must have a broader knowledge of general medicine in order to appreciate correctly the relations his local problems bear to the whole; the medical man needs, at some point in his training, to be brought into close contact with the work of a successful gynecologist, and, above all, he must learn to make pelvic examinations, and must not shirk this necessary diagnostic measure, as so many, unfortunately, do. I find, for my own part, the utmost benefit to myself, as well as to my patients, from the constant association with me in all my private work of a skilled medical man who has had such training as I have indicated.

My thought for my colleague is no new one; it is as old as Socrates, whom Plato quotes in his Charmides as saying: "And this is the reason why the cure of many diseases is unknown to the physicians of Hellas, because they are ignorant of the whole, which ought to be studied also; for the part can never be well unless the whole is well."*

Let us return now to the chief subject of our consideration, the future relation of gynecology to general surgery. The professional relationships at present existing between the gynecologist and his surgical confrère are most delicate and difficult of adjustment, nevertheless they control the future of gynecology, and to them I would briefly address myself in conclusion.

In other specialties, as for instance, eye surgery and diseases of the skin, we find a certain easily definable territory, possessing anatomical, patho-

*"Socrates in the Charmides of Plato," translated by B. Jowett, Vol. I, p. 11.

logical, and therapeutic peculiarities. Here, by common consent, the entire profession throughout the world has agreed to recognize fields of work detached from medicine and general surgery at large. But when we examine the gynecological field, we find that the distinctive marks of a specialty, which characterized it fifty years ago, under other conditions, have one after another disappeared. At one time there was a definite borderland (the "*Grenzgebiet*" of our day) between general surgery and gynecology, but to-day the line of demarcation has diffused itself widely, extending up into the abdomen as high as the diaphragm, as well as down to the pelvic floor, so that its boundaries are no longer recognizable. We must not follow our natural inclination and decide this important matter from the narrow standpoint of personal association and individual custom; rather let us take into consideration the evolution of gynecology in all parts of the surgical world, and then we shall perhaps be able to estimate the ultimate outcome of our specialty.

I trust that in my brief exposition, I have been able to show that, although there exists a historical continuity in the use of the term gynecology, the men who inherit the term differ *toto cælo*, and would never be recognized by their predecessors, were they suddenly to come back into their midst, as fellow specialists. So that what was gynecology yesterday is no longer gynecology to-day, and this change is not the result of an evolution by natural development from matrix to bud, and bud to flower, such as we have witnessed in the field of general surgery; on the contrary, it is, as we have seen, a complete transformation by which a simple little specialty of topical applications and petty operations in one field (vaginal) has been transformed into a specialty of difficult and dangerous abdominal operations.

It is an impossibility to fix precise limits for the gynecological field from historical data; and it is no less impossible at the present time to secure a consensus of opinion either of gynecological surgeons or of general surgeons as to what is included in the term gynecology. In other words, we here encounter an anomaly, found in no other true specialty; a name applied to a certain area in the center of a field, while the boundary of the field is undefinable. My German colleagues alone are prepared to give me a clear definition of the limits of the gynecological field, outlined by the boundaries of the female pelvis; but even among them I begin to note signs of dissatisfaction with the restrictions thus imposed on a specialty cultivated by men of extraordinary ability, who as surgeons are capable of extending their beneficent work to a larger field than custom and accident have assigned them. I take it, my German colleagues, especially those outside of the universities, will not always remain satisfied with the ill-mated association of gynecology and obstetrics. In France I find no such distinction, the gynecologists there, almost without exception, are surgeons in the broadest sense of the word, and for this reason the breadth of grasp upon their specialty shown by our Gallic colleagues excites the admiration of the entire surgical world. In England and America, ever closely united in matters medical by a common heritage, the utmost diversity of opinion prevails, but not without injurious friction. The gynecologist constantly seeks a wider and yet wider realm, while the general surgeon, forgetful of the lessons of history, seeks to restrict his colleague's activities to the particular area in which he, the general surgeon, found the gynecologist working during his own student days. On the other hand, the gynecologist is not without substantial ground for complaint in that he finds his practice being absorbed by his confrère, who no longer limits himself to his own extensive field, but does gynecology as well.

Why should we make any attempt whatever to adjust these national and local differences?

For two cogent reasons: In the first place, because it is a matter of no little moment to minimize the friction which at present disturbs the fraternal harmony of the profession, friction which inevitably delays progress and results in the loss of many lives. In the second place, because we of the medical profession are, as I have intimated, the only true cosmopolites of the world. No other profession and no trade can lay claim to such entire independence of national boundaries, nor does any other body of men have, like ourselves, for its sole aim the relief of those who appeal for sympathy and aid in their hour of distress, irrespective of nation and color. We alone, linked by true bonds of union, form an unbroken chain extending throughout all lands regardless of creeds and politics. We have ever been united by uniformity of practice, and united we must continue to be; therefore, if a timely word will assist in regulating these little differences, let that word be spoken and the adjustment hastened.

To this end I would urge for the present need, on the one hand, a thorough surgical training for the gynecological surgeon. He ought never, as in the crude past, to rise immediately from the ranks of men in general practice; on the contrary, he should first graduate well equipped in the broad field of general surgery. Only after such a training can he become a first-class specialist, but such a training removes his previous disabilities and fits him for the entire field of abdominal surgery, and under these circumstances any artificial boundary becomes an absurdity. Let the entire abdomen then be regarded as the province of the gynecologist. For the general surgeon, I would urge that he be accorded the full freedom of the pelvis to operate when he is so inclined, and that the general surgeon and the abdominal surgeon act in a spirit of generous rivalry. I am aware that such a radical proposition will not meet with immediate favor; I urge it, however, upon your consideration, for I am firmly persuaded that it will come with time, and it will certainly come with less friction, if we are prepared for the change, and ready to welcome it when it appears.

A gynecologist such as I have described would confine himself to the abdominal cavity by preference, since it offers a field sufficiently large for the exercise of his judgment and his surgical skill. He would be a specialist by predilection and by courtesy, in forcible contrast to the gynecologist of to-day, who is too often a specialist—in the narrow sense of the term—by necessity, because he has not the requisite training to occupy the broader field, which, nevertheless, he sometimes invades with disastrous results.

I claim finally that my proposition is reasonable, because of the unity which underlies the principles of all abdominal surgery. The term gynecology is to-day as much a misnomer and as meaningless as the analogous term andrology; in its narrow sense, it simply does not exist.

Congenital Single (Unsymmetrical) Kidney.—Ramón Guitéras reports three cases, and remarks that we can never tell by the shape, size, or appearance of a kidney whether it is single or not, and that we should never operate to remove a kidney without first catheterizing the ureter.—*Gaillard's Medical Journal.*

MEDICAL RECORD:

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OUR CABLED REPORT OF THE INTERNATIONAL MEDICAL CONGRESS AT MADRID.

THE Fourteenth International Congress of Medicine, which met during the past week in Madrid, and of which we present a full and special cable report in this issue, was in many respects a notable one, especially on account of the importance and variety of subjects discussed. It was also of a sufficiently representative character to give authority and force to the opinions expressed on the various topics connected with international medicine in its broadest and most comprehensive sense. The subjects were well selected and, in most respects, were exhaustively treated by experts in different lines.

The prevention and cure of tuberculosis was, as might have been expected, a topic of leading interest, and its discussion tended to prove the great value of those fundamental principles of hygiene that apply to disease prevention in general and to that one in particular. Agreement on such points serves the purpose of generalizing methods which are far more important than any special form of treatment that must be necessarily limited in its application. With a universal disease, such as the one under consideration, it is rational and logical to expect that the remedy should be within the easy reach of all. As no amount of argument or discussion can give a different complexion to the necessities of the situation, it naturally follows that the more the truth is ventilated, the firmer will these fundamental principles of prevention and cure be established.

It is an encouraging sign of progress that cosmopolitan medicine rises to the occasion with a correspondingly broad view of present requirements. The program for sectional work was seemingly quite effectively carried out, although some of the plans, as first announced, were necessarily modified or altered to suit certain exigencies. The time allotted to subjects was necessarily limited, but was evidently well improved.

Unlike some previous congresses, there was no sensational elements in its proceedings calculated to astonish the scientific world by the announcement of some startling discovery, or of the adoption of some new doctrine of disease. The germ of cancer, for instance, is still undiscovered, and the treatment of the disease is still along the same old lines. The various serums that have been announced from time to time by the secular press have failed to establish their claims as curative agents, and while the contemplation of this fact may have its disappointing and melancholy aspect it is highly beneficial in the long run to know the truth as it is, rather than waste effort in the futile endeavor of following wrong trails.

The question of food adulteration was one of international importance and claimed a wide interest and becomingly earnest attention.

As there is no scientific excuse for counterfeiting foods in any form, the discussion bore upon the necessity of enacting practical laws against such frauds—an exceedingly difficult undertaking in view of the formidable antagonism of trade interests.

The necessity for unifying pharmacopœial methods for the preparations of medicaments was one that appealed to all as of prime importance, and its discussion was eminently proper before an international congress. Efforts in such directions tend to universalize science, to give it a truly international interest and aspect, and to bring all investigators into closer and more intimate contact. If we are ever to have a universal pharmacœpia, it must be made possible through such international agencies as these.

It is with no small satisfaction that we are enabled to place before our readers not only the principal addresses delivered, but a full cabled report of the proceedings. This is in keeping with the established policy of the MEDICAL RECORD, always to give the latest important scientific news fully, promptly and accurately, from any part of the globe. It is only by such means that we can keep abreast of the times and can make the MEDICAL RECORD a necessity for the studious and progressive practitioner. Thus, in this instance, the man at home gets the published report before it is possible for a member of the Congress to obtain it in Madrid.

THE INHERITANCE OF SYPHILIS.

ON the basis of a comprehensive study of the literature, and of his own observations, Dr. Rudolf Matzenauer discusses, in the *Wiener klinische Wochenschrift* for February 12, 1903, the possibility of inheritance from the father. Inheritance from the mother can conceivably occur via infected ovule or through infection via the placenta, the former, of course, only in women syphilitic before conception. Though Kassowitz denied infection via the placenta, there are now on record more than sixty cases, accurately described, of such infection, and every syphiliologist sees such cases. Like all inheritance of syphilis, inheritance from the mother infected during pregnancy does not always occur. In general it is the more probable, and the intensity of the disease is, as a rule, the greater the earlier in pregnancy the mother is infected. A definite prognosis as to the child is impossible. It is generally accepted that infection during the last two months of pregnancy can be communicated to the child, however there is no certain case of such infection on record. There is no evidence for inheritance via the ovule in any other disease, nor is there any such evidence in particular for syphilis. It is to be accepted that the placenta represents the avenue of entrance. And accordantly with this we may have one twin healthy, the other syphilitic. The intensity of infantile syphilis does not

always correspond to that of the disease in the mother. Thus, severely affected children may come from mothers with latent syphilis. The difference in intensity is to be explained by the inequality of resistive power in the mother and child, who are to be regarded as two separate organisms. In women affected early in pregnancy abortions and premature births are frequent. On the other hand, in proportion to the length of time that has elapsed since infection, the tendency to give birth to severely affected infants diminishes. This gradual attenuation of hereditary syphilis is probably due to a relatively greater frequency of placental disease in cases of recent, and consequently more virulent, maternal syphilis. One phenomenon which has been disregarded or undervalued by most authors is the occurrence of an alternating inheritance, which also occurs with other infectious diseases (*e. g.* tuberculosis); that is, the birth of a healthy child following that of a diseased one. The author then gives a table showing the *pros* and *cons* upon the question of the possibility of direct inheritance from the father, for the existence of which he is convinced there is no evidence, all inheritance being, in his opinion, secondary to infection of the mother. "The sperm of a syphilitic is not infectious." His reasons are that we know no other infectious disease transmitted via the spermatozoa; that there are many more syphilitic fathers than syphilitic children (Fournier); that with increasing exactness of observation, cases of conjecturally certain cases of paternal transmission are progressively more rare and are regarded by the most experienced syphilographers as exceptional; that the transmission of syphilis after many years from man to woman by contact infection, is at least as probable as a direct paternal transmission to the fœtus after so long a time; that apparently healthy women have had syphilitic children not only by their first and syphilitic husband, but also by a second and even a third healthy man; and that in the case of twins, one healthy, the other syphilitic, the explanation presupposes separate placentæ, one of which was diseased. Demanding the evidence which would warrant the usual affirmative answer to the question: Can a non-syphilitic give birth to a syphilitic child? the author points out the comparative infrequency of genital examinations in women, and the ease with which syphilis in them can be overlooked. The number of apparently healthy mothers of syphilitic children reaches *ad maximum* 20 to 38 per cent., but this need occasion no surprise, inasmuch as in 30 to 40 per cent. of cases with certain, tertiary phenomena, previous syphilis is not demonstrable. Syphilis and hereditary syphilis, are one and the same diseases. Now it is a matter of experience that all mothers (consequently also the apparently healthy ones) of children with hereditary syphilis are immune against the syphilis (Colles-Beaumès' law), not only of their own child but against contact infection from other sources. In this fact most syphilographers see evidence that the mother in question is not actually healthy, but only latently syphilitic. On the contrary, the supporters of the possibility of paternal transmission, support themselves upon exceptions to the Colles-Beaumès law. The author, however, finds on record only thirty cases of such alleged exceptions, not one of which can be accepted as fulfilling the requirements of to-day. Every mother of an hereditary-syphilitic child is then without exception, immune. The significance of this has, however, been underestimated by reason of the opinion that existing immunity is no evidence for the previous existence of infection. But with other infectious diseases we have no evidence of a *lasting* immunity apart from a previous attack of the disease in question; that is to say, immunity brought about by antitoxins is always transitory; and, furthermore, in the case of syphilis no immunity is inherited, as is shown by six cases of primary infection of the child by the mother during parturition. Profeta's law, therefore, must be allowed to fall, as invalidated by facts. For one series of sixteen cases, undoubtedly correctly observed, exists in which healthy children of recently syphilitic mothers were infected with syphilis soon after birth. Also, in the case of endemic syphilis, children in the first years of life have acquired syphilis, and among them there must have been some of syphilitic mothers. As then, on the one side, there is no such thing as inheritance of a lasting immunity; and, on the other side, every apparently healthy mother of an hereditary-syphilitic child is without exception permanently immune, it follows that every apparently healthy, but immune mother has (latent) syphilis. And the practical consequences are: the mother of a syphilitic child, even though she show no symptoms, must be treated with mercury; the mother of a syphilitic child can, in accordance with Colles-Beaumès' law, nurse her child without fear; the syphilitic parents of a healthy child may possibly infect the child; and a syphilitic man, in order to avoid infection of the woman, is not to contract marriage until several years after infection, and not without several mercurial treatments. The whole doctrine of the inheritance of syphilis is now much simplified. Formerly composed of traditional hypotheses, woven around with a mass of dicta, syphilitic inheritance has hitherto been regarded as a kind different from that of other infectious diseases, as one in which "no rule without exception" could obtain; whereas now we see it governed by exactly the same laws of nature as in the case of the other infectious diseases.

THE SANITARY MENACE OF CHINA.

In view of the recent commercial opening up of China, the establishment of new lines of communication with that country, and with an already vast and rapidly increasing trade with Eastern Asia, the sanitary condition of China has ceased to be a negligible quantity and has become a matter of the most serious importance to the United States and European nations. Chinese cities are greatly overcrowded both in respect to closeness of buildings and number of their inmates, have no sewerage systems or general water supplies, and are dirty and unsanitary in the extreme. Smallpox is always rife among them, cholera claims its countless victims at frequent intervals, and the large towns have literally become plague centers. It was from China that plague lately entered California, Mexico, the Hawaiian Islands and the Philippines, and the infection from which the present destructive cholera epidemic in the Philippines was developed was introduced into Manila from Canton. Japan has lately been

cursed with plague and cholera due to infections brought in from China, in spite of the excellence of the Japanese quarantine service. Considering these facts, and others which might readily be adduced, it is evident that China, with her total lack of sanitation, is a constant menace to the public health of the more civilized nations. At present, and for some time to come, the so-called "Yellow Peril" is more to be feared for its influence on the world's health than in its relation to commercial competition and military supremacy. It cannot be too strongly emphasized that the time has passed forever when the sanitary condition of Eastern Asia is of no importance to the United States. With improved means of communication and a trade increasing by leaps and bounds, China is neither as isolated nor as far away from us as she was even a decade ago, and she can be no longer ignored as an ever-threatening source of danger. It should not be forgotten that the China coast is not two days' run by steamer from our new Philippine dependencies, and scarcely three weeks distant from San Francisco. This modern improvement in communication has necessarily been accompanied by corresponding increase in the danger of transporting infectious disease—the more ships and goods, the more possible carriers of infection, and the shorter the time consumed in the voyage, the greater the chance that relatively non-resistant micro-organisms, like the cholera germ, will be brought to a home port in viable condition. While something in the way of protection can be done by stationing medical officers at the main shipping centers to watch outgoing ships, as is now done by the Maine Hospital Service, experience has repeatedly shown that this measure is insufficient, and that sooner or later disease will creep by the watchers. The root of the evil exists in the foully unsanitary conditions of the Chinese cities themselves; and these conditions should be remedied, either by exerting pressure on the Chinese authorities to make the necessary changes, or by turning over the sanitary control of the more important seaports to some of the great political powers. The conditions present are fast becoming an international sanitary problem of the utmost gravity, and precedent is not wanting for interference with China with respect to sanitary administration. The European nations have found it necessary to unite in demanding of Turkey that certain sanitary reforms be carried out in connection with the Mohammedan pilgrimages to Mecca, and the constant menace from unsanitary Cuba was no small factor in bringing about the war with Spain. An excellent opportunity for coercing China into carrying out some urgently needed sanitary reforms was lost after the allies evacuated Pekin a couple of years ago, but it would seem as if present unrest and rebellion in that country might result in outside interference becoming necessary at an early date, and with such interference the carrying out of certain radical sanitary improvements in the Chinese seaports should be one of the essentials in coming to a final understanding. From its geographical position, and that of the Philippine Islands, the United States is more directly concerned in the carrying out of the necessary sanitary reforms than is any other nation except Japan. The danger to us from the epidemic diseases of China is both constant and great, and this danger must inevitably increase with the progress of time. There is no question but that unsanitary China is a threat against the public health in the United States and throughout the civilized world, and that the sanitary problem which must be solved is one which presents peculiar difficulties of solution.

Is Nerve Energy Electricity?

In the *Journal of the American Medical Association* for March 7, 1903, Dr. J. Emmet O'Brien maintains by some cogent arguments the identity of these two forms of energy. Strangely enough there has been for a half century a curious unreadiness on the part of physiologists to accept in this matter the simplest hypothesis, though, at the same time, they were not able to adduce any valid counter-arguments. As the author well remarks, the question deserves to be taken up anew in the light of our modern conceptions of the structure of the nervous system, and of our greatly increased knowledge of electricity. Respecting the objection supposed to be derived from the difference in rate of transmission of nerve energy and electricity, the author says that no very decisive experiments as to the speed of nerve impulses have been made since those of Du Bois Reymond and of Helmholtz, and since then we have learned much on the electrical side, especially as to the properties of cables. Further, no laboratory experiments so far made upon the question of the rate at which nerve energy travels are above criticism, and they cannot be held to give an accurate measure of it. Such experiments are, indeed, relatively coarse and inaccurate. O'Brien gives some calculations, based upon the maximum of rapidity of muscular contraction attained by telegraphers, to show that a greater (and not impossibly a much greater) degree of rapidity is attained, than that usually assigned—namely, thirty meters per second. Further, the speed of electricity is, he thinks, much slower than its well-known maximum velocity, for there is a lag in cables due to capacity, inductive static charge, and the electric reaction of armor. Moreover, we now know that insulation is merely relative, and what we know of high-frequency currents has enlarged this view. For instance, a less perfect insulation will suffice for fine telephone currents. A rather detailed consideration is then given of the probable electric properties and functions of the neurones, and of certain terminal organs such as the tactile papillæ, Meissner's corpuscles, etc. The author then says that "If the proposition can be accepted that nerve force is electrical, it will, I think, advance knowledge." And he concludes that: The construction of nerves has been closely, though unconsciously, imitated in electric cables. Experiments on nerves should be interpreted according to the electrical peculiarities of cables, and not as if they were bare conductors. Nerves are insulated, distributed and arranged like fine electric conductors. Their purpose and use are the same as the purpose and use of electric conductors—namely, communication from point to point. They convey some form of energy, and there is not such a gulf between its velocity and that of electricity as has been supposed. This force must be electricity because: (1) electricity is always present when nerves act; and (2) electricity is the form of force which would do the work required, and it is the form of force which would work with such construction; (3) because the terminal and central mechanisms connected with the nerves correspond to the terminal and central mechanisms connected with electrical systems of communication and do similar work in sending, receiving, relaying, switching, transforming, accumulating, retarding, distributing

nd translating impressions, and (4) because electricity, with such construction of conductors and f terminal mechanisms, is the only form of force that ve know of that would do all the work required.

Report of the Government Laboratories of the Philippine Islands for 1902.

The opportunities for research into the origin of ropical diseases provided by the American occupaion of the Philippine Islands are practically unmited, and it is in a high degree encouraging to ather from the above report that it is the intention f the United States Government to take advantage f these means of enlarging the present narrow nowledge of the maladies of tropical countries. With this object in view, a new and extensive laboratory building has been planned in Manila, including chemical and biological laboratory. The chemical aboratory will provide space for the analysis of minrals, mineral products and rocks, of water, soils, food roducts, paints, oils, beverages, and other materials. In addition it will be necessary to investigate the natural resources of the islands, and liscover means of improving the products and, if possible, to develop new resources and industries. With this end in view, rooms must also be provided or distillation, for the examination of plant products, and for work in pharmacology, so that the ctual value of supposed medicinal plants can be lecided on the spot where materials are at hand and resh.

The routine work of the biological laboratory involves diagnostic analysis, bacteriological and otherwise, for the various hospitals, municipal physicians, board of health, police force, and other government nstitutions as may have occasion for such services. As this work is quite extensive, considerable space nust be allowed for bacteriological diagnosis. The nvestigation of tropical diseases and the pathological changes brought about by them, both in human beings and in domestic animals, will require he construction of several rooms for the study of heir causation and to accommodate pathology and physiology. The plans of the laboratory have been drawn so as to accommodate all of the work within one building, one half of which will be occupied by he chemical and the other half by the biological aboratory, with storerooms and photographer's rooms held in common.

In planning the new laboratory, says the report, an important circumstance, adding to the value of he laboratories for the Philippine Government, has been kept in mind. It is believed that the fertility of the field for the investigation of tropical diseases and of chemical problems which can only be carried out here, will offer a great attraction to scientific men of high standing. Of late years the desire for the development of science in the tropics has grown among the thoroughly trained men in the laboratories, both of Europe and America, but the facilities for investigation have heretofore been furnished chiefly by equipping and organizing expeditions, the outfit of which must necessarily be limited, owing to the large cost of supplying temporary laboratories, and to their migratory nature. These drawbacks to thorough work would be eliminated, provided the Philippine Government laboratories could supply facilities and room for such scientific expeditions, and it is thoroughly believed that as soon as the announcement of the complete equipment of the institution is made, it will be possible, for limited periods, to draw on the best research talent in the world, without any greater expense to the government than the cost of transportation, and possibly of the living expenses of the men while here.

There can be no doubt that if the necessary funds are forthcoming to build and equip a laboratory at Manila in the best possible manner, that a great work will be done there, a work which will redound to the credit and honor of America, and which will also be of inestimable service to the whole human race. It therefore behooves the government not to be niggardly with money, but appropriate sufficient to make of the Philippine laboratories an enduring monument to American science.

Dengue Fever.

In the report of the government laboratories of the Philippine Islands for 1902 is an account of investigations made in Manila with regard to the etiology of dengue fever. As is well known, this malady is extremely common in certain tropical and sub-tropical regions, and is perhaps more injurious to health than is generally believed. During the past few months the disease has been very prevalent in Manila, and the experimental work performed there respecting its causation is therefore of much interest.

The report refers to the fact that as early as 1885 J. W. McLaughlin, in a study of an epidemic of the disease occurring in Texas—a description of which is given in Hare's System of Practical Therapeutics, Vol. II, 1901—held that he had discovered and isolated the specific organism from the blood of the patients affected. It was claimed that this organism, a micrococcus, was found both in fresh coverslip preparations and in cultures taken from the blood. The unique features of this coccus, according to the author, was the peculiar manner in which the bacteria grouped themselves when grown on artificial media. The blood of the patient was used first as a culture media for the organism contained therein. In 1897, in another epidemic of dengue fever in Texas, Gamon took up this work and succeeded in isolating a coccus from the blood of one case, which, however, presented some differences from the organism described by McLaughlin, and which the author considered, perhaps, a variety of one of the pus organisms. It was, however, not pathogenic for rabbits in large doses.

H. Graham of Beirut, Syria, described an epidemic of dengue fever, which occurred there in 1902, in the Medical Record, February 8, of that year. He claimed that he had found an ameboid form in certain of the red blood-corpuscles of those sick with the disease, and subsequently he was able to discover it after careful examination in all of the cases, without exception, which he examined. One hundred cases were studied. He describes this parasite as resembling in many ways the plasmodium of malaria, or particularly Pirosoma bigeminum, but its cycle of reproduction is so much longer than that of the malarial parasite that it is difficult to follow. It may be seen either in the center of a red blood-corpuscle or sometimes at the margin. From time to time it changes its shape, showing ameboid movement and shifting its place from one part of the corpuscle to another. This hematozoon is unpigmented. Flagellated forms are described, which, however, only developed after the blood had stood for some time. The author states that the parasite need not be mistaken for a vacuole, as it is too dull in color and lacks the clear brightness seen in a vacuole.

The report goes on to say that during the present epidemic in Manila this plasmodium has been care-

fully sought for in the blood, and attempts have been made to isolate the coccus described by McLaughlin. From these studies the following conclusions were arrived at: (1) In dengue fever there is no leucocytosis. (2) The differential counts of the white corpuscles in this disease show normal proportions of the several varieties. (3) The hematozoon described by Graham has not been found present in the circulating blood of the cases examined. (4) The micrococcus described by McLaughlin has not been encountered. (5) The etiological factor of the disease is as yet unknown. Experiments are now being undertaken to determine whether the disease is disseminated by mosquitos, as Graham has claimed.

Subway Locomotion.

The approaching completion of the New York subway suggests certain important sanitary considerations. The subway question has recently been discussed in the *Practitioner*, and some interesting facts are presented. The chief cause of the movement of air in the tunnels, stations, elevators, and the stairways is the passage of trains which act, in a general way, like the piston of a cylinder driving the air before them, and sucking it in after them. In addition, in the Boston subway (and we presume the same plan will be followed in New York), there are electric fans located in what would be "dead" spaces between stations and air inlets. These fans keep the air in motion, and thus maintain an atmospheric condition practically the same as that outside.

In some of the London "tubes," which the trains used therein pretty closely fill the conditions, are not as favorable as those enumerated in the foregoing paragraph. In the newer structures the amount of CO_2 present was never more than three times that in the outer air (4 parts per 10,000). In the tunnel first built, the air showed CO_2 in the proportion of 25.9 parts per 10,000. Quite recently Mr. Sutherland, F.C.S., made some analysis of the air in one of the London tubes, finding that during the periods of light traffic, when the number of passengers conveyed in the cars was small, the air of the railway was fairly pure; during heavy traffic, however, the proportion of CO_2 rapidly augmented On various occasions in the busy times he found the air of the carriages to contain from 15 to 20.5 parts of CO_2 per 10,000—or from four to five times as much as in the outer atmosphere. It must be remembered that this excess of CO_3 is solely derived from human respiration and skin-transpiration, for there is no combustion of fuel or gas, as in the old underground railways, to augment the impurity of the air.

The *Practitioner* goes on to urge the strict enforcement of the following sanitary regulations: (1) The used air of all underground transportation conduits should be removed daily and renewed with fresh air between the hours of running. The large size of the New York subway and the continuous passage of trains, night as well as day, would probably prevent the danger implied in this regulation. (2) Every person spitting in tunnel or car should be prosecuted, and (3) overcrowding beyond the seating capacity of the cars should be absolutely prohibited.

Another point worthy of mention is that those traveling in subways lose much of the benefit that now comes from surface travel by reason of sunlight. Subways are, of necessity, constantly lighted by some artificial means and though electricity is far superior to gas, it can never replace sunlight.

Dr. Maclagan's Gift to Humanity.

Death has recently removed from the ranks of medical practitioners one whose name will ever be associated with the introduction into therapeutics of a remedy which has many a time and oft lessened the pains of suffering humanity. We refer to the late Thomas John Maclagan of Edinburgh, whose great work was the discovery of the curative action of salicin, and from that of the salicylates in acute rheumatism. The introduction of this remedy practically effected a revolution in the treatment of this disease. It shortened its duration, lessened the severity of its symptoms and greatly prevented its sequelæ. But twenty-seven years have elapsed since his original contribution was published in the *Lancet*. His investigations were made purely on empirical grounds. His name will always be associated with the theory of the miasmatic origin of the disease. He reasoned that nature commonly furnishes a cure in places afflicted with diseases of that type, and he was thus led to experiment with the bark of salix alba, and with meadow sweet. He obtained his medical degree in 1860, came to London in 1879, and soon took a high rank among the leaders of the city. He died at the age of sixty-five years.

News of the Week.

The Discovery of the Smallpox Germ.—Prof. W. T. Councilman of the Harvard Medical School has announced his discovery of the causative element of variola in the shape of a protozoon, the first development of which appeared to be in the pustular eruption. So far this is the first demonstration of the existence of an annual parasite in an eruptive disease, and may give promise of many interesting observations along similar lines.

American Medical Association.—Tickets issued by the Southern Railway to New Orleans for the American Medical Association will be good for a stopover at Washington on the return trip, on deposit, for ten days not to exceed May 30, in order to enable the holders of such tickets to attend the Congress of American Physicians and Surgeons at Washington.

Changes in the Faculty of the College of Physicians and Surgeons, New York.—Dr. Geo. L. Peabody has resigned as Professor of Materia Medica and Therapeutics, to be succeeded by Dr. Christian A. Herter. Dr. Geo. M. Tuttle has resigned as Professor of Gynecology and Dr. E. B. Cragin has been placed in that department. Dr. John D. Voorhees has been appointed lecturer in obstetrics, Dr. Arnold Knapp has been appointed lecturer on ophthalmology to succeed his father. Dr. Geo. C. Freeborn has resigned as instructor in normal histology, and Dr. Robert F. Weir, who has been connected with the institution as teacher for more than thirty years has also resigned, to be succeeded by Dr. Joseph A. Blake.

Award to Woman Scientist.—The prize of $1,000, offered two years ago for the best piece of scientific research work done by a woman, was awarded to Dr. Florence R. Sabin, assistant in anatomy at the Johns Hopkins University Medical School. Dr. Sabin presented the results of an investigation on the origin of the lymphatic system.

Bill for Limiting Hours of Labor Passed in New York State.—Governor Odell has signed Senator Hill's bill regulating the hours of labor of women and children in mercantile and other establishments. The Hill bill applies to all minors under sixteen employed in "any mercantile establishment, business

office, or telegraph office, restaurant, hotel, apartment house, or in the distribution or transmission of merchandise or messages." It forbids their employment for more than fifty-four hours per week, or for more than nine hours in any one day, or before 7 A.M. or after 10 P.M. Women between sixteen and twenty-one years old, employed in mercantile establishments, such as department stores, are limited to sixty hours' work a week, or ten hours in any day, except for the purpose of making a shorter workday on some other day. Their hours, also, are limited from 7 A.M. to 10 P.M. The law requires as a condition for labor of children school attendance of not less than 130 days during the school year previous to a child's fourteenth birthday. Work during vacations is permitted by children over twelve years old. The law takes effect October 1.

Annual Report of Roosevelt Hospital.—The annual report of Roosevelt Hospital has just been made public, and shows that the number of patients under treatment in the year 1902—3,874—was greater by 104 than in the preceding year, and the daily average of patients larger by 12 than in 1901. The number of cases treated in the emergency department was 8,339, or 281 in advance of any highest previous record. The record in the "out-patient" department shows an increase of treatments, which is considered an encouraging sign in view of the falling off in many of the dispensaries. The money donations to the hospital were few in number, the total amounting to only $5,113.31, while the expenses for the year were $172,593.62—$13,928.32 greater than in the previous year. The report calls attention to the urgent need of increasing the endowment fund by $500,000. No bed was endowed during 1902, and the keeping down of the annual deficit to $6,208.23 was due to the increase in patronage of the private patients' pavilion.

Faculty of Veterinary Medicine Dissolved at McGill University.—The Board of Governors of McGill University have decided that the faculty of comparative medicine and veterinary science at the university shall cease to exist at the close of the present session. The reason given for this step is the impossibility of securing adequate funds for the reorganization of the faculty along the lines suggested by the governing staff of the university.

Preparing to Welcome Professor Timiziazeff in London.—Scientific men, says the New York *Tribune* of April 26, are preparing to welcome Professor Timiziazeff, the Russian scientist when he lectures before the Royal Society next week, and there will be a general rally of the learned professions when Pierre Curie and Madam Curie, the experimenters in radium, are entertained at the royal institution in June.

Land for Rockefeller Institute.—Final contracts were signed on April 27 for the purchase of land from the Schermerhorn estate for the proposed Rockefeller Institute. The property acquired extends from Sixty-fourth street to a line fifty feet north of Sixty-seventh Street, and from Avenue A to the East River. The price was about $700,000.

Alcohol in Patent Medicines.—One of the most sensible things done by a Women's Christian Temperance Union worker is to ask the Massachusetts Board of Health to analyze several well-known patent medicines in order to determine the amount of alcohol contained. There is only too much reason to believe that the revelation thus made will not discourage the use of these articles as much as it might. The truth may already be known to many who have adopted the particular form of tippling here indicated. To some, however, the exposure may serve as a restraint. It is calculated to promote honesty, too, in makers of proprietary "medicines" and their users.

Dr. Wyman on Yellow Fever in Cuba.—The Marine Hospital Service and the boards of health of several of the Southern States do not agree as to the necessity for special precautions against the introduction of yellow fever from Cuba. The Louisiana Board of Health insist on the disinfection of vessels arriving at ports in that State from Havana and other Cuban ports, and the authorities in Alabama have taken a similar course. Surgeon-General Wyman, however, emphatically states, that the time has passed when it was necessary to disinfect every ship that arrived at a Southern port from Cuba. Dr. Wyman further declares that Havana can no longer be regarded as an "endemic center" of disease, for, under American rule followed by the new insular government, Havana has become one of the most healthy cities of the world.

League of Women for the Protection of Birds in Europe.—The League of Women for the Protection of Birds in Europe is spreading with remarkable celerity. It was founded in 1899. It now has branches in Great Britain, France, Switzerland, Germany, Austria, Russia, and Holland. The Geneva branch of the league has just issued an appeal to women asking them not to encourage the slaughter of birds for millinery purposes.

Obituary Notes.—Dr. FRANKLIN A. SHERMAN died on April 22, in Ballston, N. Y., aged seventy-four years. He was born in Castleton, Vt., and was a cousin of the late Admiral Philip and Commander Edward T. Woodward of the United States Navy.

Mrs. ANNIE E. SHIPMAN, widow of Dr. George E. Shipman, after more than twenty years spent in charitable work, died on April 24, at the Foundlings' Home, Chicago, of which she had been Superintendent since the death of Dr. Shipman, ten years ago. The deceased lady was seventy-nine years of age, but remained in active management of the institution until seized with pneumonia two months ago. Dr. and Mrs. Shipman came to Chicago in 1846, and immediately took up work amongst foundlings, and out of this work, began upon quite a small scale, grew the institution which has developed from a few rooms in a frame structure rented in January, 1871, to a commodious institution, where an average of fifty children and forty mothers are cared for each year.

Fourth Pan-American Medical Congress.—At a meeting of the International Executive Committee of the Pan-American Medical Congress, held April 1, 1903, it was decided to accept the proposal of the Argentine Republic to hold the Fourth Pan-American Medical Congress in Buenos Ayres in 1905, instead of 1903, as had been announced in their invitation of February, 1901.

This was considered by the Committee much more advantageous for the meeting, as it has long since been realized that it would have been impossible to have had a good representation of the delegates from this and other countries, had the convention been held there in June of this year.

The meeting of the American Medical Association in New Orleans and of the Congress of Physicians and Surgeons in Washington would have prevented a number of physicians of this country from attending; while the meeting of the International Medical Congress in Madrid would probably have attracted many from Spanish-American countries who would

otherwise have been disposed to have taken an active interest in it.

Pathological Society of Philadelphia.—At a stated meeting held April 23, Dr. Aldred Scott Warthin of the University of Michigan presented by invitation a communication entitled "The Hæmolymph Nodes, with Especial Reference to Their Relations to Adipose Tissue." He described the several varieties of nodes and maintained that they are structures sui generis and not mere forms of lymphatic glands. He considers them hæmolytic in function, and he was able to trace their origin from fatty tissue. They communicate with the systemic circulation. At the close of the meeting a reception was tendered Dr. Warthin.

Tennessee State Medical Association.—At the seventieth annual meeting of this time-honored and progressive organization held in Nashville on April 14, 15 and 16, the following officers were elected: *President*, Dr. J. A. McSwain, of Paris; *Vice-Presidents*, Drs. W. H. W. Sale of Covington; Louis LeRoy of Nashville, and Dr. C. P. Fox of Greeneville. Dr. Deering J. Roberts of Nashville was re-elected Secretary; and Dr. W. C. Bilbro of Murfreesboro, Treasurer. The prize of $50 for the best essay, one-half being furnished by the Committee of Arrangements of this city two years ago, the other half by Dr. Deering J. Roberts last year, was awarded to Dr. E. C. Ellett, of Memphis. The Association will meet on the second Tuesday in April, 1904, in Chattanooga.

Philadelphia County Medical Society.—At a stated meeting, held April 22, Dr. Edwin E. Graham read a paper entitled "Modification of Milk for Infant Feeding;" Dr. David L. Edsall a paper entitled "Biological Differences of Milk;" and Dr. Samuel McC. Hamill a paper entitled "Milk as a Carrier of Infection."

The American Gastro-enterological Association will hold its sixth annual meeting at "The Shoreham." Washington, D. C., May 14.

The West Virginia State Medical Association will hold its thirty-sixth annual meeting at Charleston, W. Va., May 26, 27 and 28, 1903.

Obituary Notes.—Dr. James M. Brown died in Philadelphia on April 12, at the age of fifty-one years He was graduated from Jefferson Medical College in 1883.

Dr. S. G. Godshall died at Edge Hill, Montgomery Co., Pa., on April 4, at the age of forty-three years.

Dr. J. M. Allen died at Chester, Pa , on April 20, in this eighty-fifth year. He was a graduate of the medical department of the University of Pennsylvania and he served as a surgeon during the Civil War in the Forty-fifth Regiment, Pennsylvania Infantry.

Two Cases of Diplococcal Septicæmia.—M. Frederici reports two fatal cases in which the diplococcus was found to be the cause of the infection. The first was postpartum; the second occurred in a girl whose menses were suppressed from the effects of a cold bath taken during intense sweating. In both there was marked disproportion between the importance of the objective symptoms and the absence of subjective symptoms; from the beginning to the end of the infective process there was apparently no suffering whatsoever. The temperature also was unusual in that for the most part it kept within normal limits, rising occasionally a little in the evening. The kidneys and the liver were the seat of inflammatory processes due to the microorganism, but the lungs and the endocardium, which are usually points of predilection for the diplococcus, remained intact.—*Revista Critica di Clinica Medica.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

IMMUNITY—LIVERPOOL TROPICAL SCHOOL—LONDON HOSPITAL SCHOOL—BRIBES TO BE VACCINATED—SMALLPOX OUTBREAKS—HOSPITAL SATURDAY—P.R.C.P.—BIRMINGHAM M.O.H.—OBITUARY NOTES.

London, April 10, 1903.

The Goulstonian Lectures for this year have been delivered and reported at length in the journals. The lecturer was Dr. Grünbaum of Liverpool, who, in a graceful recognition of the honor conferred, attended especially to the desire of the founder that the lecturer should be chosen from among the four youngest doctors of the College of Physicians. This wish is interpreted by the College to be one of the four most recently elected to the Fellowship, as you know this honor—if honor it be—is attained by members of the college by a process of electioneering, which means "getting at" the influential officials for the time being. Howbeit, Dr. Grünbaum is not only a recently promoted member, but is one of our younger physicians, his first qualification being dated 1894 and his M.D., Cambridge 1897. But he has achieved such distinction by his scientific work that when a director of the cancer research in Liverpool was required, the choice naturally fell on him. The invitation to deliver the three Goulstonian lectures almost as naturally followed, and he took for his subject, "Theories of Immunity and Their Clinical Application." If a little abstruse, the statement of the subject, in its present position, seems well adapted for a select audience, though perhaps more easily grasped in print. A correspondent of the *Lancet*, however, takes exception to his journal being occupied with it and wants to know "What is the use of all these cytophiles and haptophores?" and adds that "the explanatory figures might suggest new ideas to the designers of carpets or wall papers, but do not convey a particle of useful information" to his mind. I am afraid I can offer him no comfort, unless he is prepared to make a serious effort to grasp the subject. If he cannot compel his mind to fix close attention to the lectures, he may as well turn over the leaves of his paper and find other matter more to his taste.

It would be idle to attempt here the exposition of Ehrlich's and Metchnikoff's theories—the only two given in detail by Dr. Grünbaum. These two, originally opposed to one another, like the humoral and iatrochemical theories of the middle ages, the lecturer regards as only rays of light refracted at different angles from the same source which will ultimately fuse into one brilliant cellulo-humoral theory of immunity. The rivalry of the exponents of the two theories has only led to the most interesting experiments of biological investigation.

Passing to some of the applications of the theory the lecturer pointed out that the antitoxins are antidotes of the cell products which are the toxins, but there is not complete agreement as to their mode of formation. Some animals are very susceptible to tetanus toxin however introduced; others are only affected when the poison is introduced intra-cerebrally, but in these it is found that the toxin is fixed in other tissues. Hæmolysius may be regarded as antidotes resulting from the introduction of alien blood into an organism. But many substances will cause hæmolysis, which has perhaps received more investigation than other parts of the theory of immunity, but is less generally known.

In the treatment of myxœdema one can hardly suppose the few grains of thyroid gland given per diem replace the normal activity—and yet a large dose produces toxic effects. Perhaps the therapeutic effect is due to the production of an antitoxin to the toxin of the thyroid. Normally the antitoxin should be elaborated by the gland itself, but it may be prepared vicariously by other cells in the absence of thyroid. Conversely, the indifferent results obtained with pancreatic extract in diabetes, and with suprarenal extract in Addison's disease are explicable. The function of these glands is not to neutralize, but to elaborate. The use of the extracts, therefore, will neither replace the activity of the glands nor stimulate other cells to perform vicariously such functions. The tentative administration of organs corresponding to those diseased has led to much disappointment, but it is not so dangerous as to prevent trial As vaccination began with smallpox and was successful from the first, so did antitoxin succeed in diphtheria and thyroid in myxœdema.

Among other practical applications referred to in these lectures I may cite the obvious one that any antitoxic serum should be used as soon as a diagnosis is formed. A curative serum may often be given by the mouth, as many antidotes are not destroyed by digestion. Sera undergo

rapid change, and should therefore be used as fresh as possible.

With regard to protective inoculation and infection, the most complete immunity is generally through an attack of the disease. It is certainly so with smallpox, and probably with other diseases. A mild attack is also more protective than a severe one. Dr. Grünbaum offered explanations of these and other facts in accordance with Ehrlich's theory, and further discussed relapses, reinfections, predispositions, serum, diagnosis, etc.

The infectivity of infectious fevers he thought could not be all of one kind. Yellow fever until lately was held to be very infectious, but is really spread by mosquitos, though the pathogenic microbe has not been found. Can the infectious diseases of temperate climates be spread in a similar way? To this question the lecturer would reply, "It seems possible, but unlikely."

The Liverpool School of Tropical Medicine has just issued its anual report, which shows steady progress. Four expeditions were dispatched during the year. For a second time Major Ronald Ross was sent to Sierra Leone, and in September he went to Ismailia on the invitation of the President of the Suez Canal to investigate malaria in that region. The school received the thanks of the Suez Company. Drs. Dutton and Todd were sent to Gambia and French Senegal to investigate trypanosomiasis, and it is proposed to send these gentlemen to the Congo Free State. Dr. Logan Taylor went to the Gold Coast Colony to investigate the unsatisfactory health condition of Europeans there, and carry out sanitary reforms. The employees of Liverpool firms proceeding to the tropics can now attend lectures to instruct them on the precautions to observe, and simple instructions for the preservation of health in the tropics are ready for distribution. Altogether a good year's record.

The Medical School of the London Hospital issued at the beginning of the week an appeal for funds to endow the college as one of the most important medical educational establishments, and as one contributing the services of well-trained men to the hospital wards.

Of course, this is very shocking to the antivivisection cranks, and the Hon. Stephen Coleridge is again to the fore with a letter to the papers denouncing the hospital and school, and demanding the accounts of the latter. But he is told by one editor this morning, that as he is not likely to subscribe, he has no right to such accounts, and that from what he has been told before, he need not be surprised that they are not sent to him.

I suppose, as standing counsel to the anti-society, he feels he must make foolish demands to earn his fees.

Dr. Louis Parkes records in his report as M. O. H. for Chelsea, a curious, perhaps unique, instance of a plan of promoting revaccination. It is something like a scheme of bribery. When some cases occurred in a lodging-house a lady placed a sum of money at the disposal of Dr. Parkes to induce the inmates to protect themselves. More than 200 inmates of Chelsea lodging-houses submitted to revaccination, and the spread of the disease was arrested at a time when further cases were expected. The cost worked out at about half-a-crown per case, including "the initial monetary inducement," and compensation for disablement in a "certain small proportion of cases." A class of people very likely to carry about contagion, and very reluctant to submit to vaccination, were thus induced to protect themselves and the community.

Outbreaks of smallpox continue to occur from time to time in various localities. At Croydon it was stated on Monday that fourteen cases had been removed to the smallpox hospital at Cheam. The outbreak began in the workhouse infirmary. On Tuesday the death of one of the patients was reported, and a new case had been notified and removed to the hospital. Great efforts at isolation are made, but it is feared that two contacts with the first case who left the infirmary cannot be traced.

At Kingston-on-Thames four cases were notified in the common lodging-house where forty persons slept. The disease is supposed to have been brought by a tramp who had slept in an infected place, and developed it after entering the workhouse. The cases were at once removed to the hospital.

There were fifteen cases in the Dublin isolation hospital, where three have died. There are fifty-five in the convalescent stage. A scandal has arisen respecting the treatment of the cases isolated, some reports alleging that the patients had not clothes and were overcrowded. Sir C. Cameron says the matter was grossly exaggerated, and those whose clothes were removed were ordered to remain in bed. Sir Charles may, perhaps, think it necessary for him to maintain stricter discipline over the nurses and officials to see that his orders are carried out.

Several towns in the north of England and Scotland have had cases. In London, too, some fresh cases have occurred, and on Tuesday there were fifteen in the Asylums Board Hospitals.

The annual meeting of the Hospital Saturday Fund was held on the 4th inst. The income for 1902 was £22,964, the highest figure yet reached and more than £1,400 above that of the preceding year. The total expenses were £2,365 or 10.3 per cent, as against 10.74 in 1901.

Sir Wm. S. Church, Bart., K.C.B., etc., has been re-elected President of the Royal College of Physicians.

Dr. A. Hill has resigned the post of M. O. H. for Birmingham, which he has held since 1872. He is now in his seventy-seventh year, and after his long and able career carries into retirement the good wishes of the community he has served so well, and of everyone interested in the advancement of public health.

Mr. Edwin Chesshire, Consulting Surgeon to the Birmingham and Midland Eye Hospital, died on 1st instant, aged eighty-four years. He took the M.R.C.S. in 1841, and became a Fellow in 1857. He was a member of the Ophthalmic Congress, Brussels, and a contributor to the journals on ophthalmic subjects.

The death is also announced of Richard Alford, aged eighty-seven, R.C.S. (1855), who qualified in 1838. He was Consulting Surgeon to the Weston-super-mare Hospital, indeed one of its founders. He practised in that pleasant town from 1855 to 1886, when he retired.

Another octogenarian, W. B. Kellock, F.R.C.S. (1878), member 1843, died on the 3d instant, aged eighty-two years.

Dr. Solomon C. Smith died on the 5th inst., aged sixty-one years. He qualified in 1863 and settled in Halifax, where his father was a surgeon. In 1892 he came to London and joined the College of Physicians. He became editor of the *Hospital*, a journal established by Sir H. Burdett, and which is devoted to nursing and hospital management.

The death is also announced of Lieutenant-Colonel W. H. Neilson, M.B., C.M., of the Indian Medical Service, which he entered in 1882. His health had been failing for some time, and he died in India on the 23d ult., at the age of forty-nine years.

I must also note the decease of Mr. E. W. Tait, one of the most esteemed practitioners in the north of London, where he settled in 1852, and continued until 1890, when failing health induced him to retire. He carried into his retirement the respect and even affection of all his neighboring confrères. He died on the 31st ult., aged seventy-three years.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

MANILA, March 10.

THE work of enumeration for the census of the inhabitants of the Philippines was begun recently. As the matter of preliminary organization has been very thoroughly carried out, it is believed that the results will be very satisfactory. The health work has been very much hampered, particularly during the cholera epidemic, because of the fact that there were no reliable figures for the population of the archipelago upon which sanitary statistics could be based.

Since mention was made in a previous letter of the insufficient free medical attendance provided for the natives in Manila, several Filipino physicians have been attached to each municipal sanitary substation. The fact that their services can now be secured gratis has not yet been realized by the natives, who have always been accustomed to pay for all medical services—as under the Spanish régime the few physicians in Manila did not indulge in the luxury of charity practices, and natives who had no money knew that it was useless to ask for medical attention. As a result of this failure to appreciate that times have changed for the better, many deaths are still occurring in which no effort was made to seek medical attention for the sufferer, though the gratuitous services of physicians could have been had by applying to sanitary stations, which might be only a few yards distant from the home of the sick person. The health authorities are taking steps to acquaint the indigent with the fact that free medical attendance can now be secured. As already mentioned, the fatalistic ideas and religious superstitions of the Filipino operate against his faith in the efficiency of medical treatment, and, like other savages, some of them seem to resemble a stricken animal, which seeks seclusion when it feels disease.

The statistics of the Manila Custom House show that a total of seventy-one physicians came to the Philippines during the year 1902. These medical men were, however, nearly all connected with the government service as surgeons in the Army, Navy and Marine Hospital service, and have had practically no connection with the treatment of the sick among the Filipinos, to the great need for which mention has been made in previous letters. A number of ex-surgeons of the volunteer army have

located in Manila and seem to be doing well in their practice among the American civilian residents, though the number of the latter is not sufficient for the support of more English-speaking physicians than are now here.

The sanitarium at Benguet is so far advanced in construction as to be able to receive a certain number of persons during the coming unhealthful season. The attending physician, Dr. Thomas, announces that the sanitarium cottages will be equipped with all bedroom necessaries, but that they are not provided with cooking facilities or kitchen outfits. A stock company, with abundant capital, has been formed to erect a large hotel and several cottages, and a number of Manila people are already building summer homes there.

A strong company has also been formed to provide suitable accommodations at the Los Banos hot springs, about thirty miles from Manila. The springs resemble the Arkansas hot springs in the character of their water, and are much resorted to by venereal and rheumatic cases. The company has already erected a large carbonating plant and is bottling large quantities of the water for medicinal use elsewhere. The water issues from the springs at a temperature of 212° F.

The military authorities have been sinking a number of driven wells at the new posts for the purpose of securing a water supply of permanent purity. Their efforts have met with desired success except at the post at Bayombang, where the water supply secured at a thousand feet below the surface proved to have strong cathartic properties, and on chemical examination was found to strongly resemble the Hunyadi Janos water.

The appointment has been made of Dr. Thomas R. Marshall, late captain and assistant surgeon U. S. Volunteers, to Chief Health Inspector for the city of Manila. The salary attached to the position is $3,500 per annum. Dr. Marshall has been Acting Chief Health Inspector for some months, and has shown his fitness for the position by his excellent service in connection with the cholera work. He was in charge of one of the large cholera hospitals in Manila during the early period of the epidemic. Other changes in the Board of Health are the appointment of Dr. DeMey as medical superintendent of the leper colony on the island of Kulion, Dr. Wilkinson relieving him in charge of the San Lazaro Hospital in Manila. The latter institution will be maintained as a leper asylum for some months, until suitable accommodations at the new colony have been prepared for the patients at San Lazaro. The patients at the large leper hospital at Cebu will be first removed to the colony on Kulion Island, as the condition of the institution at Cebu is not as good as at the Manila leper asylum. It is expected that nearly all the 3,288 lepers at present known to be in the islands will be transported to Kulion by the end of the present year, after which cases will be promptly sent there as they develop or those now existing in the country districts become known as a result of the gradual improvement in the administration and organization of the sanitary service of the islands.

Another recent appointment is the selection of Dr. Palmer G. Lyon, late assistant surgeon U. S. Volunteers, to be physician at the Bilibid Prison. The pay attached to the position is $2,000 per annum, and quarters for the physician are also provided in the prison.

The Board of Health is making an earnest effort to do away with many of the most unsanitary habitations of the city before the return of the rains, when a recrudescence of cholera is expected. At present particular attention is being given to the Chinese opium dens, which are literally plague spots.

As part of the plan of general sanitary improvement, the municipal authorities of Manila have undertaken to move a number of native families living on Calle San Marcelino and settle them upon city land in the Paco district of the city. This action is taken purely as a sanitary measure, as the houses on Calle San Marcelino are in an insanitary condition. The transfer of the families in question can be the more readily accomplished as the land upon which they are now living belongs to the city. Plans for this transfer have already been prepared. The land in Paco is to be divided into small plots 7 x 9 meters each, which will be rented at the nominal sum of one dollar per month, in quarterly instalments; the assignment of the lots to their future tenants to be made by the city engineer.

More than forty Filipino and Chinese barbers were recently arrested in one day, in the Binondo district, for violation of the municipal ordinance requiring proper sanitary precautions on their part relative to the sterilization of instruments and brushes, good soap, clean hands and the use of clean, white clothing. There is much skin disease among the natives and Chinese, and the many insanitary barber shops were justly regarded as a main factor in its spread. The regulation requiring proper sanitation of the barber shops was passed some time ago, and the recent wholesale arrests were the result of this regulation being persistently ignored by those whom it was intended to control.

There has been a considerable increase in the number of cases of plague in Manila during the past month. The situation is not alarming, but the increase shows the persistency of the infection, under the conditions existing in Manila in spite of the concentration of the efforts of the health authorities against it. The outlook for the early extermination of the disease, short of the use of such far-reaching and drastic measures as the present temper of the Filipinos would render it inadvisable to employ, can scarcely be anticipated. Plague has not yet occurred in the other cities of the Philippines, but as long as it exists in Manila there is an ever present danger of its doing so.

A number of cases of smallpox have occurred in Manila, but these have largely occurred in natives recently arrived from the provinces, where vaccination has not as yet been thoroughly carried out. In Manila nearly all the inhabitants have been vaccinated and the work is being pushed to completion at the rate of about 800 vaccinations a day. In the provinces smallpox prevails to a large extent, but the disease is practically confined to districts in which the work of vaccination has not yet been carried on.

Several cases of cholera have occurred lately in Manila, after an interval of some weeks of freedom from the disease, showing that the infection is still present. From a study of the cases which recently occurred it is believed by the health authorities that they resulted from the use of infected vegetables brought in from the surrounding country; but as the sanitary officials permitted certain wells to be reopened, and their water to be used, shortly before these cases developed, it would seem as if the question of polluted well water must be considered in relation to their development. As the water supply of Manila is insufficient, the discontinuance of the use of well water caused considerable extra labor on the part of the Filipinos in procuring their supply for household use, and they have chafed under the prohibition of the use of their wells. The health authorities believed they were safe in allowing some of these wells to be again used, but it would seem as if they had been mistaken.

Many claims for compensation have lately been presented to the government authorities as a result of the cholera epidemic. The disease spread so rapidly and was so severe that the sanitary officials frequently entered provincial towns in great haste and proceeded to secure inspectors and seize buildings for use as cholera hospitals without first obtaining authority for the necessary expenditure from the local officials. As organization was effected in one town the health authorities would proceed to another, leaving the local health inspectors and practicantes on the hands of the local officials, who now refuse to pay for the services of these men. Many buildings were also burned in the effort to stay the advance of the cholera. The interested parties are now pressing their claims for remuneration for services rendered and property destroyed, and it appears that the general government will be forced to pay for the orders and acts of its subordinates. There is no doubt but that much property was uselessly destroyed during the panic which occurred during the earlier period of the epidemic, and the government has in several instances attempted to hold officials concerned pecuniarily responsible for such destruction. In some other cases property was destroyed by the military with the idea of limiting the infection near army posts. The civil officials now say that no orders were given by them for such destruction, the military have no funds from which the losses can be made good, and hence there is little chance that claims made by the natives to cover such losses due to military action can be satisfied. It is understood that several claims for damages for the destruction of property have been instituted in the courts against the civil and military officials under whom the house burning, etc., was carried out.

Many interesting experiences are now being told by the Americans here in connection with the cholera epidemic, especially as regards the outbreak of the disease among the Mohammedan natives of the southern islands. The sanitary work there was particularly difficult, in view of the belief by the natives that they did not have cholera, but that the Americans were poisoning them. This idea was so generally entertained that Governor Taft, on his recent southern tour, made a public address to reassure the natives on this point. Among the Visayans this alleged poisoning was particularly attributed to their hereditary enemies, the Tagalogs. In one case, a Tagalog was arrested and brought to trial on a charge of poisoning the river from which the water supply was drawn. The evidence consisted of two bottles, one found in the river and the other in the Tagal's house. The Visayans rea-

soned that no one would have placed a bottle in the river unless he had wished to poison the water, that no one would wish to poison the water, but a Tagalog, and that the Tagalog living nearest the river was undoubtedly the guilty party. This belief became conviction when a similar bottle was found in the house of the unfortunate Tagalog. The end of it all was that the victim was brought to court and placed on trial before an American judge, when the chain of evidence was badly shattered by the discovery that the mysterious bottle contained only tooth powder. In spite of this ridiculous turn of affairs, the Tagalogs were not relieved from suspicion, and it is said that several were killed on suspicion in the country districts. Army officers were attacked, sanitary inspectors stoned and murdered, and there was general distrust of all strangers. On the approach of Americans, women would cover their mouths and noses, and if a stranger happened to get between children and the doors of their houses, the children would dart for the thickets, screaming at the top of their voices. The natives were distrustful of all disinfectants except lime, with which they were familiar from its other uses, but in some instances they would not permit the use of any of this substance which had been provided by the sanitary officers, lest it had been converted into a poison as a result of contact with white men. One American school teacher had a guard of thirty or forty men stationed around his house one night, to see if he was a bad man—as was afterward explained. Since he kept his light burning and sat up all night with a cocked Winchester across his knees, it was decided he was not as bad as had been at first supposed. The sanitary inspectors had many exciting experiences; a Filipino's bolo is always kept handy, and under the influence of extreme fear, what little powers of reason and discretion he ordinarily has seem to be soon lost.

There was great difficulty in getting the sanitary machinery to move in the provinces. The people were panic stricken, deaf to reason and argument, and provokingly slow in carrying out orders. The Filipino at his best does not know how to hurry any better than the American knows how to take things easy; and the government sanitary officials were frequently exasperated to the last degree by unnecessary delays; inability to make the natives understand their imminent danger, and the unwillingness of the latter to depart even temporarily from the time-honored, insanitary practices of their forefathers. The chief sanitary inspector of the islands died of heart failure, superinduced by overwork at the time the epidemic first started up, and many of those engaged in the sanitary work broke down under the nervous strain and constant irritation to which they were subjected. With slight modification, the situation here was admirably expressed by Kipling's lines:

"It is not right for the Christian white
To hustle the Aryan brown,
For the Christian rides and the Aryan smiles
And he weareth the Christian down.
And the end of the fight is a tombstone white,
With the name of the late deceased,
And the epitaph drear, 'A fool lies here
Who tried to hustle the East.'"

OUR CONSTANTINOPLE LETTER.

(From Our Special Correspondent.)

TYPHOID FEVER AND OYSTERS—PLAGUE CASES—EXAMINATION FOR MEDICAL LICENSE.

CONSTANTINOPLE, April 7, 1903.

THE winter has been unusually severe; more snow has fallen than for many years past. The cold has been intense, and told somewhat heavily on the aged and increased their mortality. The general health of the population has, however, been good.

Typhoid fever—to which previous allusion has been made—is becoming a comparatively rare affection in the city. This, doubtless, is due to the better water supply, and a still further diminution of the disease may safely be predicted, since H. I. M., the Sultan, has had constructed a hundred public fountains for drinking water from the pure source of "Khiat-Haut" (sweet waters) Many of these faucet-fountains are now in full operation. This is an inestimable boon to the population, from the hygienic point of view.

One of the great questions of the day—oysters as a medium of conveying typhoid fever and other gastro-enteric affections—has been even more fully thrashed out here than in America or England. Not that there have been any outbreaks of disease attributable to oysters or other shell-fish, but that Professor Remlinger of the Bacteriological Department raised the question at the Medical Society, whence the discussion extended to the local press.

Professor Remlinger's views were those of the bacteriologist purely. He demonstrated what was already well known and admitted, *i. e.* that impure oysters produced gastrointestinal troubles, and might become carriers of typhoid fever. He indicated the spots where they might be expected to be found impure, and ended by suggesting certain forms of cooking and condiments as preventive, strongly recommending lemon-juice, which he considered a powerful bactericide.

His views were strongly opposed by Mr. Apery, our Chemical Philosopher, who contended that the picture of danger from oyster-eating was overdrawn, inasmuch as the debatable mollusk was never dredged in the localities indicated by the Professor, but always in well-known places of running water, and that, considering mollusks—including oysters, mussels, clams, etc.—were at certain seasons the chief food of a large part of the population, very few cases of irritant poisoning occurred. Mr. Apery further contended that the question raised was scarcely necessary in Constantinople, and was likely to injure a large industry, which was carried on under conditions entirely different from those of other countries where the oyster was artificially reared in the neighborhood of streams likely to be polluted with town and city sewage. General opinion favors the views of Mr. Apery, and people go on eating oysters and mussels as of yore, little, if at all, scared by this academical discussion.

There has been no recrudescence of plague cases. Quarantine restrictions now apply only to Egypt and the Syrian Coast, and they are made as little burdensome as possible. Von During Pacha, the distinguished dermatologist, has resigned the Turkish service and accepted a professorship in the University of Kiel. His studies of syphilis in Asia Minor are now before the profession. They are instructive and interesting, and will repay perusal. The old "British Seamen's Hospital" has been demolished, and the new one is in course of construction. It will contain accommodations for almost forty patients, and be furnished with up-to-date appliances.

The regulations prescribing that doctors wishing to practise in the Turkish Empire should undergo an examination at the Medical School to obtain the Turkish diploma were wise and necessary. Heretofore the examinations were carried on in Turkish and French, or through the medium of an interpreter when the candidates did not speak these languages. A new regulation ordains that the examinations shall be conducted in Turkish or French only. It is, evidently, assumed that there is no hardship in such a regulation, as every educated physician is supposed to know the French language. This, however, is too large an assumption, which, especially, affects American and English candidates, for the examination, who, though able to read French, have little command of technical medical terms and colloquial aptitude. It thus happens that their examination has to be deferred for an inconvenient period of a few months to "get up" their French. There is no actual injustice in this regulation of the Medical School, based, as I am informed, on the difficulty of always having an impartial translator. But, surely, this might be arranged by the Medical School having its own official interpreter.

APPENDICITIS.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: It may not be too late to observe that an editorial in the MEDICAL RECORD of November 29, 1902, protests mildly against the conservatism of Broca and the Belgian and French surgeons in general, in the treatment of appendicitis. While you give no statistics of mortality under modern American methods, the 13 per cent. of Broca is not favorably regarded. And yet an eminent New York surgeon, more recently, gave the results of his work showing a larger mortality than Brocas.

Impressions prove nothing, but may be interesting. For instance, the impressions of some of the older men in regard to the comparative frequency and mortality of the perityphlitis of forty years ago and the appendicitis of to-day would be interesting reading. If the discussion involved the power of fad and suggestion as etiological factors in modern appendicitis it would add to the interest.

In two decades of service on the frontier, associated with commands varying from one company to twelve, and terminating nearly twelve years ago, I encountered one case of appendicitis, and that in a civilian who died under medical treatment.

Since the beginning of the Spanish-American war cases and operations in the army have been many. Personally, I have been interested in but six cases. One patient was treated without operation and recovered. Five were operated upon. Three of these had abscesses, one of the three dying of septicæmia; the other four recovered. Five cases are not enough for a fair average, but the 20 per cent. indicated is only 3 per cent. higher than the mortality reported by the New York surgeon alluded to.

Reaction toward conservatism is not new in abdominal surgery, and we may reasonably expect it in the matter of appendicitis.

S. S. Turner, M.D.,
Cont. Surgeon, U. S. A.
Fort Yates, N. D.

THE SANITARY CONDITION OF NEW ORLEANS.

To the Editor of the Medical Record:

Sir: In reply to your editorial in the issue of February 14, regarding the unclean condition of the streets of the city of New Orleans, I am happy to state that matters have been improved some since the writing in the *New Orleans Medical and Surgical Journal*. However, I am instructed by the Louisiana State Board of Health, now in quarterly session, to inform you that under Act 192 of 1898, creating the State and Muncipal Boards of Health, all local matters of sanitation, etc., are under the jurisdiction of the Local Board of Health. The State Board, therefore, has no power under the law nor the means to compel the municipal authorities to clean up the streets.

The State Board regretted deeply the condition of things more on general principle than from any particular theory, but did not see its way to remedy matters.

The prime duty of the State Board is to prevent the introduction of contagious diseases, specially along the seacoast through maritime quarantine, and the history of its records shows that no infection has come in through any of its ports since the inauguration and perfection of scientific quarantine, *i. e.* disinfection of vessels, nearly twenty years ago.

Edmond Souchon, M.D.,
President Louisiana State Board of Health.
New Orleans, February 17, 1903.

SANITATION IN EGYPT.

To the Editor of the Medical Record:

Sir: Egypt has had a short season this year, and by no means a full one. The causes are not far to seek. The Delhi durbar undoubtedly took many English people to India, who would otherwise have come to Egypt, but the event most instrumental in keeping people away was the existence of cholera here last summer and autumn. Cholera was present throughout the entire Nile valley as far south as Wady Halfa, the railway to the Soudan, That the Soudan Sanitary Department was able to keep it out of the Soudan, testifies highly not only to the efficiency of the Soudan Sanitary Department, but to the authority of the Soudan Government over the Soudanese. The Egyptian does not take kindly to sanitary regulations. He is ultra-conservative and scorns innovations. His fatalism not only makes him feel that sanitary measures are useless, but in addition he fears he may merit Allah's displeasure, by attempting to go counter to his will. For this reason the strongest precautionary notices to the natives are of no use whatever. The only way to make them observe preventive measures, is to render it impossible for them to disobey them. If a water supply is infected it must be obliterated or rendered impossible of access. Wells and pools must be filled up, or if the latter are too large, they must be patrolled. On more than one occasion during the cholera epidemic, it was found necessary to destroy all the vessels used for water in a town or district which was infected. There is no doubt but that cholera is endemic in Egypt. An epidemic, therefore, does not depend so much on the presence of the bacillus as upon its degree of virulence. It was observed in the epidemic last summer, to which 40,000 succumbed, that in the beginning the death rate was rapid and frightful. Cases often died within two or three hours of the first symptoms. As time went on the type became milder and the mortality was not nearly so high. So it would seem that, while vigorous and thorough, preventive measures are of the greatest service, there are also natural causes at work which materially aid in suppressing an epidemic. The most stringent sanitary precautions are being taken in regard to the pilgrimage to Mecca this year, and it is confidently believed that any cholera which may occur can be kept in hand. Of the 40,000 cases which died last summer and autumn, very few were Europeans. Egypt receives the scum from the European shores of the Mediterranean, and the cholera cases among Europeans were practically all from this class.

Cholera is very largely a disease of filth and ignorance. The tourist has very little to fear from it. The disease he has reason to fear is typhoid fever, which does not confine itself to the lower classes, but, as we learn from the newspapers, frequently invades the royal palaces. Everyone knows people who have contracted typhoid fever while traveling in Europe. Cairo is little, if any, worse than the cities of southern Europe. The laity are all careful nowadays about the water they drink, but most people take cold milk in their tea and milk in their coffee which is probably just a little above incubation temperature. In addition to this—in the writer's opinion—butter is deserving of greater suspicion as a source of infection than is usually accorded it. In contradistinction to one's home, in every hotel the food which one eats must necessarily go through a great many hands, and certainly, therefore, be more liable to convey infection.

The Egyptian Medical Congress, which was held in December, proved a highly satisfactory scientific meeting, not only to the resident members, but to the visitors as well. The volume of transactions is in course of preparation, of which each member will receive a copy, and in addition a medal which the Khedive will have struck in commemoration of the event. The next Congress will be held three years hence, and my confrères who want a pleasant and profitable holiday will do well to bear the date in mind. I am yours, etc., C. G. Campbell,

Cairo, March 5, 1903.

OUR ALBANY LETTER.

THE MEDICAL FEATURES OF LEGISLATIVE WORK FOR 1903.

(From Our Special Correspondent.)

Albany, N. Y., April 30, 1903.

The legislative session came to an end, as per schedule previously arranged and announced, and, medically speaking, the sins of omission of the legislators have been greter than those of commission. The Legislature has passed and the Governor has signed the following bills, which have thus become laws, which will be of interest to the medical profession:

Chapter 1.—Senator Ambler's, appropriating $10,000 for the suppression of contagious disease among animals.

Chapter 12.—Assemblyman Allston's, authorizing Little Falls to contract with a hospital for the care of the sick poor.

Chapter 13.—Assemblyman Bostwick's providing that when a child is committed to a public institution, pursuant to law, the justice of any criminal court may order the arrest of the father to ascertain his ability to provide for the child.

Chapter 24.—Assemblyman Roger's, appropriating $70,000 for improvements to the quarantine station at Hoffman's Island.

Chapter 39.—Assemblyman Morgan's, amending the charter of the Brooklyn Eye and Ear Hospital by providing that not less than six nor more than eleven surgeons actively connected with the institution shall be members of its board of directors.

Chapter 40.—Assemblyman Wemple's, relating to the coroner's physician and post-mortem examination in Schenectady county.

Chapter 49.—Senator McEwan's, regulations relating to the Board of Governors of the Albany Hospital.

Chapter 55.—Senator Elsberg's, amending the charter of the Lincoln Hospital and Home of New York City.

Chapter 62.—Senator Townsend's, providing that one year's residence in the State shall make a person admissible to deaf, dump, and blind institutions.

Chapter 75.—Assemblyman Davis's, specifying the mode of appeal from decisions of medical examiners in the National Guard.

Chapter 107.—Senator Malby's, establishing a marine hospital in the Borough of Richmond, New York City.

Chapter 146.—Assemblyman Morgan's, providing for the immediate commitment of insane persons who are dangerously insane.

Chapter 180.—Assemblyman Cook's, providing for the erection of a hospital at West Seneca.

Chapter 207.—Senator McClelland's, authorizing Yonkers to expend $5,000 a year for the sick poor.

Chapter 221.—Assemblymen Conkling's, authorizing the State Commission in Lunacy to appoint a medical inspector at a salary of $3,500.

Besides the above there are several other new laws relating to child labor of more or less interest to members of the medical profession.

The Legislature has likewise passed the following measures, which but require the signature of the Governor to make them laws.

The Nurses' Bill, providing for a State board of examiners (composed exclusively of nurses) to pass on the application of all desiring to be Registered nurses (signed).

Appropriations of about $900,000 additional for the care of the insane (buildings, etc.).

Appropriation of $50,000 for a site for a new State hospital in Northern New York.

Appropriation of $200,000 additional for charitable institutions.

State Barbers' Commission for the sanitary inspection of all barber shops.

Providing that each can or package of adulterated cream or milk, offered for sale, shall constitute a separate violation of the agricultural law.

For the Prevention of the adulteration or misbranding of food or food products.

The Bostwick bill in relation to drugs as prescribed by physicians.

Appropriating $115,000 for the Raybrook Hospital for the treatment of pulmonary tuberculosis.

Health Commissioner Lewis's bill relative to the discharge of sewage and other refuse or waste matters into the waters of this State.

Health Commissioner Lewis's bill to amend the public health law relative to local boards of health.

The Rogers' bill appropriating $100,000 for tuition fees of non-resident high-school pupils, to be distributed under regulations prepared by the Chancellor of the Regents and the State Superintendent of Public Instruction. (The above is a sad makeshift, and shows that the attempt to take the public schools out of the possible contamination of politics has been side-tracked.)

The Elsberg bill, abolishing the office of coroner and substituting medical examiners, failed of final passage. It is stated that this disposal of the bill was meted out as punishment to Elsberg for having been leader of the "insurgents."

The following were elected or appointed:

State Commissioner in Lunacy: Wm. L Parkhurst, to succeed himself.

Medical Visitation Board for Willard State Hospital: Wm. S. MacDonald of Seneca Falls.

Trustees of the Hospital for Incipient Pulmonary Tuberculosis: John Seely Ward and Dr. Willis MacDonald, reappointed.

Regents of the University of the State of New York: Chas. A. Gardiner of New York City to succeed Anson J. Upson and Charles S. Francis of Troy to succeed Martin I. Townsend.

Manager of the State Orthopedic Hospital: J. Hampden Robb, reappointed.

Manager Syracuse Institution for Feeble-minded Children: Fred'k A. Lyman of Syracuse.

Health Officer for the Port of New York: Dr. Alvah H. Doty, reappointed.

ALBUMINURIA AND EGGS.

To the Editor of Medical Record:

Sir: A case of albuminuria, which I believe to be of unusual interest to medical examiners, was recently brought to my attention in making an examination for life insurance. Mr. S——, a young man twenty-six years old, very healthy in appearance and a total abstainer from alcoholics, came to me to be examined. On that day the urine analysis was as follows: Alkaline specific gravity 1025; no sugar and 5¼ per cent. albumin present. Microscopic test negative. On inquiring into his diet for the previous five days, he stated that he had been in the habit of eating four to five eggs, cooked in various ways, every morning, and on the morning of the examination he had eaten six fried eggs. I requested that he abstain from all eggs for a few days and report again. Six examinations at various times of the day for the following three weeks failed to reveal the presence of albumin.

It would seem to be deduced from this case that considerable care should be exercised by medical examiners in cases of simple albuminuria, lest a permanent injustice be done the applicant in obtaining insurance elsewhere, and may account for the great number of rejections for albumin which are later accepted by other companies.

Alfred Lauden Ellis, M.D.

New York, April 20, 1903.

DOGS AND PAVEMENTS.

To the Editor of the Medical Record:

Sir: Your agitation on the subject of dogs and their immodest habits on the sidewalks in our city streets is one which deserves commendation from every thoughtful and self-respecting citizen. The remarks which you quote editorially in your issue of April 4, of the contemporary who said that "perhaps you had put your editorial foot into it," while clever and facetious, yet it is a subject which cannot be passed by lightly. If the same woman who, with her dog on the end of a strap, permits the animal to defile the sidewalk could be brought to understand what endless filth and probable disease she is the cause of spreading, I am sure the nuisance would to a large extent be stopped. On Fifth Avenue, Central Park West, and many of the side streets all over the city, it is actually unsafe for a woman with long skirts to walk after dark. With the curb twelve inches away, it would seem as if dog fanciers of ordinary intelligence would see to it that their pets be trained to better manners. In our homes, where children play on the floors, how easy for the excrement on the street dresses to be spread over the carpets with results far more positive than doubtful. The point is well taken in your issue of April 4, when you say: "If all dogs were healthy the matter might not appear so bad, but for some unknown reason 25 per cent. of city dogs have been found to suffer from diarrhœal trouble." Let those who are devoting themselves to city abuses take up a matter which is certainly on a par with the spitting nuisance, if not far worse. Is it not a subject for serious consideration by the board of health?

Edwin C. Chamberlin, M.D.

5 West Eighty-second Street, New York.

REGISTRATION OF PATENT MEDICINES.

To the Editor of the Medical Record:

Sir: We have some laws more or less contracted in scope, that tend to conserve the public health.

We have laws to control the unscrupulous builder; laws to regulate the insanitary, laws for the seller of explosives, and laws for the "parasitic" doctor, that is to say, he who would practice medicine without first observing the formality of getting a license. But there is no law—and this, in our day, is a strange fact—to protect the foolish public, "born every minute," from the charlatan, who by glaring lithographs and skilful advertising, and portraits of "patients" in Oskaloosa or Kennebunkport, secures credulity to his promises of diagnosis, prognosis and a speedy cure for 67 cents per bottle.

There, of course, exists no public record of the constituents of these "remedies," nor can we tell how ill-suited they may be to the particular disease for which they are employed, and, moreover, there is no knowing what injury to the human economy their usage may cause.

This unrestricted traffic in the public health is simply a gigantic confidence game in which the unfortunate "come-ons" do not get even an ordinary brick.

Now, if we, by law, make the "parasitic" doctor impossible, then why do we permit the "patent" medicine microbe to flourish, for is it not in the same category?

Let us have enacted a law compelling every "patent", medicine vendor to demonstrate the efficacy of his wares, their nature and action, before a board of regular physicians, or our Board of Health, without whose certificate as to the merits of his goods he may not tamper with the public confidence or health. Layman.

New York, April 20, 1903.

REDUCED RATES TO POOR EMPLOYEES.

To the Editor of the Medical Record:

Sir: I beg to say that because of certain misunderstandings as to what is ethically right and proper in the management and the distribution of the cards of an intended worthy charity now being organized by the Rev. Dr. Daniel D. Lorenz of this city (and which errors are not that gentleman's fault), I deem it best to withdraw the use of my name from this scheme for the betterment of certain poor employees of the larger shops of New York. I retain, however, the kindliest of feelings toward that estimable gentleman, Rev. Dr. Lorenz.

Robert H. M Dawbarn, M.D.

105 West Seventy-fourth St., New York, April 28, 1903.

FAILURE OF TETANUS ANTITOXIN.

To the Editor of the Medical Record:

Sir: On page 551 of the Medical Record, for April 4 of this year, I note a report of a case of tetanus unsuccessfully treated by the use of antitetanic serum. Following the citation of that case a brief of a case under my care recently may prove interesting. R. D., on the morning of December 17, shot off the end of the left index finger while manipulating a small gun. Patient was a man seventy-six years old. I amputated finger a little beyond the first joint. Everything progressed favorably until the morning of the 25th, when he woke complaining of a stiffness of the jaws. I feared tetanus and told his wife of my fears.

In conjunction with other treatment, I suggested antitetanic serum. This was objected to at first, but finally, after consultation with other medical gentlemen, the family yielded to my suggestion. From twelve o'clock noon of the 27th to 5 P.M. on the 28th, 220 c.c. of the antitoxin was used with no effect whatever, the patient dying at 8.55 P.M. on the 28th of the month.

The only comment I shall make is simply this: Had the antitoxin been used when I at first wished, there would possibly have been a better chance of favorable results.

W. F. Lynch, M.D.

Elmhurst, Cal.

Progress of Medical Science.

The Boston Medical and Surgical Journal, April 23, 1903.

The Cortical Cell Changes in Epilepsy.—L. Pierce Clark and Thomas P. Prout state that probably the most practical lesson to be drawn from their post-mortem examination of eighteen cases of epilepsy, is that epilepsy is a diffuse lesion of the entire cortex. The ultimate disappearance of the involved cortical cell element is the most serious clinical phase of its pathology. This fact explains many of the permanent symptoms of the disease, especially the slowness, awkwardness and incoördination of muscle movements, which amounts, in many instances, to a paralysis in effect. The mental changes in epilepsy are analogous, if not commensurate, with the defective motility. In this study we have adequate evidence for the present empirical treatment of the disease in which the individual is given first attention. This consists largely in giving the patient a thoroughly detailed plan of diet, exercise, recreation, baths and sedatives comprised in the administration of bromides, in order to overcome hereditary tendencies and exclude toxic and autotoxic agents.

The Reaction Time of Corrosive Sublimate in Different Dilutions against Various Species of Bacteria.—Charles Harrington and Harold Walker conclude from their researches that corrosive sublimate in as weak solution as 1:5,000 is ineffective against the common pathogenic bacteria, including the pus organisms, when they are moist, excepting after prolonged contact. In the 1:1,000 solution it is very slow in its action on some of the commonest of the skin bacteria, and since, under the most favorable conditions, more than ten minutes' contact may be necessary for it to kill staphylococcus pyogenes albus, it should not be relied upon to any great extent to ensure sterility of the hands or of instruments. The mere dipping of the hands for a few seconds into solutions of this strength can serve no useful purpose, but, on the contrary, can lead to much harm by inducing a false sense of security. In order to produce sterility of the hands through the use of this preparation, absolute dryness of the bacteria present would be essential (resistance being greatly diminished in some species by a condition of dryness); but a condition of the skin which would ensure such dryness would also ensure the bacteria not on the very surface against contact with the poison. Corrosive sublimate in any of the strengths commonly employed is a much over-rated disinfectant, and, under the best of conditions, is so uncertain in its action that it would be of advantage to abandon its use altogether in surgery.

New York Medical Journal, April 25, 1903.

Operation in a Case of Extradural Hemorrhage, the Result of Whooping-cough.—G. S. Brown reports a case of this unusual nature, his patient being a boy of seven years. In course of time, severe head pain, somnolence, semi-delirium, slow pulse, and fever came on after severe paroxysms of coughing. Later convulsions ensued. Diagnosis was made of a clot in the right cortical motor area, but on opening the skull no clot was found. The dura was then opened. Two days later convulsions returned and the wound was opened up. A button of bone higher up was removed, and the dura again opened, but with the same negative result; but on cutting away a small corner of bone from the last trephine wound, a small clot was found, the size of a white bean. This was removed, and in two weeks the boy was well.

Fatal Meningitis with Myosis and Salivation as the Only Symptoms.—The history of the case is minutely given by H. Altshul, his patient being a man of fifty-three years. Full autopsy findings are added. From a consideration of all the features in the case, the author concludes: (1) That extensive meningitis can exist without giving rise to its characteristic and usual symptoms. (2) That sepsis does not always cause changes in pulse and temperature, and that their being normal does not warrant our excluding this condition. (3) That a spasmodic and complete occlusion of the ureter, which is not due to impaction of renal calculi, may last for some time and thus prevent the detection of extensive pyonephrosis. (4) That myosis and salivary suppression may be the first symptoms of meningitis or myelitis. (5) That reasoning by exclusion will enable us to arrive at diagnoses otherwise impossible of attainment.

Journal of American Medical Association, April 25, 1903.

The Use of a Mydriatic after the Age of Forty-five Years.—From a collective investigation on this subject H. M. Starkey concludes that no age can be arbitrarily fixed beyond which cycloplegics must not be used, and while they are as necessary in certain cases after forty-five as they are before, they are required in fewer and fewer cases as life advances. But since there is more danger of glaucoma in the elderly, and as mydriatics tend to increase intraocular tension, these drugs should be used with caution after the age of forty, and in certain cases should not be used at all.

Oblique Inguinal Hernia.—The operation preferred by A. E. Benjamin is thus described: An ordinary incision for a Bassini operation is made. The aponeurosis of the external oblique is slit up to the point opposite the internal ring. The fibers of the internal oblique and transversalis muscles are divided by blunt dissection, thus opening the inguinal canal. The internal oblique and transversalis muscles are found closely connected. They are not separated, but the aponeurosis of the external oblique is carefully and thoroughly removed from the internal oblique. The lower portion is dissected down to Poupart's ligament and the transversalis separated from the peritoneum. The cord is now raised and silkworm-gut sutures are introduced to the outer side of the incision, passing through the skin, Poupart's ligament, the internal oblique and transversalis, on the inner side of which the loop is made. The needle, re-entering the transversalis and internal oblique, passes through Poupart's ligament and comes out through the skin to the outer and lower side of the cut, near the point of entrance. From three to five sutures are similarly introduced. The sutures pull the internal oblique and transversalis below the shelving edge of Poupart's ligament, and are observed to make a firm barrier against any internal force. A double support is formed and any defect is corrected. The sutures are then tied over rolls of sterilized gauze. The spermatic cord then rests on the internal oblique. The external oblique is then closed over the cord. Interrupted figure-of-eight sutures are introduced, bringing the external oblique in apposition with Poupart's ligament. They also approximate the skin, and are tied over a gauze roll. The sutures are usually left two weeks.

Medical News, April 25, 1903.

Hydragogin—Some Observations upon Its Use in Diseases of the Heart and Kidneys.—M. Loewenthal says that in this remedy we have undoubtedly a great addition to the list of cardiac stimulants. For functional derangements, like palpitation, there is nothing superior to it. It has a particular effect to increase the power of the heart's contraction in a more regular and uniform, though not in so powerful, a manner as does digitalis alone. But in increasing the specific gravity of the urine in chronic Bright's disease the power of hydragogin is much greater than that of digitalis. In severe cases of acute diseases are seen the most marked illustrations of the advantage of the combined action of cardiac remedies as presented in hydragogin. Patients vary as to their tolerance of the drug. The diet should consist only of milk and water while hydragogin is being given.

Report of a Case of Monocular Inferior Hemianopsia.—E. S. Saylor reports the case of a woman of seventy-seven years. She had always been well, with the exception of a marked tendency to faint and several severe attacks of rheumatism. She began to experience defects of vision. Examination showed monocular inferior hemianopsia. The first thought was of embolism of the superior branch of the central artery of the retina and detachment of the same. But there were no signs of either of these. Cortical disease was out of the question, owing to the regularity of the limiting line below, the trouble being in only one eye, and the fact that there was no reaction of the pupil when throwing a minute ray of light on the blind half of the retina. The writer finally concluded that it must be a retrobulbar neuritis of rheumatic origin and so gave the salicylates. The vision rose rapidly from $\frac{2}{200}$ to $\frac{5}{12}$. The field increased very markedly also. Later, hydriotic acid and strychnine were ordered, and the refractive error corrected. Vision $\frac{5}{6}$ was obtained.

The Treatment of Acute Gout.—J. R. Clemens writes that in a diagnosis of acute gout we must take into consideration: The sex of the patient, the age, heredity, and the physical signs of the gouty diathesis. Acute gout is much commoner in men than in women. It is rarely seen before the third decade of life. A gouty family history is an important point to ascertain. A cathartic should be given first, blue pill followed by black draught. After

this has acted well, the following mixture should be taken every three hours (in doses of two tablespoonfuls) till the motions become very free, when the time between doses may be increased: Magnesii sulphatis, ʒiss, magnesii carbonatis gr. xxx, potassii citratis gr. xxx, tinct. sem. colchici, ℥x, aquæ. menth. pip. ad ℥i. The local treatment of the joint is most important. It should consist in *warmth*. This is the one essential and all important. Cold applications should never be applied to a gouty joint. For the first day or two the diet should be milk in various forms. During convalescence the joint, when pain-free, should be gently massaged. The urine should be carefully watched.

American Medicine, April 25, 1903.

Glycosuria Gravidarum.—William Ruoff concludes that glycosuria gravidarum may arise at any stage of pregnancy. It may disappear in one pregnancy and reappear in another, and end fatally after successive attacks. It frequently arises during parturition, but is of no great importance. Labor is not materially affected, other conditions being equal. Pregnancy is most likely to be interrupted. It is very destructive to the fœtus, more so than syphilis. Maternal mortality is nearly 50 per cent. Diabetics should not marry. Death is usually by coma, no case of eclampsia having ever occurred in a diabetic

A Contribution to the Study of Manubrial Dulness, Especially as Related to Enlarged Bronchial Glands.—H. B. Whitney states that the chief diagnostic importance of bronchial adenopathy lies in its differentiation from aneurysm or mediastinal growth. Pressure symptoms of adenopathy may be very pronounced. In one of the cases reported here there was recurrent paralysis and tracheal stenosis, and in two of the cases, compression of the left bronchus. With such symptoms, diagnosis may, at times, be very difficult. Chief stress must be laid upon occupation and history. In the existence of manubrial dulness the entire absence on the one hand of any sign of aneurysm, and on the other of any suggestion of malignancy, such as cachexia or enlarged cervical glands, should point to the careful investigation of the patients antecedents and the condition of the lungs. Especially with reference to pneumonoconiosis, such as slight consolidation or bronchitis. In most aneurysms, if there is any dulness it is to the right of the median line. The dulness of adenopathy is most often on the left. The dulness of early aneurysm is apt to be small, while that of adenopathy is more apt to be diffuse.

A Study of Weights in Pulmonary Tuberculosis.—Lawrason Brown concludes that: (1) Toxin absorption in the tuberculous area causes reduced assimilation and fever. Loss of weight in all probability due to this. (2) It is not the amount eaten, but the amount assimilated that is of value to the consumptive. (3) Carefully regulated rest and exercise are of most importance as regards the bodily weight in pulmonary tuberculosis. Forced muscular activity is always injurious. (4) Assimilation is often markedly increased by change of residence or of climate. (5) Excessive gain in weight may be injurious. (6) The gain in weight is usually first evident on the chest, next upon the abdomen in men and on the hips in women. (7) A quick, constant, and continuous loss of weight indicates as surely as any other phenomenon that a patient is rapidly losing ground. (8) A gain of a few pounds is of little value in prognosis, but if the gain is constant and continuous over a period of two months, the patient is probably improving. (9) The weight gained affords no sure data for prognosis, but, on the whole, patients who gain over twenty pounds do better than those who gain less. (10) Sunshine and dryness are not necessary factors of gain in weight. Cold weather stimulates assimilation, and gain in weight more than warm.

Philadelphia Medical Journal, April 25, 1903.

Splenic Anæmia; Notes of a Case.—A. L. Benedict reports this case, which has none of the marks of an essential anæmia and, according to Osler, culminates in Banti's disease, with obvious involvement of the liver. The following facts are suggestive: Hepatic sclerosis is practically always associated with some degree of secondary anæmia. Splenic anæmia is limited by definition to a recondite association of anæmia and splenic enlargement, neither of which is explainable by disease of well-known pathology. Osler has shown that hepatic sclerosis is part of the symptom complex in advanced cases of Banti's disease. Splenic anæmia has all the earmarks of a toxæmia. Splenic enlargement is quite characteristic of hepatic sclerosis, though not always found, at least at the time of examination.

The Association of Tabes and Multiple Sclerosis; Report of a Classical Case of Tabes with Intention Tremor and Nystagmus.—Charles J. Aldrich reports the case of a man of fifty-three years who presents a perfect type of intention tremor with nystagmus. The patient is a classical diabetic, yet, in view of the man's age and the fact that we may have nystagmus in locomotor ataxia as well as motor irritations, such as tremor, impulsive movements, athetoid gestures (and why not intention tremor?), the writer sees no necessity of complicating our pathology by assuming the simultaneous existence of the two diseases. We have no definite knowledge of either the character or exact location of a lesion which uniformly and invariably produces intention tremor. If, as Towers states, the two diseases may simultaneously exist in the nervous system as a most rare combination, then this case offers a far greater claim for that distinction, since the symptom group of tabes is classical; and that of multiple sclerosis may at least be mentioned in the plural.

The Lancet, April 18, 1903.

A New Method of Treating Suppurating Catarrh of the Middle Ear.—A. A. Gray dissolves iodoform in anilin in the proportion of 1 to 7. On evaporation the iodoform is deposited in large crystals. Not more than 4 minims should be instilled into the ear at one setting. The remedy should not be used more than twice a week and applications should always be made by the surgeon. The ear should be dried out in the usual manner and granulations removed. Four case-histories are given illustrating the effects of the remedy, which the author has found serviceable in the old, stubborn cases not improving under the usual treatment.

A Case of Acute Trional Poisoning.—A woman aged twenty-nine years, under the care of H. D. Rolleston, took 125 grains of the drug at one dose. When seen two hours and a half later she was found on the floor, unconscious, with pale face, slow and heavy breathing, heartbeats ninety per minute, but no radial pulse. She was given strychnine $\frac{1}{30}$ gr. hypodermically. Soon she began to rouse and vomited. The pupils were at first widely dilated, but as she recovered, somewhat contracted. The stomach was washed out with permanganate solution and later with bicarbonate of soda solution. Purgatives were also given. She gradually improved, and her condition became normal in four days.

Carbolic Acid Poisoning from External Application.—In a patient of J. A. Raubenheimer's, a girl of six years, with genu valgum, the leg was cleansed for operation in the usual manner and wrapped in towels wet with a 1-40 carbolic solution. Two hours later she was discovered to be unconscious with dilated pupils and rapid, feeble pulse. Stimulation was immediately begun, and towels removed Some urine was drawn, but showed no carboluria. Two hours and a half later she began to recover consciousness and vomited, but nothing peculiar could be detected in the vomit. Another specimen of urine was then obtained, of a pale green color and becoming darker on exposure to light and air. This responded to the usual test for carboluria, as did all the urine passed for the ensuing twenty-four hours. The child recovered completely.

Narcotile Bichloride of Methyl-ethylene.—T. Eastham gives outline notes of his results with the administration of this remedy as a general anæsthetic. Narcotile is stated to be a pure and definite ether obtained by the direct reaction of hydrochloric ether on mixed ethylic and methylic alcohols distilled together. The vapors are condensed under pressure and purified. It is transparent and colorless with an agreeable odor, but highly inflammable. A special apparatus for its administration is figured. The effects in general resemble those of ether. After a few inspirations, the air-valve of the inhaler is closed, so that the patient breathes only the saturated narcotile vapor. No shock or collapse have ever been noted. An extremely useful sign of commencing anæsthesia is the loss of the lines and ridges above the nose, due to the relaxation of the occipitofrontalis muscle. By thus watching the facial ridges the eye need never be touched before consciousness is lost. In the eye, it is noted that the pupils at first dilate, but soon become smaller, and often markedly contracted. The conjunctival and light reflexes disappear. If more narcotile be given, the pupils dilate and the eyelids separate, showing that too much of the anæsthetic is being given. The anæsthesia is rapid. The recovery is remarkable on account of its extreme rapidity, and is usually unaccompanied by headache, giddiness, or other unpleasant symptoms. Soon after the patients "come to" they can express themselves clearly. If the operation is commenced before the patient is anæsthetized the patient is usually in a semi-conscious state and knows what is taking place—hears and feels external objects. If the narcotile is increased the patient becomes insensible to pain and yet sees and knows what is going on around him, but if the narcotile is further increased its anæsthetic properties are as efficacious as those of ether or chloroform. The symp-

toms of an overdose are separation of the eyelids with dilatation of the pupils and shallow breathing. After-effects are headache and vomiting, but they pass off quickly.

British Medical Journal, April 18, 1903.

Rhythmical Compression of the Chest in Infantile Capillary Bronchitis.—T. Houghton Mitchell reports the case of a child of six weeks, suffering from capillary bronchitis. He placed the child in a sitting position on his knee with the head thrown well back over one arm, and then commenced steady rhythmical compression of the chest with one hand. The treatment is a combination of artificial respiration and "lung massage." The inflammatory products are thus pressed out from the lungs. It also causes peripheral irritation of the lung tissue, and consequent reflex vaso-motor effects in it, which promotes its circulation and the elimination of its morbid products.

A Clinical Lecture on a Fifth Series of Cases of Total Extirpation of the Prostate for Radical Cure of Enlargement of that Organ.—P. J. Freyer has, in this and previous lectures, given full details of thirty-one instances of complete removal of the prostate performed by himself within about two years. The ages varied from fifty-eight to seventy-nine years, the prostates weighing from one and one-half to ten and one-quarter ounces. A very large proportion of the patients were almost moribund before the operation. Scarcely any of them were free from one or more grave complications. Of these, twenty-seven were successful, both immediate and remote. There has been no relapse. There were four deaths in connection with the operation. In only one case can death be possibly attributed thereto.

An Address on Gastric Hyperacidity (Hyperchlorhydria); Its Nature, Diagnosis, and Treatment.—William Russell states that in recent years it has been recognized that there is a gastric hyperacidity which is due, not to the fermentation of foodstuffs in the stomach, but to a true excess in the amount of the special acid normally secreted by the organ. This condition is termed hyperchlorhydria. Discomfort does not begin till during the forenoon. The pain lasts an hour or two and may pass off to reappear after midday. The pain is usually referred to the epigastrium. Other symptoms are flatulent distension, gaseous eructations, heartburn, and acid eructations. In severe cases there are physical and mental exhaustion. The over-secretion is more a chemical and a diathetic error than a neurosis. Treatment depends upon the severity and the history of the case If the case is mild and associated with constipation, the correction of this may be sufficient. In other cases, an alkali taken some time before food helps greatly. Diet depends upon the severity of the symptoms. The proteids ought to be so selected and cooked as to be easy and ready of digestion. The starches should be as much altered as possible. The quantity of food should not exceed the physiological requirements.

Note upon a Possible Relationship between Carcinoma and Nerve or Trophic Areas.—G. Lenthal Cheatle states that he wishes to point out certain features in the pathology of cancer when it is viewed stripped of the masking effects produced by the presence of secondary deposits. First, there is a proportion of cases which show a marked relationship between the spread of the primary focus and the distribution of nerves and trophic areas. The extent of these areas should be taken into consideration in marking out incisions when removal of cancer is contemplated. The writer does not detract from the importance of the lymphatic pathways of distribution. He simply adds another factor. Second, there is reason for thinking that the incidence of cancer within a nerve area is not a fortuitous circumstance, but that it may be due to the direct or indirect nervous influence over that area. Irritation is a great precursor of cancer, and it causes degeneration in the particular ganglia the peripheral ramifications of which are irritated. The writer does not claim to enunciate a new theory of cancer but to show that there is reason to consider the possibility that the genesis and spread of cancer may be connected directly or indirectly with the nerve influences which preside over the areas affected.

Berliner klinische Wochenschrift, March 30, 1903.

The Hetol Treatment of Tuberculosis.—Sigismund Cohn reports fourteen cases and denounces the treatment. None were cured, one was improved, seven remained unchanged, five grew worse, and one died. In every case the diagnosis was established by a microscopical examination of the sputum and the clinical picture. The hetol was in all cases given by intravenous injection into the median vein. Three inoculations were given weekly, the dose varying from .0005 to .009 gr. No other treatment was given, but in every case the nutrition was kept at the highest possible standard.

Barlow's Disease.—O. Heubner considers this disease in its entirety on the basis of sixty-five cases which came under his observation from 1876 to 1903. Of these thirty-five occurred in 1901 and 1902. Of these sixty-five patients thirty-nine were boys and twenty-six girls. The age at the beginning of the sickness varied from five to fifteen months. All were bottle fed and in every case the food mixtures used were cooked for a longer or shorter time previous to administration. The majority were private patients and belonged to the better classes of society. Forty-four showed the characteristic lesions of the gums and in twenty-one they were absent. In six of the latter, however, hemorrhages occurred in other regions of the body, such as the kidneys, skin, etc. Fifty-four cases showed the typical bony swellings of the lower limbs; thirty-three times in the thigh alone, seven times in the leg alone and fourteen times in both the thigh and leg. Six cases showed, in addition to the above, bony swellings of the skull. In six cases there was a hemorrhagic nephritis, and in thirteen hemorrhages in the skin and mucous membranes. Nineteen cases showed pronounced symptoms of rachitis. This small proportion speaks against the view that Barlow's disease is essentially a rachitis, as has been claimed by many. Pathologically, the disease is to be regarded as a nutritional disturbance of the bony tissues, with an especial tendency to hemorrhage. The prognosis is favorable, provided the proper treatment is instituted. This merely consists of the administration of uncooked food. No medicine whatsoever is necessary. The early diagnosis of the condition is of the utmost importance, for if a diet of cooked food is continued a fatal termination usually ensues.

Berliner klinische Wochenschrift, April 6, 1903.

Significance and Relation of the Splashing Sound to Atony of the Stomach and Gastrectasia.—Paul Cohnheim, from a review of the literature and his personal observations, does not believe that the splashing sound is diagnostic of atony of the stomach. While it is true that it is found wherever gastric atony is present, it is also true that it may be present without atony. It is often heard in cases of gastric neurasthenia where no atony is present. Except following pregnancy or rapid emaciation from various causes, it is a sign of asthenia universalis congenita, and is to be regarded as a danger signal of gastric atony.

Estimation of the Urinary Pigment and Its Diagnostic Importance.—G. Klemperer believes that estimations of the amount of urochrome present in the urine are of value in determining the functional activity of the kidneys. Recent observations have shown that urochrome is formed in the kidney from the blood pigments, and it seems certain that the amount of urochrome so formed bears a direct relation to the activity of the organ. Klemperer estimates the amount of urochrome present by treating the urine according to a modification of Garrod's process, in that the pigment is first extracted with animal charcoal. The author shows that in individuals not suffering with renal lesions the percentage of urochrome varies from .8 per cent. to 2.7 per cent. In reduced renal activity, on the other hand, the percentage is much lower, often reaching 3 per cent. to .4 per cent. For practical use complicated tests are not necessary, and it is important only to remember that when the amount of the urine is reduced, its color should increase in intensity so that, with a small amount of urine, its grade of color shows the amount of kidney damage—in other words, the lighter a scanty urine, the more the renal involvement.

Deutsche medicinische Wochenschrift, March 26, 1903.

Excretion of Volatile Fatty Acids in the Urine.—Fritz Rosenfeld says that the excretion of volatile fatty acids in the urine is increased in gastric ulcer and gastrectasia with hyper- or normal acidity. The same acids are reduced in amount in atonic conditions of the stomach with reduced acidity and which are due to an old pylorus cicatrix or gastroptosis. In gastric carcinoma with reduced acidity the fatty acids are also increased in the urine and the explanation is probably to be sought in the lowered oxidating powers of the body due to the reduced vitality which is present in this disease.

Pulsating Shaking of the Head (Musset's Symptoms).—B. Herzog recalls this symptom and reviews the literature. It has been especially observed in connection with aneurisms and hypertrophy of the left ventricle, and is supposed to be caused by increased arterial pressure. It is, however, also frequently observed in conditions such as syphilis, nephritis, chronic alcoholism, etc., which are accompanied by atheroma of the arteries, and it is certain that the symptoms may be causd by such changes in the arterial walls, as produce inequalities of the blood current. The symptom is not, therefore, in any sense diagnostic of aortic aneurysm.

Deutsche medicinische Wochenschrift, April 2, 1903.

Abscess of the Cerebellum with Sudden Paralysis of the Respiratory Center.—H. Fleiss reports the case of a man thirty years of age who had suffered from a purulent discharge of the left ear since early childhood. He was suddenly seized with a left-sided facial paralysis, which was shortly followed by vomiting, pain in the right side of the head, and other symptoms of cerebral abscess. Marked rigidity of the neck muscles appeared, and trephining was resorted to. Ether narcosis was employed, but after a very few inspirations had been taken there occurred a sudden paralysis of the respiratory center and death. Upon autopsy there was found an abscess of the anterior external quadrant of the cerebellum. The abscess cavity was 3½ cm. by 3 cm. by 2 cm. The sudden paralysis of respiration was undoubtedly due to the pressure of this abscess upon the respiratory center, which had reduced its activity and made it extremely susceptible to the action of the anæsthetic.

Action of Bismuth.—G. Fuchs does not think that the value of bismuth in the treatment of ulcer of the stomach is entirely due to the mechanical action of the drug, but that it is oxidized in the stomach, and thus a new compound is formed. Calcium carbonate, magnesia, and similar drugs which have the same mechanical action as bismuth, possess no such action over ulcer of the stomach as does the latter drug. The mucus secretion caused by the introduction of bismuth subnitrate into the stomach is not due to a mechanical irritation of the bismuth crystals but to a specific action of this drug and its preparations. Bismuth, when introduced into the stomach, is, after a short time, changed into a bright gray substance, which is equally deposited upon the entire gastric wall. Bismutose appears to be an especially reactive preparation of bismuth. It is best administered suspended in syrup and water every two hours.

Münchener medicinische Wochenschrift, March 31, 1903.

Gonococcus Pneumonia.—Bressel reports an interesting case. The patient, while suffering from gonorrhœa, developed a pneumonia. A microscopical examination of the sputum revealed the presence of many intracellular diplococci, the morphology of which coincided with that of the gonococcus and which decolorized with Gram's stain. Cultures from the peripheral blood also showed the presence of the gonococcus. The patient recovered. So far as is known, this is the only case of pneumonia due to the gonococcus which has been reported.

Eosinophilia in Hydatid Cysts.—J. Sabrazes reports studies upon seven cases. In two of these the diagnosis was made upon a clinical basis and in the others by puncture or extirpation. All of the cases showed a marked eosinophilia, except during periods of fever, when the relative number of eosinophiles fell to normal. In addition to the general eosinophilia there was present a large number of these cells in the tissues surrounding the cyst. The presence of these can be easily demonstrated by a microscopical examination of sections of such tissues. No changes were noticed in the red blood cells. The total hyperleucocytosis varied from 11,160 to 17,360, the latter figures being obtained in a case of multiple cysts of the abdomen. Mast cells were never found. In the diagnosis of hydatid cysts the presence of an eosinophilia is an important factor with reference to not only an increase of these cells in the peripheral blood, but also their abundant presence in the connective tissue surrounding the growth.

Blood Regeneration.—P. Schmidt thinks that basophilic granules and polychromatophilia are signs of blood regeneration. The former arise from the nucleus and the latter from a mixture of the hæmoglobin and the dissolved nuclear substance. This opinion is based upon the following facts: (1) Basophilic granules and polychromatophilia appear principally during convalescence from anæmias at a time when the general condition is much improved. This applies to both toxic and traumatic anæmias. (2) If one produces experimental anæmia in rabbits by the inoculation of blood poisons and after the latter has become diffused in the general circulation ties off an ear, the basophilic granules appear sixteen to eighteen hours later only in the circulating blood and not in that of the tied-off ear. (3) In many cases of experimental anæmia, and also in that of man, all grades of granulation, from the coarsest to the finest are present, often in the same red blood cell. Both of these forms are most abundant during convalescence. (4) The finest granules are usually found near the periphery of the cell. (5) Oftentimes, in experimental anæmia, the granulations are only to be found in the nucleated red blood cells. (6) Basophilic granules and polychromatophilia are physiologically present in the blood of new-born animals and in the embryo in the later stages of development. Normoblasts are also found here. (7) If tartaric or hydrochloric acid are inoculated in large quantities into animals whose blood contains many basophilic granulated red blood cells, there occurs after a few hours a marked reduction in the number of such erythrocytes and a marked increase in polychromatophilia. Since no polychromatophilia develops in similarly inoculated animals whose blood contains no granulated erythrocytes, it is evident that the polychromatophilia is produced by a solution of the basophilic granules. (8) About three-fourths of all basophilic granulated red blood cells are polychromatic. (9) Embryonal blood and that of the red marrow is often markedly polychromatic.

Munchener medicinische Wochenschrift, April 7, 1903.

Diagnosis of Intestinal Occlusion.—Schneiderlin reports a case in which all the typical symptoms of appendicitis were present and which was operated upon, a slightly swollen appendix being found. The symptoms were not relieved following the operation—the temperature continuing and the abdominal pain becoming more diffused. Five days thereafter a second laparotomy was done, the incision being made to the left of the median line. The entire ascending colon was found impacted with fæces. The impaction was relieved and the wound closed. A rapid recovery ensued. It is thus seen that an occlusion of the intestine may cause continued and marked fever, and the importance of an accurate diagnosis of the same is apparent.

Treatment of Anthrax in Man.—Federschmidt advises excision, and reports three cases in which this was practised with exceedingly favorable results, in that immediately following the excision there was a marked fall in the temperature and improvement in the general condition. In all of the three cases the malignant pustule was located upon the face and the neighboring lymphatic glands were not involved. Seven other cases are also reported which were treated by Stadler along expectant lines. Of these five recovered and two died. In the five which recovered, however, the course of the disease was much more prolonged and more severe than in those in which excision was practised. In the latter recovery had taken place in from one to three days after the operation. In the treatment of this disease the involvement of the neighboring lymphatic glands does not negative an operation or render the same useless, since, in any event the excision of the pustule would remove a large number of virulent anthrax bacilli, which, if allowed to remain, might subsequently gain admission to the general circulation and increase the intensity of the infection.

Widal Reaction in Abscess of the Liver.—Megele reports a case of abscess of the liver in which a positive Widal was obtained in a 1 to 40 and 1 to 100 dilution. The patient showed a more or less irregular fever, the clinical symptoms being suspicious of typhoid fever. On the fifteenth and eighteenth days a Widal test was tried, the results being negative. Repeated tests, however, on the twenty-second and thirty-fourth days showed the reaction to be positive in the dilutions above mentioned. A further test on the forty-second day was again negative. The case continued with an irregular temperature and developed septic symptoms. A few days before death jaundice appeared. At autopsy there was found a large abscess in the liver and several smaller ones in the kidneys. The mesenteric glands were enlarged. The mucous membrane of the entire intestinal tract was normal. The spleen was not enlarged. From the abscess pus and mesenteric glands the staphylococcus pyogenes aureus was isolated in pure culture. From the autopsy findings and the entire clinical course it is certain that typhoid infection can be absolutely excluded. The positive Widal was in all probability due to the presence of bile in the blood in small amounts. This later became increased and gave rise to the jaundice noticed.

Adrenalin as a Remedy for Cancer.—G. Mahu reports two cases of cancer in which this remedy was used. The first patient was a man of sixty-four years, with cancer of the tongue. The second was a man of fifty-two years, with an ulcerated tumor just underneath the epiglottis. Applications of adrenalin to the tumors. A third patient was aged sixty-three years with a large epithelioma of the larynx. All of these patients were in bad condition, and already cachectic. The local, and consequently the general, condition were favorably modified by means of a treatment, simple and without danger.—*La Presse Medicale*, April 4, 1903.

Society Reports.

FOURTEENTH INTERNATIONAL MEDICAL CONGRESS.

Held in Madrid, Spain, April 23-30, 1903.

Special Cable Report to the "Medical Record."

GENERAL SESSIONS.

FIRST DAY—THURSDAY, APRIL 23.

THE inaugural session of the Fourteenth International Medical Congress was held in the Teatro Real, in the Plaza Oriente, on Thursday afternoon, April 23. The house was densely crowded, and, in consequence of lack of arrangements in properly seating the delegates and guests, the greatest confusion prevailed, resulting in an indiscriminate rush for seats.

After long delay and several futile efforts on the part of the President of the Congress, order was eventually restored, the roar of conversation finally hushed, and the session was formally opened.

King Don Alphonso XIII, the Queen Mother, and other members of the Court, occupied the royal box.

Other boxes were filled with the families of the nobility, of the foreign ambassadors, and of the officers of the Congress, while seats on the floor of the house and in the galleries were occupied by members and their ladies.

The theater was lavishly decorated with banners, streamers and flowers, presenting a brilliant spectacle. Most of the Spanish ladies and many of the foreigners wore the graceful white mantilla, adding greatly to the animation of the scene. The King was in General's uniform. His slight erect figure and not uncomely boyish face, with the strongly marked Hapsburg chin, contrasted strongly with the gray heads and beards of the world's leaders in medical science.

On the stage were seated the officers of the Congress and the foreign delegates.

Inaugural Address.—Prof. JULIÁN CALLEJA Y SÁNCHEZ, the President of the Congress, delivered the inaugural address, taking as his theme, "The Progress of Medical Science." After welcoming the delegates on behalf of the King and the medical profession of Spain, he reviewed the different advances made in medicine and surgery and their great influences on mankind in alleviating human suffering and decreasing mortality. It was well acknowledged that the great science of hygiene and disease prevention had not only prolonged human life but the average comfort of living had been raised to a correspondingly high level. While no startling or epoch-making discovery had been made within recent years there was, however, a general and promising progress in every line of scientific research. The number of active and earnest workers in every field of inquiry made such a result practically demonstrable. The present trend of the medical mind was in the direction of prophylaxis of disease, the most remarkable indications of which were the valuable contributions to the study of tuberculosis and the institution of the more rational and universally adaptable methods for its prevention and cure.

While much of the progress was due to bacteriology, the purely clinical side of the argument was being quite boldly asserted. It was quite necessary that both studies should be closely related—the theoretical and the practical—as by such means scientific views would be broadened and general progress in every department be more substantial and lasting. The outlook was certainly promising from such a standpoint, as all new discoveries were thus likely to be the more readily applied to actual and practical needs. In concluding, he doubted not that the deliberations of the Congress would in every respect equal in dignity and scope those of any of the former gatherings of that body, and would be of lasting benefit to the thousands of representatives from all countries who were about to contribute their efforts in such directions.

History of Congress Organization.—Dr. ANGEL FERNÁNDEZ-CARO, the Secretary-General of the Congress, followed with a welcoming address to the delegates, in the course of which he detailed the history and importance of congress organization. It was thirty-six years ago, in 1867, that the first congress was held in Paris, and since that time the attendance and importance of the meetings in the different countries had amply vindicated the sound judgment of those leading French physicians of Bordeaux who, in 1865, so successfully initiated the movement. It was amply demonstrated that the International Medical Congress was a firmly established institution and was a part of the advancing civilization of the age. To prove the great progress made in the organization of the body, he reviewed the proceedings of the meetings held in turn at Florence in 1869, Vienna in 1873, Brussels in 1875, Geneva in 1877, Amsterdam in 1879, London in 1881, Copenhagen in 1884, Washington in 1887, Berlin in 1890, Rome in 1894, Moscow in 1897, and Paris in 1900.

Number of Members Present.—In congratulating the Congress on its large and cosmopolitan attendance, he had the pleasure of stating that 5,000 delegates had been already registered, and there were more coming in great numbers by every train. These were apportioned as follows: Germany and Austria, 1,000; France, 825; Great Britain, 235; Russia, 290; Italy, 335; other European countries, 327; United States, 193; South America, 136.

Responses of Delegates.—The presidents of the national committees of the various countries were then presented and spoke briefly in acknowledgment of their introduction. Most of these addresses were given in French. Among the presidents of the National committees were Drs. A. Jacobi of the United States, F. W. Pavy of Great Britain and Ireland, Nothnagel of Austria-Hungary, Bango y Leon of Cuba, Brouardel of France, W. Roth of Russia, Mörner of Sweden, Schönberg of Norway, Liceaga of Mexico, Barcelli of Italy, Kocher of Switzerland, Violi of Turkey, Bloch of Denmark, Van Bambeke of Belgium, and Da Costa of Portugal.

The United States Committee Accidentally Ignored.—By an unaccountable misunderstanding on the part of the officials having the matter in charge, the delegation from the United States was not only not represented in these responses, but was denied admission to the stage.

Address of Prime Minister of Spain.—Prime Minister SILVELA next followed with an address of welcome on behalf of the State. He was proud of the opportunity of extending the hand of fellowship to the representatives of the progressive scientific thought of the world. The good works of these men were so well known in Spain that he could welcome them as friends. Their discoveries had assuaged suffering everywhere, and their science being essentially humane was productive of happiness and well-being to all. Every other science of morals, politics, and law eagerly sought the aid of medicine. The congresses of the present day, representing as they did the selective thought of civilized countries, took the place of the universities of old, and exerted an influence for widespread good which was in keeping with the grand aims of a glorious calling.

At the close of his address, Silvela, in the name of the King, declared the Fourteenth International Medical Congress duly open.

Reception by the King.—On Friday afternoon, April 24, King Don Alphonso gave a reception to the members of the congress at the Royal Palace. The members from each nation were introduced by their respective ambassadors. The occasion was a brilliant one and was well attended by the delegates and their ladies, and was marked by an enjoyable concert and a buffet supper.

SECOND DAY—SATURDAY, APRIL 25.

The second general session was held on Saturday afternoon, April 25, in the Ampitheater of the Medical School.

but as no previous public announcement had been made of the time or place of meeting, there was a comparatively small attendance.

General Addresses.—The proceedings were opened by an address by Prof Arthur Thomson of Oxford, on "The attitude of the medical profession toward anthropology." (vide page 681)

Dr. Émil R. Coni of Buenos Ayres delivered an address on "The Anti-tuberculosis Campaign in Latin America." (vide page 690), followed by Prof. Wilhelm Waldeyer of Berlin, who spoke on the "Phylogenetic Theories and Darwinism," in which he repeated and amplified his well-known views on the subject of cell survival and natural immunity.

Dr. B. S. Laache of Christiania, Norway, gave the closing address of the session, taking for his topic "Reciprocity in Pathology" (vide page 687).

THIRD DAY—MONDAY, APRIL 27.

Immunization of the Human Organism against Tuberculosis.—The third general session was opened by an address "On the Immunization of the Organism against Tuberculosis," by Eduardo Maragliano of Genoa. The orator contended that there was present in most individuals a natural immunity against tuberculosis, which was amply explained by the fact that all persons exposed to infection did not take the disease. The explanation for this non-susceptibility was to be found in a general sense in the degree of vital resistance of the individual exposed. There was developed in such persons an element of protection capable of counteracting and overcoming the toxic effects of the invading malady. This condition of resistance was only trustworthy when the subject was in good health, as any departure from such a standard by lowering the vital strength rendered infection possible. This point he had amply proved by animal experimentation, which showed the real danger of unhygienic surroundings, particularly among the poor in tenement districts.

In fact, anything that tended to lower the health tone of the body was dangerous in such respects, as was frequently noted during recoveries from ordinary attacks of sickness. The main hope in checking the spread of tuberculosis was in the careful cultivation and proper maintenance of this resisting quality, and not in the multiplication of sanatoria. The sanatoria attacked the disease at its wrong end, for if immunity were perfect there would be no need of such institutions. The main problem centered in this question of immunity. He had been working for a long time with such an end in view, and had given much thought and labor to the production of a serum obtained from immunized animals, by which such protection might be reasonably assured in a passive and contributory way, at least. He believed that he had made some progress in such directions, in such cases at least in which passive immunity might be induced, although active immunity was, of course, much more desirable. The serum could be used hypodermically or taken by the mouth. His experiments on animals had been quite satisfactory from this point of view, and he was encouraged to apply similar methods to the human subject.

Food Adulteration.—Prof. P. Brouardel of Paris delivered an address on food adulteration, in which he condemned sophistications of every kind, and urged the importance of their radical abolishment. Food as food could not be improved. The very existence and survival of the race depended on the maintenance of its absolute purity. No substance added to it, which was not a food in itself, could ever increase its efficiency. Adulteration in any shape meant either danger to health or life. All preservatives were cheats and snares. In many cases the ingredients used for such a purpose were actually poisonous even in small and repeated doses.

He contended that there was not enough attention given to the subject of food poisoning. In one way or another, the effects were easily demonstrable. This was particularly the case when several members of a family were seized with similar symptoms after partaking of the same viands. Under such circumstances it was the duty of the physician to satisfy himself that no adulterants had been used either in food or drink. Salicylic acid was the most common preservative, and in small and frequent doses was not only a frequent cause of indigestion, but was sometimes actively poisonous to infants and aged people. He concluded by urging the enactment of stringent laws against the crime.

Ocular Affections in a Hot Country.—Dr. Juán Santos Fernandez of Havana discoursed on the ocular affections in Cuba as compared with those of temperate and cold climates. Beginning with the eyelids, he stated that he had met with blepharitis but rarely; and in the rarity of scrofula in Cuba he found the explanation of the infrequency of this local expression of constitutional disease. On the other hand, the anæmia, and consequent lack of tone in the tissues prevailing in Cuba as in other hot climates, he found frequently provocative of hordeolum and chalazion. Of the parasitic affections, he said that diseases of the conjunctiva and orbit, caused by the filaria of medina, were common among negroes recently arrived from Africa; and one case had come under his observation in which the filaria oculi humani was found in the corpus vitreum; and in a second case, the parasite occupied the anterior chamber. The nigua chique (pulex penetrans), a common factor in palpebral disease at the time of the Spanish conquest, had been in his experience but rarely met with of latter years. Of the conjunctival affections, he had found purulent ophthalmia of the newborn, even when caused by the gonococcus, more benign in Cuba than elsewhere. On the other hand, blennorrhagic ophthalmia in the adult exhibited a virulence which made it well-nigh impossible to save the eye even with the most careful treatment. An interesting account was given by the author of an acute form of conjunctivitis called by the common people ceguera (blindness). This affection, occurring as an epidemic in the country and in small villages, and affecting children most frequently, was described as characterized by redness and tumefaction of the palpebral and ocular conjunctiva, pain, photophobia—giving rise to exaggerated blepharospasm—excessive lacrymation and abundant mucopurulent secretion, from which the bacillus of Weeks and the diplococcus of Morax might be isolated. The condition was found to be frequently complicated with gonorrhœal ophthalmia, owing to the filthy custom among the common people of bathing a diseased eye with the urine of another individual. Predisposing conditions were found in granular affections of the eye; a previous attack also increasing susceptibility to the malady. Propagation of the disease occurred through a small insect, adiptera, called by the natives "guassasa," and faulty hygiene enters into the question of the spreading of an epidemic as well. The prognosis was good, unless complications supervene. In an experience of twenty-eight years, Fernandez had found trachoma to be rare in Cuba; he stated, however, that its infrequency might be attributable to the special immunity which negroes exhibited toward the disease, these making up a large part of the population. The benignity of the affection in that country he attributed to the open air life of necessity led by the people. In the treatment of trachoma, aside from the usual medical and surgical measures, he had found jequirity serviceable. Among the diseases of the cornea, leucoma had most frequently come under his observation, this being generally due to keratitis, though it was seen as an after-effect of variola. In interstitial keratitis, Fernandez had found calomel, internally, supplemented by warm applications, of great value, and he had recently used subconjunctival injections of bichloride of mercury in this condition with good effect

He had found that the tears evaporate more rapidly in hot climates, so that the lacrymal passages might be, at

times, entirely deprived of them; and a marked preponderance, among the whites, of diseases of the lacrymal passages had been noted; anatomical studies carried out by the author having shown that the comparative immunity to such affections enjoyed by the negro was due mainly to the greater breadth of the nasal duct and consequent more generous size of its orifices; thus rendering occlusion infrequent. The author stated that the iris was generally found to be pigmented in those born and raised in a hot climate, this being a provision of nature to protect the eye from the sun's rays, the effect of the latter being more painful to those in whom the iris was not pigmented, as also to those in whom the eyelashes were poorly developed. Of the diseases of the iris, iritis, both syphilitic and rheumatic were most common. Contrary to the common belief, neither cataract nor glaucoma have been found to be more frequent in Cuba than elsewhere, and Fernandez's experience had proven that ocular affections, due to tobacco, did not exceed, if equal, those produced by alcohol; the comparative rarity of amblyopia nicotiniana being due to the fact that the Cubans were not excessive smokers, and that Havanna tobacco contained less nicotine than that of other countries. Of the ocular affections due to malaria, the author had seen hemorrhage of the retina, and optic neuritis, and in extremely malarious sections of the island, iritis and keratitis of malarial origin, had been observed. The excessive use of quinine in the treatment of paludism had lead to amaurosis of varying degree and duration, but the prognosis in such cases was usually good. In the early stages of yellow fever, Fernandez had seen various congestive affections of the eye, and later, when secondary infections set in, phlegmon of the eyelid, suppurative keratitis, sloughing of the cornea and panophthalmitis had been observed.

Pharmacological Complexity in the Medical Prescription.—Dr. José M. Carracido of Madrid gave an address on this subject, in which he said, in part, that all medicaments acted directly or indirectly upon the albuminous elements of the body, and that while little had been definitely known concerning their mode of action, there was much to indicate that this was in the nature of chemical reaction. In support of this idea, he cited the special affinity of certain coloring substances used in microscopical specimens, for some cells, while others remained unstained; and compared this to the selective action of each therapeutic agent toward given histological elements. He stated, however, that the complex composition of the proteid materials, upon which the mechanism of the organic functions depended, necessitated more complex reagents than those used in the laboratory in general chemistry. The simplicity of the production of lead and copper oxide by heating those metals in the air was contrasted by the author with the more complicated processes of organic chemistry; as, for example, the series of reactions essential to the production of ethylic alcohol by oxidation of ethane; the composite reagents (Millon's, Axenfeld's, etc.), necessary to the characteristic color reactions of albuminous substances. The author held that if such reagents were essential to the modification of dead matter, they were still more necessary to the modification of the complex, living albuminous materials; and that just as the delicacy of reactions in organic chemistry required the association of reagents, each of which modified and attenuated the effect of the other, so in therapeutical remedies the association of coadjuvants and correctives with the basic chemical substance was essential.

FOURTH DAY, TUESDAY, APRIL 28.

The fourth general session of the Congress was opened by an address on

The Plan of the Construction of the Thalamus, by Prof. Ramón y Cajal of Madrid.

The investigations, he said, of Monakow, Gudden, Flechsig, Kölliker, himself, and others had demonstrated that the thalamus was connected with certain sensorial tracts as well as with the visual, sensitive, and acoustic; but it was as yet unknown how this connection was effected—whether these sensorial tracts terminated directly in the thalamic foci or whether the relation was indirect. The investigations, the speaker said, of his brother, confirmed and amplified by his own as well as by those of Kölliker, had certainly proved that the optic nerve terminated by free arborizations in the anterior quadrigeminal tubercle and external geniculate body, but no such demonstration had been made respecting the other afferent sensorial currents, nor was it possible to deduce a plan of construction of the visual foci from what was known of the anatomical constitution of the other thalamic centers.

The speaker's investigations made with the three methods of Nissl, Golgi, and Marchi on the bodies of the smaller mammals (rat, guinea-pig, and cat) enabled him, however, to extend the formula mentioned to all the sensorial tracts, and the conclusions so reached might be summarized as follows:

1. The optic thalamus was a double organ composed of centripetal and centrifugal ganglia. The centripetal or sensorial were; the optic focus or external geniculate body; the acoustic focus or internal geniculate body; the sensitive focus or ventral nucleus (lateral of Kölliker); the accessory sensitive or trigeminal centers, whence arose the central tract of the trigeminus and which were situated respectively in front of and behind the preceding ganglion; the dorsal focus, also sensitive, but of a special sensitiveness was not yet definitely determined; and other less well recognized centers, such as the internal, the median of Luy, the arciform, the raphe, etc., regarding which the speaker investigations were not yet concluded.

The centrifugal or motor intermediary ganglia were: the red nucleus, the body of Luys, the black substance, the subsensitive focus (recently discovered by the speaker), and other gray accumulations of less importance. In this category belonged, also, in all probability, the ganglion of the trabenula.

2. The sensorial or centripetal foci were characterized anatomically by being intermediary stations between the afferent and the efferent or superior tracts. In all these there existed therefore: *a*, sensorial or branching afferent fibers contained wholly within the thickness of the ganglion; *b*, nerve cells, with short axon, of small size and notably downy exterior; *c*, nerve cells, with long axon, forming plexuses and whose axis cylinder entered into the thalamic radiations to give origin to the cortical thalamic or efferent tract; *d*, cerebral or cortico-thalamic fibers, which, descending to the thalamus, anastomosed extensively with its radiations in various cellular plexuses. Each plexus of the visual focus or external geniculate body, of the auditory focus or internal geniculate body, of the ventral or sensitive focus, etc., consisted of a close interweaving of afferent and efferent arborizations within the meshes of which were the nerve corpuscles giving origin to the thalamo-cortical tract.

3. The direct tracts from the primary foci to the cerebral cortex, assumed by Held for the external lemniscus or acoustic tract and by Hösel, Flechsig, and others for the sensitive tract, did not exist. All the fibers of the internal lemniscus or band of Reil terminate therefore in the ventral focus of the thalamus, and all those from the exterior or long arm of the external lemniscus, or auditory tract, end definitely in the internal geniculate body. In the same way the fibers of the central trigeminal tract sent forth collaterals and terminals for the accessory or semilunar sensitive foci.

4. The especially sensitive (not olfactory) nature of the dorsal focus was shown by a study of the afferent or peripheral tract of this center. This was, as is known, the bundle of Vicq d'Azyr, arising by successive divisions (according to the speaker's discoveries) of a common trunk with the fasciculus of the catota. Now the mam-

millary foci where were the neurons of origin of this trunk formed the termination of a large sensitive tract, the mammillary peduncle, erroneously regarded up to the present by Kölliker and others as a descending fasciculus. The author's observations had proved, moreover that the free arborizations of this peduncle terminated in both mammillary nuclei.

5. The physiological function of the centrifugal or cortico-thalamic fibers was up to the present unknown. In order to explain its mode of action we might have recourse to the same hypotheses as those formulated regarding the office of the centrifugal conductors of the retina:—(Fibers of expectant attention, conductors designed to effect an adjustment of the neuronic articulations, agents of cerebral discharge to the thalamic foci to intensify the afferent current, etc.)

6. The centrifugal foci had no peripheral or sensitive afferent fibers and no thalamo-cortical or central tracts. Up to the present the speaker's investigations of the focus of Luys, the substantia nigra, etc., had led him to find in them two essential factors: *a*, Collateral or terminal fibers separated from the cerebral peduncle and internal capsule and forming arborizations in the interior of the same; *b*, Cellules with long axon, the extension of which is in a descending direction to terminate probably in the last motor foci or in the red nucleus which was likewise a motor focus. The so-called lenticular fasciculus of Forel and the area of the same name were only a robust system of collaterals of the motor tract destined to the red nucleus and perhaps to the motor ganglia of the facialis and the ocular muscles.

7. The centripetal and centrifugal foci were arranged in general in a definite order. With the exception of the ganglion of the trabenula, a centrifugal ganglion which was situated superiorly, all the intermediary motor nuclei were subthalamic, and the centripetal or sensorial were superior, constituting the thalamus properly called.

Prophylactic and Therapeutic Indications in Tuberculosis.—Dr. Albert Robin followed with an address on the prophylactic and therapeutic indications in tuberculosis founded on the knowledge of the individual in which the disease develops. The argument was in favor of treating the patient rather than the disease. The infecting bacillus was of little account if a receptive soil for the seed did not exist in the subject. He believed that the proper way to combat tuberculosis was by supporting the patient against chance infections. Whatever was wanting or defective in nutrition should be supplied. It was in this way that nature could be aided in her attempts to throw off the disease. The patient first, and the bacillus afterward.

Award of Prizes.—The Moscow Prize for original research by the City of Moscow, in honor of the meeting of the Congress in that city in 1897, was awarded to Professor Metchnikoff, and that of Paris to Professor Grassi.

At the close of the general session the representatives of the different nations delivered addresses and indulged in the mutual congratulations usual on such occasions.

Notwithstanding these pleasant interchanges of courtesy, between the committees of the Congress and their guests, it must be acknowledged that there was an utter lack of systematic arrangements for the meetings. They were held in out-of-the-way places, were not properly announced, and consequently were very poorly attended. No one seemed empowered to give any information regarding what was to be done or how it was to be done. The committees were even more confused than the delegates. The result was that the greatest confusion prevailed during the entire session, resulting in the omission from the program of some of the most important addresses. Thus Politzer, Pavloff, and others were not heard.

The next place of meeting will probably be Budapest.

ENTERTAINMENTS AND FESTIVITIES.

The social and festive side of the Congress was so far from being neglected as almost to throw the scientific aspect of the gathering into the shade. The entertainments began with the Medical Press Congress, which was held on the Monday, Tuesday, and Wednesday preceding the great Congress. On Monday evening the medical journalists were given a general reception at the house of President Señor Cortezo. On Tuesday afternoon a Basque ball game was given in their honor at the Trontón Central, and in the evening they were entertained at a reception given by Madrid political Press. On Wednesday there was a breakfast in their honor at half-past twelve, a reception by the City Council at six, and a theatrical performance at nine o'clock.

On Thursday, the opening day of the International Congress, there was a reception to the congressists by the City Council of Madrid, and, in addition, many of the prominent members were entertained at the private residences of Madrid physicians. On Friday, the 24th of April, the King granted an audience to the members of the Congress, in the Royal Palace, at three o'clock. On the following evening, April 25, at ten o'clock, a grand reception was given in the offices of the Minister of State by the Spanish Government. On Tuesday afternoon a grand concert was given in the Jardines del Buen Retiro. On Wednesday, from 4 to 6 in the afternoon, a garden party was given in the Campo del Moro, or gardens of the Royal Palace, the Infanta Isabel receiving in place of the Queen Mother, who is still in mourning. In the evening of this same day a banquet with 200 covers was given in honor of the congressists in the Casa de la Villa. In addition to these general entertainments, all day and every evening private excursions, receptions, and dinners were given to this or that group of congressists.

Señor Julián Calleja, the President of the Congress, gave a banquet to the presidents of the various sections and of the national and international committees, and most of the sections had special dinners on one of the least full of the evenings of the week.

A special theatrical performance was given in honor of the Congress, the middle of Congress week. On every afternoon during the week Mrs. Arthur Sherburne Hardy, wife of the United States Minister to Spain, was at home to the American members and the ladies of their families.

Syphilis as a Cause of Chorea.—L. Harrison Mettler thus formulates his conclusions: Syphilis, in rare instance, is a cause of chorea, and it should always be thought of as a possibility during the examination of every case. Chorea may be the result of acquired or hereditary syphilis. Most of the cases of syphilitic chorea are unilateral, though they may be bilateral and generalized; may belong to the pre- or posthemiplegic type of the disease; may or may not be associated with other signs of an irritative lesion; may not infrequently be developed in hereditary syphilitics, and are to be attributed in all probability to a functional disturbance of an irritative sort in the cortical and ganglionic motor cells. The fact that there are two forms of syphilitic chorea, the focal and the diffuse, supports the inference that all forms of chorea are but the expression of one or more of a multiplicity of possible factors which may disturb the functional activity of the upper motor neurones, these factors being all the way from a gross lesion down to a molecular or chemical change not demonstrable with our present methods of investigation. This leads to the conclusion that chorea is not a disease but a mere symptom. Syphilis having been settled upon as the cause of any particular case of chorea, that case should be regarded and promptly treated as a case of syphilis, and not as one of chorea.—*The Chicago Medical Recorder*, March 15, 1903.

Books Received.

The Diagnosis and Modern Treatment of Pulmonary Consumption. With Special Reference to the Early Recognition and the Permanent Arrest of the Disease. By Arthur Latham, M.A., M.D., Oxon., M.A.Cantab. Author of the Prize Essay on the Erection of His Majesty's Sanatorium; Assistant Physician and Lecturer on Practical Medicine at St. George's Hospital; Assistant Physician at the Brompton Hospital for Consumption and Diseases of the Chest; Formerly Physician to Out-Patients, Victoria Hospital for Children, and Radcliffe Travelling Fellow in the University of Oxford. New York: William Wood & Co., 1903.

The perusal of the above volume has been a pleasure to the reviewer. Throughout the work there is abundant evidence of the author's grasp of his subject, of the well-balanced judgment which comes from practical experience, and of his deep interest in phthisiotherapy. The pathology is briefly considered, while diagnosis and treatment occupy most of the book. A strong plea is made for sanatorium treatment which, as a school of instruction and discipline, can never find a full substitute in the home treatment of the disease. The author, however, realizes that to many this ideal method is unobtainable, and to them he devotes a special chapter. The careful attention to details, so important in the treatment of chronic ailments, are here given very completely, while the underlying principles are at the same time brought out.

The writer has been a careful student of the subject and has compiled in the present volume the views published by him in previous articles, and in the essay which won the prize offered by King Edward for the best exposition on the subject of the erection of a sanatorium for the treatment of tuberculosis in England. The furnishing, ventilation, heating, lighting and arrangement of the sick room; the feeding, resting, exercising, drugging and daily program of the patient are all given clearly and completely at the same time, not too dogmatically, since the material for the text has been drawn from the methods in use at some fifty different sanatoria, some of which have been personally visited by the author.

The Care and Feeding of Children. By L. Emmett Holt, M.D. New York: D. Appleton & Co.

This book has the distinct merit of individuality of authorship and presents necessarily radical views on the subject. Its article on pasteurization of milk has been perforce abandoned by all thoughtful practitioners of large experience. The same may be said concerning the ultra views on artificial feeding, particularly when based on the use of a particular brand of laboratory milk. The statements regarding beef juice for young infants show that the author is hopelessly biased in favor of a theory rather than inclined to be convinced by opposing arguments of fact.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By Prof. Carl von Noorden, Physician in Chief to the City Hospital, Frankfort, a.M. Authorized American Edition. Translated under the Direction of Boardman Reed, M.D., Professor of Diseases of the Gastrointestinal Tract, Hygiene and Climatology, Department of Medicine, Temple College; Physician to the Samaritan Hospital, Philadelphia. Part III. Membranous Catarrh of the Intestines (Colica Mucosa). By Prof. Dr. Carl von Noorden, with the collaboration of Dr. Carl Dapper. New York: E. B. Treat & Co., 1903. Pp. 64.

The American edition of von Noorden's and Dapper's short treatise on Colica Mucosa differs from the German one published by Hirschwald of Berlin, in this way, that in the original edition the names of the joint authors appear in the same type of print, while in the American edition Dapper's name is printed in so small a type that it is rendered almost obscure in comparison with that of his collaborator. Moreover, references 21 and 22 of the German edition alluding to Dapper's works have been omitted. What grudge does the American editor bear Dapper, the collaborator of von Noorden for many years?

The publication itself is a very meritorious one; special stress has been devoted to the chapter on treatment. The external appearance of the little book does credit to the publishers.

Diseases of the Stomach. A Textbook for Practitioners and Students. By Max Einhorn, M.D., Professor in Clinical Medicine at the New York Post-graduate Medical School and Hospital; Visiting Physician to the German Dispensary. Third Revised Edition. New York: William Wood & Company, 1903.

Unlike the second edition, this issue has been entirely revised and brought thoroughly up to date. The same practical character of the treatise is maintained, and the author has endeavored to leave the text unencumbered by exhaustive detail, thinking that for general use it would be less confusing and attain his end in making the work more instructive. It will be remembered that the first edition was the pioneer of American textbooks treating of the subject of stomach disorders, and the third edition shows the same stamp of the original worker. A profusion of illustrations, describing apparatus and microscopical sections, together with abundant diet lists, promise to make the present volume as popular as were its predecessors. As a work fitted for the general practitioner and the student, comprehensive yet concentrated, it can be sincerely recommended.

Cancers and Other Tumors of the Stomach. By Samuel Fenwick, M.D., F.R.C.P., and W. Soltan Fenwick, M.D., M.R.C.P. Philadelphia: P. Blakiston's Son & Co., 1903.

The present volume is divided into two parts, the first of which deals with gastric cancer, and the second with various other tumors affecting the stomach and duodenum. The book contains valuable statistics with regard to the symptomatology and frequency of cancer. According to the writers, a palpable tumor exists in four out of every five cases of carcinoma of the stomach. Carcinoma of the pylorus constitutes about 60 per cent. of all the cases. The initial symptoms of this group are usually those of indigestion, and for several months the chief complaint is flatulence and distension after meals, acidity, constipation, loss of appetite, and emaciation. According to the authors, cases of cancer of the stomach are occasionally encountered in which the symptoms are either entirely absent, or only appear at a late stage of the complaint (latent form). The book is full of personal experience of the two known clinicians. It will prove of great interest and benefit to the reader.

Therapeutics of Infancy and Childhood. By A. Jacobi, M.D., LL.D. Third edition. Philadelphia and London: J. B. Lippincott Co., 1903.

Five years have elapsed since the previous edition of this work has been published, and the author has endeavored to keep track of the times during the interval. Although the present volume contains no fundamental changes in substance and arrangement, it is a consistent exposé of the long experience of the author in the practice of a specialty with which he has been identified for half a century. In some respects his views on infant feeding are at variance with those of other pediatrists, but he maintains his side of the argument from the standpoint of large personal observation. He is still a firm believer in the efficacy of drugs for the cure of infant ailments, and prescribes them with great freedom. Altogether the work carries with it a distinct individuality that will commend itself to a large body of intelligent and conscientious readers.

The Changes in Peripheral Nerves Produced by Toxic Substances Applied to the Skin: A Medicolegal Study.—D. J. McCarthy gives the following résumé of his experimental work, undertaken because of the interest attached to a suit for damages instituted by a man suffering from a paralyzed condition of both arms, which, he asserted, was due to the action of chemicals on the exposed tissues. (1) An intense and extensive degeneration, the result of an acute inflammatory process, was produced by the local application of formalin to the skin, without destroying the continuity of or seriously interfering with the structure of the superficial tissues. (2) The action of hydrofluoric acid when locally applied does not differ essentially from other corrosive poisons. In weak solutions it may cause degenerative changes in the deep nerves, with minor necrotic lesions in the subcutaneous tissues without destroying the continuity of the integument. (3) The effect of carbolic acid in strong solutions is confined mainly to the superficial tissues, and it is only when these tissues are extensively involved (dry and hard, although there may be no blistering or ulceration), that the subcutaneous and deeper nerves become degenerated. (4) Acetate of lead produces irritative changes in the skin, somewhat similar but less intense than that produced by carbolic acid without involvement of the subcutaneous tissue or nerves. It would seem, therefore, that it is possible for certain poisons to penetrate the superficial tissues and cause inflammatory and degenerative changes in the deeper trunks without destructive lesions of the overlying tissues.—*University of Pennsylvania Medical Bulletin*, March, 1903.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending April 25, 1902.

	Cases.	Deaths.
Measles	283	7
Diphtheria and croup	335	45
Scarlet fever	296	24
Smallpox	..	..
Varicella	116	..
Tuberculosis	336	175
Typhoid fever	44	9
Cerebrospinal meningitis	.	..

On Taking Cod-liver Oil.—One of the best methods of prescribing cod-liver oil is to order it to be taken with an acid and a bitter. Ten or fifteen drops of dilute phosphoric acid in half an ounce of compound infusion of gentian forms a suitable vehicle. The oil should be poured over the surface of this at the time of administration. By commencing with a very small dose, and gradually increasing it, patients otherwise unable to take cod-liver oil, may in this way be educated to suffer, and in some cases even enjoy in large doses.—*London Polyclinic.*

Paratyphoid Fever.—L. F. Jermain says that the term paratyphoid fever has been employed in a clinical sense to designate infection with the paratyphoid or paracolon bacillus. Paratyphoid fever, however, does not constitute a clinical entity. In all, twenty-seven cases of undoubted typhoid fever with two deaths have been reported. The author reports three cases of this disease. All recovered. The average duration of the febrile stage was sixteen days. In each case three serum tests with typhoid bacilli were made at different stages of the disease, and in no instance could a positive reaction be obtained. Unfortunately no culture of paratyphoid bacillus was at hand to demonstrate a serum reaction in the first two cases, but in the third this was done, and a positive reaction obtained to Gwyn's paracolon bacillus. The author gives the details of the cases.—*The Wisconsin Medical Journal*, March, 1903.

Morphine Poisoning in an Infant One Month Old.—In the case narrated by J. D. Merrill one-sixth of a grain of morphine was given by mistake. The baby, which had been fretful from colic, soon became quiet. The mother, who was exhausted, fell asleep and did not waken for seven hours and a half, when she was roused by a queer noise from the child, who was found in convulsions. Strychnine 1-160 gr. was given hypodermically, artificial respiration commenced, and hot coffee injected per rectum. Nine hours after the morphine had been given there was complete unconsciousness, lightly contracted pupils, deep cyanosis, moist skin, respirations shallow and four to the minute, pulse weak, and reflexes absent. At intervals of three to four minutes there occurred general tetanic convulsions, beginning with a weak crowing inspiration, the chest becoming fixed, the whole body rigid, cyanosis extreme, and the pulse imperceptible. These spasms lasted from thirty to fifty seconds. As the family asserted this had been the behavior since first discovered, the convulsions were not ascribed to the strychnine. The bowels were flushed out; artificial respiration was kept up for eight hours. Hot baths followed by cold sprinkling, ice to the chest, rhythmic traction of the tongue, irritation of the epiglottis, dilatation of the anal sphincter and rectal injections of coffee were used in alternation over and over again. It was impossible to detect any improvement during the first four hours of work. About noon the respirations became a little deeper and increased to ten per minute and the color improved, although the spasms continued as frequently for two hours or more, gradually subsiding. After three in the afternoon, artificial respiration was necessary only at intervals. Breast milk was given by the spoon, and coffee and whiskey were injected at intervals per rectum, and the patient soon rallied.—*Chicago Clinic.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending April 25, 1903:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
Alabama, Mobile	Apr. 11–18	3	..
California, San Francisco	Apr. 5–12	15	..
Colorado, Denver	Apr. 4–11	28	..
Florida, Jacksonville	Apr. 11–18	1	..
Illinois, Belleville	Apr. 11–18	3	..
Chicago	Apr. 11–18	17	2
Galesburg	Apr. 11–18	4	..
Indiana, Evansville	Apr. 11–18	3	..
Indianapolis	Apr. 11–18	4	2
Kentucky, Covington	Jan. 10–Apr. 18	98	..
Louisiana, New Orleans	Apr. 11–18	8	Imported
Maryland, Baltimore	Apr. 11–18	2	..
Massachusetts, Fall River	Apr. 11–18	1	..
Lowell	Apr. 11–18	2	..
Michigan, Detroit	Apr. 11–18	11	..
Flint	Apr. 11–18	1	..
Grand Rapids	Apr. 11–18	7	..
Port Huron	Apr. 11–18	1	..
Minnesota, Winona	Apr. 11–18	1	..
Mississippi, Gulf Port	Apr. 16	16	..
Missouri, St. Louis	Apr. 12–19	9	..
Nebraska, Omaha	Apr. 11–18	2	..
New Hampshire, Manchester	Apr. 11–18	8	..
Nashua	Apr. 11–18	5	..
New York, Buffalo	Apr. 11–18	2	1
New York	Apr. 11–18	2	1
Rochester	Apr. 14–21	4	..
Ohio, Cincinnati	Apr. 10–17	15	1
Cleveland	Apr. 11–18	1	1
Dayton	Apr. 11–18	2	..
Toledo	Apr. 4–18	19	1
Pennsylvania, Altoona	Apr. 11–18	1	1
Johnstown	Apr. 11–18	1	..
Philadelphia	Apr. 11–18	10	1
Scranton	Apr. 11–18	8	..
South Carolina, Charleston	Apr. 11–18	5	..
Greenville	Apr. 4–11	1	..
Tennessee, Memphis	Apr. 11–18	1	..
Utah, Salt Lake City	Apr. 11–18	3	..
Washington, Tacoma	Apr. 6–13	2	..
Wisconsin, Milwaukee	Apr. 11–18	1	..

SMALLPOX—INSULAR.

Philippines, Manila	Mar. 4–11	1	..

SMALLPOX—FOREIGN

Austria, Prague	Mar. 28–Apr. 4	8	..
Belgium, Brussels	Mar. 28–Apr. 4	..	9
Brazil, Bahia	Mar. 21–28	..	1
Rio de Janeiro	Mar. 20–29	..	13
China, Hong Kong	Feb. 28–Mar. 7	1	1
Shanghai	Mar. 9–16	..	12
Colombia, Barranquilla	Mar. 22–29	..	1
Bocas del Toro	To Apr. 6	21	3
France, Paris	Mar. 28–Apr. 4	..	1
Germany, Hamburg	Mar. 28–Apr. 4	1	..
Great Britain, Birmingham	Mar. 22–Apr. 4	25	..
Dublin	Mar. 29–Apr. 4	12	1
Leeds	Mar. 29–Apr. 4	10	..
Leith	Mar. 29–Apr. 4	2	..
Liverpool	To Apr. 4	62	6
London	Mar. 29–Apr. 4	13	..
Manchester	Mar. 29–Apr. 4	24	1
Sheffield	Mar. 21–Apr. 4	4	..
India, Bombay	Mar. 17–24	..	85
Calcutta	Mar. 14–21	..	3
Karachi	Mar. 16–22	1	1
Italy, Milan	Feb. 1–28	4	..
Palermo	Mar. 28–Apr. 4	1	..
Japan, Yokohama	Mar. 14–21	1	..
Mexico, City of Mexico	Mar. 29–Apr. 5	8	6
Russia, Moscow	Mar. 21–28	3	2
Warsaw	Mar. 21–28	..	7
Straits Settlements, Singapore	Feb. 21–Mar. 7	..	2
Turkey, Alexandretta	Mar. 21–28	6	..

YELLOW FEVER.

Brazil, Rio de Janeiro	Mar. 13–29	..	81
Colombia, Panama	Apr. 6–13	3	1
Costa Rica, Limon	Apr. 10	2	..
Ecuador, Guayaquil	Mar. 21–Apr. 4	..	6

PLAGUE—INSULAR.

Philippines, Manila	Mar. 4–11	10	8

PLAGUE—FOREIGN.

China, Hong Kong	Mar. 7–14	19	17
India, Bombay	Mar. 17–24	..	1,270
Calcutta	Mar. 14–21	..	751
Karachi	Mar. 15–22	120	97

CHOLERA—INSULAR.

Philippines, Cebu	Feb. 21–28	2	1
Manila	Feb. 21–28	2	1
Opan, Island of Cebu	Feb. 28	4	4
Talisay, " "	Feb. 24	17	10
Provinces	Feb. 1–28	135	84
Not previously reported		532	319
Total		667	403

CHOLERA—FOREIGN

India, Bombay	Mar. 17–24	1	..
Calcutta	Mar. 14–21	215	..
Straits Settlements, Singapore	Feb. 21–Mar. 7	10	..
Turkey, Damascus	To Mar. 22	28	28

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Original Articles.

MEDICAL EDUCATION IN THE UNITED STATES.*

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ONE of the chief objects of the organization of the American Medical Association was the elevation of the standard of medical education in the United States. In the president's address, the Father of the Association, Dr. N. S. Davis, stated that "the purpose of the organization was the improvement of our system of medical education and the direct advancement of medical science and practice. †That medical education in that day was defective, as recognized by the founders of the association, is shown by the report of the Committee on Medical Education in the year 1850. The committee said, in part, as follows: "Medical education is defective because there are too many medical schools; the teachers are too few. There are too many students. The quantity of medicine taught is too limited; the quality too superficial, and the mode of bestowal of the honors of medicine too profuse and too unrestricted."

For many years the association showed its interest in and attempted to influence the elevation of the standard of medical education through a committee on medical education. The Transactions of the Association of the earlier years show many reports of this committee, which display much thought and effort on the part of the association to improve the status of medical education at that period of time. James R. Wood, as chairman of the committee, in the year 1858, recommended that the various medical colleges of America be requested to send delegates to a convention of medical colleges, to consider the matter of medical education. This movement finally resulted in the formation of the Association of American Medical Colleges, which thereafter represented, to a degree at least, the American Medical Association in its efforts to improve medical education. Later, the Southern Medical College Association was formed. Together these associations represent about 80 per cent. of the regular medical schools of the country, and these colleges have, in a general way at least, fulfilled the minimum requirements prescribed by the rules of the associations in regard to the preliminary education of students, the length of the college course, and the character of the curriculum.

About twenty-five years ago the Illinois State Board of Health, through the splendid efforts of Dr. J. H. Rauch, its secretary, made a report on the number and character of the medical schools of the country. This board adopted a minimum of requirements of medical schools as a necessary step toward the recognition of their diplomas by the State Board of Health of Illinois. This minimum requirement of the State Board of Health was gradually increased from time to time, with the result that many of the medical schools were obliged to raise the standard of medical education to enable their graduates to obtain licenses to practise in Illinois. Other States followed Illinois in requirements for better methods of medical education, with the result that the standard of education in the country was very much improved.

Medical Schools of the Country.—In the earlier days of our country, the need of physicians was met by the organization of medical schools which were, as a rule, proprietary in character. These schools attempted the education of physicians on the then existing conditions of medicine by teaching in a didactic way the principles and theories of medicine and surgery. The branches usually taught at that time consisted of anatomy, physiology, chemistry, materia medica, obstetrics, the practice of medicine and of surgery. But little opportunity was offered in the great majority of the schools for extensive, practical teaching in anatomy or chemistry, and but a moderate amount of clinical work in the co-called practical chairs. The course of medicine in the college consisted of two annual sessions of four or five months. The course was not graded. The student attended all the lectures and clinics taught during his first year, and the second year was a repetition of the first. This class of schools was rapidly increased in the course of time. The chief reasons therefor were the fact that it was recognized that a connection with a medical school was profitable, directly and indirectly. The prestige which the teacher enjoyed among the graduates and the laity brought him a remunerative consultation and private practice. In most of the States it was easy to incorporate and obtain a charter for a medical college. It cost comparatively little to conduct and maintain the institution. Lecture rooms were obtained at trifling cost. The dissecting room was not worthy of the name of a laboratory, and the chief expense in maintaining it was the cost of dissecting material, which was usually deficient in quantity and poor in quality. Medical schools were organized all over the country, without reference to the needs of the people. Medical education was prostituted. To obtain a sufficient number of students many institutions showed a most degraded disregard of the moral and mental qualifications of the matriculates. The income of the school was wholly derived from the tuition of students, and no applicant was turned away who had the cash with which to pay his way. To add to the facility of obtaining a medical college course, there were organized in some cities evening schools, the hours of college attendance occurring from 7 to 9 or 10 o'clock at night. These sundown institutions enabled the clerk, the street-car conductor, the janitor, and others employed during the day to obtain a medical degree.

In spite of the general tendency to increase the

*President's address, delivered at the fifty-fourth annual session of the American Medical Association, at New Orleans, May 5-8, 1903.

†Transactions of the American Medical Association, vol. xvi. 1865.

facility by which a medical degree could be obtained, there was a force at work to improve the methods of medical education. A few older medical colleges and an occasional new one set the standard high in relation to the existing status of medicine. There were earnest, forceful medical men in some of the schools who fought for a higher standard for matriculation and graduation.

The medical college associations exerted a splendid moral influence for good, and the State boards in all the more advanced States have, by mandatory legislation, compelled the colleges to raise the requirements in reference to the preliminary education, the length of the annual session, the time of medical college study, the character of the curriculum, etc. As a result, the status of medical college education has been very much improved in the last twenty, and chiefly in the last ten, years. But, improved as it is, there are evils which menace us, the chief of which still are too many medical schools, too many students, and inadequate facilities for the proper teaching of medicine.

The improvement in medical-college requirements has increased the cost of the maintenance of the medical college to a degree that it is no longer a profitable financial venture. There can be no dividends. Indeed, the proprietors of the private institution must often make up a deficiency in the annual budget. In spite of this fact, medical colleges have continued to increase steadily.

In 1877 there were sixty-five medical schools in the United States. In 1882 this number had increased to 89, and in 1901-2 to 156. The enrolment of students and the number of graduates have also increased, in spite of the fact that the requirements for matriculation and graduation have been increased. In 1882 there were* 14,934 matriculates, and this number was increased in 1901 to 26,417, and in 1902 to 27,501, an increase of about 100 per cent. in twenty years.

The number of graduates in 1882 was 4,115; in 1901, 5,444; in 1902, 5,002, an increase of about 25 per cent. in twenty years. If, in 1850, there were too many medical schools and too many students, what can we say of the condition to-day?

It has been estimated that there is an average of one physician to 600 of the population of the United States at the present time. The natural increase in the population of the country, and the deaths in the ranks of the profession, make room each year for about 3,000 physicians, based on the proportion of one physician to 600 of the population. With 5,000 or more graduates each year, a surplus of 2,000 physicians is thrown on the profession, overcrowding it, and steadily reducing the opportunities of those already in the profession to acquire a livelihood. The evil of an overcrowded profession is a sufficient cause of complaint, but the cause thereof is the important point for us to consider and, if possible, remove. To correct the evil, the ease and facility with which a medical degree may be secured in this country must be diminished. As before stated, there are now 156 medical schools in this country. Of these, 30 are sectarian, and 136 are so-called regular schools. Fifty-eight are medical departments of universities, of which 24 are State institutions. The relation of the medical school to the university in most instances is a nominal one only. In but few of them is the control of the faculty, or the finances of the medical department, vested in the university proper. In a very few of them the sciences fundamental to medicine are taught in the university. In the majority of these schools these departments are duplicated in the medical department, and are taught by members of the medical faculty. In most instances, too, the teachers of the fundamental branches are physicians who devote but a part of their time to teaching. They teach without salary, or for a nominal one only. Their remuneration is obtained by private practice, to which they must devote their best energies, to the detriment of their value as teachers. The clinical department of these schools is, in most instances, wholly inadequate. The majority of such schools depend on the general hospitals situated near them for the privilege of the use of clinical material Necessarily, these clinical advantages have great limitations, inasmuch as they can not be fully controlled for the purpose of proper bedside teaching, or for scientific investigation. Some of the medical schools which are connected with State universities are situated in small cities where it is impossible to command an adequate amount or variety of clinical material. The connection with a university, which many of the schools enjoy, is, therefore, almost valueless in a pedagogic sense. The majority do not differ materially from the private or proprietary schools in their value as teaching institutions. Ninety-eight of the medical schools in the country are private corporations, organized, maintained and, as a rule, owned by the faculty. If, in earlier years, these institutions were sources of direct financial profit to the owners, they have ceased to be so now—at least most of them. The evolution of medicine has made it necessary to extend the laboratory method of teaching. As these schools attempt to teach the whole curriculum, the erection, equipment, and maintenance of the necessary laboratories have so increased the cost of conducting the schools that they are usually no longer self-supporting. The temptation is, in such schools, to conduct them on a plane which shall just comply with the minimum requirements of the various State bodies, which regulate medical practice in the several States. They are maintained ostensibly to teach medicine, but in reality for the prestige which a professorship affords the teacher in his private and consultation practice. Proprietary schools depend on general hospitals and dispensaries for clinical material. What was said of the status of clinical teaching of the medical departments of the universities is true also of the proprietary college. These schools cannot hope to improve their present standards. The majority attempt to maintain laboratories and other expensive means of teaching which a modern medical education demands. But in how many of the laboratories worthy of the name? What kind and variety of instruments and apparatus do they afford? Are their teachers of the sciences of the fundamentals of medicine capable? They can not hope for better conditions, because the time when a student's tuition will pay the school for his instruction, if he is properly taught, will never return. Medical education of the future must be based on the status of medical science. That basis is recognized now, but is attempted in the great majority of our medical institutions in a very superficial way.

Scientific Medicine.—The great and important discoveries of Pasteur and the practical methods devised by Koch in bacteriology marked a new era in medicine. Before the facts made clear by these discoveries, the hypotheses and theories of other days have disappeared. Our knowledge of man and the lower animals and of the diseases and evils which afflict them has been revolutionized within the last twenty years. The advance in medical knowledge

**The Journal of the American Medical Association*, Vol. xxxix, No. 10, p. 574.

has been greater in that period than in all preceding time. Medicine now embraces many more subjects, chiefly fundamental ones, than were known twenty years ago. Formerly a very superficial knowledge of a few isolated facts in general chemistry and human physiology and a memorized knowledge of human anatomy and of materia medica enabled the student to learn the practice of the art of medicine and surgery. Now, the problems which confront the clinician and investigator in medicine and surgery compel him to have a good and working knowledge of general, physical, and physiological chemistry, of general biology, bacteriology, pathology, physiology, embryology, pharmacology, histology, and anatomy. The physician who has not a practical knowledge of these fundamental subjects can not clearly understand the methods of others engaged in scientific investigation, nor can he rationally utilize the discoveries of others in his work. Medicine to-day is applied science. If we utilize the knowledge of to-day in an attempt to cure and prevent disease, it must also be an experimental science. No one can practically apply or rationally experiment with what he does not know. The fundamental studies of medicine must, therefore, be acquired by all who desire successfully to apply them as sciences. The successful experimental application of these sciences has given us within ten years a knowledge of the method by which the invading bacteria affect the host, and has likewise developed a principal of wide application as a preventive and cure of certain diseases by the use of antitoxic sera. It has confirmed the principle of preventive inoculation, accidentally discovered by Jenner, and has enabled us to apply the principle in other diseases than smallpox. It has enabled us to know the methods of transmission of certain infectious diseases, and to know how to stamp out scourges like yellow fever, the plague, and malaria.

Through the evolution of Listerism, it has enabled the surgeon to evade every region of the animal body, and to save scores of lives formerly doomed to death. The freedom with which the surgeon may now operate has not only saved lives, but, indirectly, the knowledge of disease processes so studied during life has taught us many new facts in symptomatology, and has cleared away many fallacies concerning pathologic processes. It has given us many new methods of clinical study, and furnished data from the blood, the spinal fluid, the exudates, the sputa, the sweat, the fæces, and urine, which enable us to recognize disease much more readily than before.

Much as has been accomplished by experimental medicine in a comparatively brief period of time, there are vast fields to which the method has not been applied. With most of us, our present methods of clinical observation enable us to do little more than name the disease. In the vast majority of the infectious diseases we are helpless to apply a specific cure Drugs, with the exception of quinine in malaria, and mercury in syphilis, are valueless as cures. The prevention and cure of most of the infectious diseases is a problem which scientific medicine must solve. What is true of the infectious diseases is also true of the affliction of mankind due to chemical influences within the body. We know but little of diabetes, of the primary blood diseases, or of the various degenerative processes of age and disease. We hopefully look to chemistry to reveal to us the cause of these and other conditions. Experimental medicine must be the means of removing the ignorance which still embraces so many of the maladies which afflict mankind. Not every student, nor every physician, can become an experimenter in applied medicine. Nevertheless, every physician must be so educated that he may intelligently apply the knowledge furnished him by experimental medicine in the cure of such diseases as can be cured. He will no longer juggle with the life of his patient by an attempt to cure with drugs or otherwise, where no help is possible.

Methods of Medical Education.—The phenomenal evolution of medicine has multiplied the subjects of medical study. The character of these sciences requires that they shall be taught by the laboratory method. The laboratory method, too, has been adopted as the chief method of instruction in anatomy, pharmacology, and chemistry, formerly almost wholly taught in medical schools by didactic lectures. The laboratory method, while necessary to the proper and practical instruction of the student, involves an expense which is appalling when compared with the methods of teaching formerly practised in all schools, and still adhered to in many medical schools. The method is expensive, inasmuch as it involves more extensive buildings, much expensive apparatus and an increase of the teaching force. The instruction must be individual, or to small groups of laboratory workers, and this involves also an extension of the time of instruction. A physician engaged in private practice can not possess and retain the general and technical knowledge necessary to enable him to teach one of the fundamental sciences properly, nor can he devote an adequate amount of time to it. The teachers of these fundamentals must be investigators in the province of their respective sciences. They must give their whole time to the instruction of students and to original investigation. The thoroughness and accuracy of the training of the special senses; and in experimenting, which a student will receive from such teachers in properly equipped laboratories, will make him keen in intellect and sound in judgment. His desire for knowledge will be stimulated by the atmosphere of his surroundings, and will awaken in him a consciousness that through him and his work the knowledge of the world will be increased and humanity benefited thereby. But teachers of this character must be paid salaries quite as large as the remuneration of professors in the departments of arts, literature, and science. The salaries of such professors and of the corps of assistants which the laboratory method implies make the cost of the university or college far beyond the income which could be derived from the tuition of students. I believe it has been estimated that the laboratory method of instruction, now followed by all first-class institutions of learning, cost annually from $400 to $500 per student. But, great as the cost seems, it must be conceded that the present status of medicine demands the thorough instruction of students in these fundamental studies. It matters not whether his future may be that of a teacher or a practitioner of medicine. In either event he must apply his knowledge of the fundamental sciences to his work, and the result will depend on the thoroughness of his education.

Applied Medicine and Surgery.—To enable the student to utilize the knowledge of a thorough training in anatomy, physiology, chemistry, pharmacology, physiologic and physical chemistry, embryology, neurology, and pathology, he should be afforded facilities of equal rank in clinical medicine and surgery. To supply the student with proper clinical facilities involves several important features. Special hospitals, which would be absolutely under the control of the medical school, would be necessary. The hospital should be constructed with a

definite idea of teaching students and of making researches into the nature, causes, and treatment of disease, as well as to care for a definite number of patients. Hospitals for general medicine, surgery, and obstetrics would be essential. Such hospitals, with laboratories and equipped with instruments, apparatus, and library, would cost for their building and maintenance a very large sum of money. With such hospitals it would be necessary to choose the professors of medicine, of surgery and of obstetrics with competent assistants, of the same type as the teacher of the fundamental sciences. They should give their whole time to the work of teaching and to original research in the hospital. They should be men who have proved their scientific fitness for the important positions, by the contributions they have made to medical knowledge. They should rank with and receive the pay given to professors of important departments in arts, philosophy, and science. When so paid, they would be free to expend all their energy to teaching, and to experimental medicine—a career which would enable one to be of the greatest possible service to mankind. No life's work could be fuller or of greater self-satisfaction, and surely none would be more honorable. From these teachers and investigators the student would obtain instruction of the same systematic methods of accurate observation and investigation which were employed in the fundamental branches. He would receive thorough, conscientious drill in the fundamental methods of examination of patients, and his knowledge of the fundamental sciences would be constantly applied in this work. The trained clinical teachers would direct the student in thorough careful observation in the wards and at the operating table, would collect data to be submitted to experimental tests, and would conscientiously carry out the experiments in the laboratories of the hospital.

The brilliant discoveries which have made our knowledge of the cause and means of transmission of many of the infectious diseases have been chiefly due to the introduction of the experimental method of investigation. Teachers and investigators of the type mentioned will have the opportunity to make equally important discoveries in the broad field of the unknown in medicine. They will train students in the methods of research work, and constantly increase the number of investigators in the domain of medicine. And there is need for such men. We may give the great practitioners who have taught clinical medicine their due meed of credit for their excellent, painstaking, unselfish efforts as teachers. They have added to the sum total of our clinical data, have utilized the knowledge of the pathologist and the physiologist in diagnosis, and have tested and judged the worth of therapeutic aids in the treatment of disease. But as teachers they have not made students investigators or experimenters. Not one of the recent great discoveries in medicine has been made by such a man. He has used as clinical material hundreds of cases of pneumonia, rheumatic fever, tuberculosis, and chronic diseases by the score; his experience has taught him to recognize these diseases, even when the clinical manifestations are obscure, but he is no more successful than when he began to practise, in saving the life of the patient with pneumonia, in preventing endocarditis in rheumatism, in curing tuberculosis, or in checking the advance of a chronic hepatitis. It is time, therefore, that the clinical teacher should have the knowledge necessary to carry on experimental investigation, with hospital facilities for the work, that the profession may become purged of the shame of helplessness in curing so many of the common diseases of mankind.

The patients who will be received in these hospitals will be fortunate. They will receive the most painstaking examination and study, and the experiments made on animals in the laboratory will benefit the patients directly, inasmuch as more rational therapeutic measures will be applied in cases so investigated. In addition to the clinical teachers, who will devote all their time to teaching and research work in the special hospitals, there will be quite as much need for the clinical teacher, who is in private practice, in the general hospitals. Under his direction the student may himself investigate a hospital or ambulatory case, and undertake the care of the patient. His rich and varied experience in hospital and private practice will enable him to round out the student's college education. He will impart to the student a better idea of medicine as a whole. He will coördinate and arrange the isolated facts of clinical and laboratory investigation, and give them their true and relative value. He will teach the student the art of medicine; he will teach him that human sympathy and encouragement of the sick and dying are a part of his duty as a physician.

It would be most practical to make the clinical work of the third year a clinical drill and experimental course, given in the special hospitals, and assign the students of the fourth year to the general hospitals and to the clinical teachers who are in private practice. All the general hospitals and dispensaries controlled by the medical schools could be utilized in the fourth year for this purpose, and afford the student an abundance of clinical material and the benefit of the experience of many clinical teachers. Many of the assistants in the special hospitals, of the third-year course, would doubtless engage ultimately in private practice, and would, because of their scientific attainments, make excellent clinical teachers in the fourth year. A medical school conducted on the high plane advocated must necessarily be under the control of a university. Such a medical school would cost an enormous amount of money, and this can be commanded only by the trustees of a university of the highest order. That the money for the purpose of establishing and maintaining university medical schools with research hospitals and university extension clinical courses will be forthcoming can not be doubted. The world is awake to the great discoveries recently made in medicine. The wealthy men of this country have had their interest aroused as never before in reference to the possibilities and benefits which medical investigation will give to mankind. They now recognize that they and all posterity will be benefited by every new fact discovered in medicine, and that physicians thoroughly and scientifically trained are necessary to conserve the health of the people.

Three years ago Prof. W. W. Keen, in his address as President, deplored the fact that medical schools received relatively little aid in the form of endowments as compared with universities and colleges of philosophy, art, and theology. Since that time several millions of dollars have been given for medical education and scientific research. The signs of the times point to a brighter future of medicine in America.

Education Preliminary to Medical Study.—The subject of the educational requirements for matriculation in medical schools has been discussed at many meetings of this association in its earlier years, and later by the college associations, by the American Academy of Medicine and by the various State boards of health.

The requirements were at first lamentably low, and the efforts of the Committee on Education of the

American Medical Association and of the college associations had but little effect, because they possessed no legal power to control the schools.

The influence of the various boards of health of several States, notably Illinois, was more marked, inasmuch as these State boards possessed a mandatory power. The colleges were forced to adopt the minimum educational requirements of the State boards of health if their diplomas were to be recognized by the respective State boards.

These moral and legal influences to improve the preliminary requirements were almost nullified by the practice of a majority of the medical schools in admitting students whose educational status was examined into and judged by a committee of the college faculty.

This practice is still followed by a majority of the medical schools, and results in the admission of many students who are unable to fulfil the prescribed requirements. As a subterfuge, students are often matriculated conditioned in one or even several subjects. Then the student and the faculty committee forget all about the subject, and the student completes his course, goes into practice, and dies with the conditions still undischarged.

The present requirements of the college associations and of the various State medical examining boards and State boards of health amount, on the average, to a high-school education. The curricula and length of course of the high schools of the different States, and even in the same State, differ very substantially. However, if the medical schools now in existence would honestly require as a minimum education the diploma of a high school, without regard to the rank, it would be a marked advance over the present requirements as practised by most schools.

We must admit, too, that there are medical schools of such a low educational grade that they have no right to demand of their matriculates as much even as a common-school education. This fact that low-grade medical colleges exist is one of the most satisfactory explanations of the difficulty encountered in elevating the standard of preliminary requirements.

To get at the root of the matter the medical college must be brought up to the proper educational standard, and then, and then only, can be made a proper preliminary educational requirement.

University Medical College.—The present status of medical science requires and demands a university medical college course. By university medical college is meant a medical school which is directly connected with and a part of a university; the university fixing the requirements and controlling the admission of students to the medical department. The method of teaching both the fundamental and the clinical branches is on the principles outlined above. To properly prepare for such a course the student should have, as a minimum preparation, at least two years of study in a good college or university. The requirements to enter a good college or university would ensure a sufficient knowledge of the ordinary school branches and also Latin or Greek. During the two years' course in college his time would be well spent in the study of English, French, German, mathematics, history, philosophy, physics, chemistry, general and organic, and qualitative analysis, comparative anatomy and general biology. The amount of time to be devoted to each of these subjects would be the same as that of students of general science, as arranged in all college curricula, with the exception of a much more thorough course in chemistry, biology, physics, and comparative anatomy.

So prepared, the medical matriculate would be able to grasp all the intricacies of the subjects of the fundamental branches of medicine. With the addition of the full medical college course, as outlined above, his education would be equal in culture to that of the graduate in arts and philosophy. At the same time it would be practical and especially fit him for his work as a scientific investigator or practitioner, or for both.

With the medical profession so educated, a physician would be, in truth, a member of a learned profession. From an educational point of view, he would rank as an equal with the scholar in philosophy, law, and theology. As a man, he would be recognized as the greatest benefactor of mankind.

With the establishment of university medical schools, the first two years of work in the medical school will consist of courses in pure science. Then, doubtless, all universities will adopt the plan which two or three universities have already put in practice. That is, that the student who completes the first two years of the science course of a university, or at a college of good standing, may enter the sophomore year of the university and take the first two years' work in medicine, as the sophomore and senior years of the bachelor's course, when he would receive the degree of S.B. The student who completes the three years of the arts or philosophy course at a university, during which he should take a large amount of work in physics, chemistry, and biology, could then enter the medical college and after two years receive the degree of A.B. or Ph.B. After two years spent in the clinical school he would receive the degree of M.D.

This telescoping of the literary and medical courses affords the advantage of an economy of time, while it does not in any way lessen the value of the result to the student. In the one case the student secures the degrees of S.B. and M.D. after about six years of study, and in the other the degrees of A.B. or Ph.B., and the degree of M.D. at the end of seven years' study.

The Outlook of Medical Education in the United States.—Medical education must advance to its proper level if it complies with the present status of the medical sciences and the demands which continued evolution in medicine promises.

What does this imply? It means that the private —the prorietary medical school which is conducted for commercial reasons, must go. Acknowledge, as we must, the great value which the best of these schools have been to the profession and to the country, all such schools have lived past the time when they can be of value. The continuation of these institutions henceforth will be harmful. They can not command the money to build, equip, and maintain the laboratories and hospitals which a proper and adequate medical education demands. In the past their graduates have furnished the many great and influential medical and surgical clinicians of this country. In former days a graduate poorly prepared has been able, by indefatigable labor and post-graduate work, to place himself in the front rank as a clinical physician and surgeon.

To-day medical science demands primary instruction to fit a man as an investigator and scientific physician. If not properly educated he cannot grasp the great problems which medicine presents to-day as he did the more simple clinical facts which comprised the art of medicine and surgery a few years ago. In the future medicine must be taught in the large universities of the country and in the State universities which are situated in or near large cities, where an abundance of clinical material may be commanded.

The State university and the college which desires

to teach medicine, and is so situated that it cannot command clinical material, should confine itself to teaching the sciences fundamental to medicine. These should be taught as pure sciences, and should be included in the course for the degree of S.B. A college or State university ambitious to teach the medical sciences can do so without great cost. To attempt to teach applied medicine without proper and adequate hospitals, and with an insufficient number of patients would be irrational, nor can they command the necessary funds with which to do it. From such colleges and State universities the students could go to the larger institutions which are able to furnish the proper facilities for teaching applied medicine and surgery.

The general hospitals of many of the cities, now used by proprietary schools, could be utilized as clinical schools for both undergraduate and post-graduate teaching, conducted by the clinical teachers in the existing proprietary schools. Indeed, these hospitals could be utilized as university extension clinical courses. Necessarily they would have to be under the control and direction of a university medical school.

How many schools may be necessary to educate the number of doctors of medicine required annually in the United States? The question one can not answer, but it is safe to say that 2,500 graduates annually will fully supply the demand. This would imply about 10,000 to 12,000 matriculates. A minimum number of twenty-five and a maximum number of thirty-five medical schools should offer sufficient facilities to educate 10,000 students. The various State universities and the colleges which offer adequate science courses would educate a great number of students in the fundamental branches, or in the first two years of the medical course.

Medical Reciprocity between the States of the Union.—The low requirements of some medical colleges, and the want of uniformity in the requirements for a license to practise in the different States, has resulted in a condition which entails much hardship on a physician who desires to remove from one and to engage in practice in another State. The rules of most State boards of medical examination and of health are so stringent that a physician or surgeon of years of experience and of acknowledged skill and education, and the specialist who may be renowned in his field of work, are obliged, like the recent graduate, to take an examination in all of the branches of medicine and surgery in order to secure a license to practise in the State of his adoption.

To correct this evil, it has been suggested by a member of the American Medical Association, and concurred in by others, that a national board of medical examiners be organized; that the board hold examinations at different seasons of the year in the various large cities, and that the diploma so obtained shall be recognized as a license to practise in any one or all of the States and territories. The measure suggested seems to be practical and feasible.

In addition to this plan, it remains to be said that the degree granted by the future universtiy medical school will be undoubtedly recognized as an evidence of fitness to practise in any State in the Union. When we shall have a less number of schools and annual graduates the various States may safely and rationally become more liberal and discriminating in the conduct of their office.

The Influence of the American Medical Association.—The American Medical Association should maintain its interest in the elevation of the standard of medical education, one of the chief reasons of its organization. Its influence in former years was principally moral. This was of considerable value, for the reason chiefly of the high ideals of the founders and first members of the association, who advocated and fought for a high standard of medical education. In the future its influence should be manifold that of the past, for with the reorganization of the profession, the better methods of conducting its affairs, the increased and probably very large membership, and its great medical journal, should wield a great influence for good.

As the direct agent by which the American Medical Association may exert its influence in the elevation and control of medical education, the Committee on Medical Colleges and Medical Education should be made permanent and should be given adequate power and sufficient annual appropriation to make its work effective.

The American Medical Association should take as its ideal and standard of medical education the university medical college, with all the name implies in regard to the fundamental medical sciences, and to the clinical branches. It should use its influence to drive out of existence those proprietary medical schools, which are conducted solely as money-making institutions. These measures cannot be accomplished at once; but medical science demands it, the profession demand it, the people demand it, and look to the American Medical Association as the chief influence which shall accomplish this end.

SOCIAL CONDITIONS IN AMERICA IN THEIR RELATION TO MEDICAL PROGRESS AND DISEASE.*

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ANOTHER spacious year with its varied channels of energy and activity in medicine has closed. Whilst a faithful chronicle of the facts, data, and achievements showing the progress of internal medicine for that brief period would have proved an appropriate topic, I have availed myself of the choice privilege granted by this association of selecting my theme, and purpose to consider the subject of the relation of American social conditions to the progress of medicine and disease and the import of modern economic and professional tendencies in forecasting the immediate future.

The state of American society, founded on democratic ideals, is one in which the true function of the physician has ever been both intellectually and morally beneficent. It has ever been the fate of the medical profession, however, to have its past outgrown and stifled by the enthralling energy and life of its present and to forget to fix its gaze on what is grand and significant in inherited associations and opportunities. Conversely, the fundamental principle of human development, to wit, that the present is quickly passing under the control of the future, which transcends an enlightened self-interest in the present, is yet to be fully realized and appreciated. In the life of our civilization the physician has constantly found himself in the presence of golden opportunities to render a service to the community, to add his private thought to the public opinion. His high calling and the stage of social development from which he has proceeded have ever invited to the development of an expanding and humane spirit. He has been, however, in many cases too closely chained to his special work. Per contra, the individual member of commanding worth

*The oration in medicine before the American Medical Association, at meeting held in New Orleans, May 5-8, 1893.

and formidable individuality, like the Spartan and the Greek, has fortunately lent his own spirit to the genius of the great organism—the medical profession—and its higher destiny. That genius is no sluggard, and the motive of action is not the pursuit of gain or of personal aggrandizement, but an incessant advancement of our art and science and an application of the faculties to the higher interests of civilization. What is needed in medicine, from the standpoint of sociology at the present day in America, is the true "scientific spirit clothed with human interest," to give force and direction to the means available, not only with a view to the application of science to the healing art, but also to enable our profession to find its true place in the body politic and its intrinsic importance as a factor in modern civilization.

While there are certain things and events common to all in our psychic and social development, enlightened society will grant that the larger events in American history, assuming that "the first duty of society is the preservation of life and the comfort of its units, have not been so much dominated by legislative authority and social customs as by the march of science, more particularly medical and hygienic. In a country as vast as ours, however, there could be no uniform law covering the details of results in matters medical. These have been in the past and will in the future vary somewhat with the climate, physical conditions, degree of culture and opportunities presented by the widely separated regions. As a consequence, in displaying proportions and the practical results of scattered sections, the final adjustment of their claims only becomes perceptible and appreciable in their broader and higher generalization. The whole range of American historic data and events indicates an imperishable foundation of scientific achievement, and furthermore establishes firmly a relationship between medicine and the scientific principles underlying social conditions and phenomena that is both positive and vital. As touching the American medical history of the long past, we can see the major advances and their influence on social laws and the progress of civilization, only by grouping data and established facts and applying the process of generalization to these composite phenomena. In this connection it is to be regretted that our possession of unclassified facts is increasing with uncomfortable rapidity. A comparative and historic study of the medical literature of America, taking any of the older countries as a standard of comparison, in respect to this method of generalization, can scarcely prove even measurably satisfactory. Much of the history of native medicine is crude, and it is impossible to give it either crystallized or concrete form. Epoch-making discoveries and important, far-reaching scientific effort is justly the boast of the American profession. Systematic effort at a rigid classification of facts by the modern statistical method, however, has not been made, and only a partial scientific use of the ever-advancing events for the different historical periods has been attempted.

The concrete, comparative, and historic method of study which alone furnishes a proper basis for generalization and serves to point out the relations of medicine to other human activities, would insure a wholly fresh treatment of the earlier medical annals of America. The physician in his economic or professional dealings has not followed his self-interest in comparison with his measure of enlightment, to an equal extent with men in other lines of human activity, but the fruits of his unselfish labors are, when taken collectively, presented in the form of a heterogenous mass of details. It should be recollected that it is only the larger events, the accurately grouped facts after the method of generalization to which I have referred, that go to make up the bulk of medical history and medical aw. The practical results of the method of simple generalization would show clearly the final utility of medical and sanitary knowledge in the social universe a d manifest its relation to every-day life. Obviously in a young republic like ours something must be allowed to propinquity—to nearness to a confusing and disordered mass of facts and phenomena.

It has been well said: "A landscape is beautiful because distance has reduced its chaos of details into order."

Those endeavoring to make a personal study of the medical and sanitary requirements of our insular possessions, more especially under new and changed conditions, can not hope to gain more than a fragmentary knowledge. Much important and accurate information touching the social, climatic, and medical conditions and necessities, however, is available through the Division of Insular Affairs, in the War Department at Washington. It is clearly incumbent on the organized profession of the United States to undertake studies on a larger scale than that of individual effort. Moreover, the interrelations between tropical medicine and the sciences before alluded to, *i. e.* social and sanitary, is a question for the immediate future; thus step by step may we hope to erect a stairway that will lead to a new temple of knowledge.

The foundation for social order, education, and a fair measure of self-government under military rule having been laid both in Porto Rico and the Philippines, there is presented to the profession of the United States an opportunity amounting to an obligation to carry into those new possessions the light of modern sanitary and medical science. The peoples of those islands are as clearly entitled to the benefits offered by our science and art as they to those pertaining to their fundamental civil and personal rights, as guaranteed by the Constitution of the United States.

From the America that Cortez invaded until the present the most treasured resource of our nation to the physician has, in a peculiar sense, been human life, and in respect to this economic principle we are, at present writing, merely following in spirit our thoughtful forebears. The medical profession never has valued life in terms employed in denomination nor by its productive power, but rather measured it from a divine and humanitarian standpoint. Certain it is that with advancing civilization there has come a higher and higher appreciation of the value of agencies intended to promote longevity and minimize disease and suffering. And this tendency to preserve human existence, apart from sentimental considerations, is born of a principle long adhered to by the medical profession and continuously unfolding itself in the individual and in organized medical bodies. It is clear, without seeming extravagance of statement, that greater justice is done by the medical profession of America to the condition of society just pointed out than in foreign lands, since it is more thoughtful for the youth and hope of our profession. It is to the flower of that youth, with its new and hidden virtues, that we must look for disclosures in the province assigned to the higher and more complex professional bodies of the future. Modern democratic institutions, including medical schools, are in the ascending scale of civilization, infusing into our profession men who are armed with potent resources from the pedagogic world.

The present-day educational facilities and developments show an ever-increasing beneficent tendency,

and the standard of qualification has passed, or is passing, beyond the stage in which there is a mere desire to acquire an elemental knowledge of disease and its treatment in this country; a new character and a new vital and moral force is happily presuming to show itself in public action for the benefit of mankind. This genius stands ready to kindle its fires and materially aid in offering the means of human welfare and the revelation of new truths.

An appreciation of this fact by professional bodies is necessary in respect of the future; for medical societies organized to obtain the highest potency must compete successfully with other societies, or they will vanish from view in the stress of social and scientific evolution.

But though the obscure rival of the Goddess of Minerva, who had broken the loom of Arachne in her jealousy, executed wonderful tasks by her unaided strength, in the process of progress toward higher efficiency the individual ceases to be a factor of first importance. The process of development, whether considered in its economic, political, or purely professional relations, demands the subordination of the interests of the individual, to the larger interest of the organic whole. The dominant and controlling feature underlying an infinite variety and complexity of details of that upward movement of professional and social evolution is compatible with a remarkable simplicity of governing principle. Our plain duty is accordingly to endeavor to understand the nature of that governing principle which is distinctive and characteristic in that it does not regard the interest of existing members as supreme, but is seeking to establish conditions which are favorable to the interests of a larger future.

As regards the question of the relation of medical work and progress to our social system, the time is probably ripe for a revision of certain elemental and fundamental principles and customs, although it is obvious that neither social agencies nor the general public manifest a proper comprehension of its necessity. Whilst science is telling us about the pathologic intricacies of disease processes, their bacteriologic causation and cure with unparalled rapidity, important social and economic questions that affect especially the comfort and health of our teeming town-bred populations are subordinated. Again in a land of popular civil government the medical profession should be organized in a manner that would render it equal to enlarged duties which naturally should devolve on it. I refer to such matters as the control and regulation of asylums for the insane, municipal health boards, and the municipal hospitals for the sick poor, for contagious diseases and the like.

Certain tendencies of modern American life, considered with reference to the welfare both of the medical profession and general public, offer a most promising field for investigation and progress. The temptations of the practical, over-strenuous life of the present and past generations have left their impress on our profession. Something, however, must be ascribed to our nervous climate, reinforced by certain elements of the American spirit-aggressiveness and an unconcealed idealism. Neither should the power of the initiative of the American, his shrewdness and his energy be overlooked. It may be doubted, however, whether there have been accomplished achievements and results commensurate with the impetuosity that characterizes all paths of professional activity. The universal spirit of haste has taken possession of our professional life; it permeates the air of the age, and the principle cause of this state of affairs is to be found in our ardent, every-day ways of living, and its cure must result from a readjustment of the home life and habits of the professional and other classes. It means a return from our present-day restlessness and rush to a quieter period, to a "Mansfield Park," with its charm of quiet village life; a return to a normal life, with natural intellectual tastes, and to calm, patient, original observation that fosters vital force and successful endeavor.

If authors and investigators were to bring forward only definite and well-weighed pronouncements on all points at issue, it would carry us from the surface to the heart of things, and our labors would be more strongly marked by originality and power.

The spirit of undue haste which characterizes our national life is nowhere better exemplified than in American medical literature, despite its many virtues, its broad, liberal spirit and freshness. Never in American history, whether deliberately or unconsciously, has so much current literature been placed at the disposal of physicians. Too generally medical thought and opinion, which is not of necessity medical truth, finds literary expression. The obvious weakness of it all is an enforced tendency to waste one's time in reading matter which is unapproved by common opinion. Extending this thought, it may be questioned whether to carry views and ideas beyond the domain of existing knowledge does not hinder rather than facilitate progress.

There is a list of honor among American writers, and it embraces authors whose literary product shows not only a sharp scrutiny of facts, but also the highest and most characteristic utterances in medicine. Indeed, the worth and power of American medical literature, either in its content or method, scarcely receives an unprejudiced estimate abroad.

In the field of letters we point with inordinate pride to the late Dr. Oliver Wendell Holmes, and our contemporary, Dr. S. Weir Mitchell. Fiction by medical authors lives and will live in America.

It may be questioned whether American nationalism, as evidenced by the creation of a native literature, should be the principal aim, although the consistent use of American material is to be advised and encouraged. We need to retain the conservative European spirit and keep wide ajar the door that leads to the treasures of continental literary traditions. Foreign peoples are and have been immigrating by the hundreds of thousands yearly; they have penetrated into the remotest points of this country, carrying effective training with them in many instances. Hence, admitting that the prescience of genius is the possession of many, there are fewer distinctly American medical authors than at first blush would appear.

> "The Celt is in his heart and hand,
> The Gaul is in his brain and nerve;
> Where, cosmopolitanly planned,
> He guards the Redskin's dry reserve."

Acknowledgement is due the great value and significance of the unparalleled heritage handed down by the older nations, particularly England, Germany, and France. The path of fame for a nation no less than for an individual lies in the direction of constructive effort and sensitive receptiveness of the impressions and tendencies of the age irrespective of territorial limitations, and of a keen sympathy and close touch with the movements of the times in all lands.

Our literature is not an indigenous growth, yet stern of purpose; it is not, and, let us hope, never will be, sluggish in turning to foreign sources. It has, however, developed certain characteristic features, a distinct national flavor and a perfume "as plainly native as the arbutus."

American industry, with its attendant wealth and power, and the enlarged opportunities it offers to all classes of society for successful business enterprise, has quite generally proven attractive to and often filled with fervent hope the American physician, and with increasing means he has found his social position to improve.

In America the achievement of considerable financial success, however, is possible without taking high ground in a professional or ideal sense. The medical profession is integral in the effects of our economic evolution; it obtains stray glimpses of the avenue of glittering gold; but its central effort, if it desires to remain true to human perspective, contemplates a systematic development of its pecuniary, mental, moral, and social powers.

The tendency to gregariousness in American cities is in no specific direction more evident than in the medical profession; hence, success is and will continue to be an increasing difficult problem, a circumstance to be reckoned with, no matter what our meaning and ideals as a national profession. This portends in its last analysis the necessity of better training and equipment for every-day duties of the practitioner.

America stands in need of further reform in medical education and the immediate establishment of one authority—one licensing body; and self-created schools must place themselves in a position in which they can worthily assist in the execution of a scheme of higher national medical education. Professional ascendency in future will demand the creation of a homogenous and adequate standard of qualification for entrance into medical schools.

The relation of social conditions to disease is a topic that is becoming more and more insistent with the reflections that are the natural accompaniment of advancing knowledge.

A backward look reveals an embyro nation steeped in an arduous task, the subjugation of a continent, at the expense of unceasing physical toil. This necessitated an open-air existence, which resulted in a vigorous, hardy race. Then followed the integration of frontier villages, of larger and smaller towns, and life meanwhile became brighter and more piquant. For long generations the abandonment of rural life, the changed habits of living, the enforced pursuit of new and less healthful callings, too often from motives of personal comfort and even social expediency, and the universal tendency to overcrowding in town populations, resulted in a modification of the character and incidence of all leading diseases. It goes without saying that respecting the effects of our social conditions and climate on disease, the particular standpoint of our fathers was radically different from that of their children. Floyd M. Crandall has recently directed forcible attention to the fact "that never have such radical changes been witnessed in the habits of life and in human diseases as those in this country during the last half century."

Fortunately, agencies are at work looking to the socialization of the American agriculturalist and the amelioration of the ills due to overcrowding in large municipalities. This is a movement which, in the entirety of its scope, embraces numerous potent forces the federation of which promises to effect in time rural social regeneration. An organized effort has in several States been already initiated, and in the conferences held and in contemplation looking to the betterment of rural life, the coöperation of the medical profession is invited. Modern agencies, as improved highways, the introduction of the telephone, trolley lines, rural mail delivery, are socializers no less than economic facilities. In addition to these physical influences, marked improvement also comes from increased educational opportunities, farm organization, and the various functions of the church.

These socializing influences and forces tend to counteract the current of bygone days from the farm to the city; they likewise bid fair to become a factor of first importance in minimizing, if not actually counteracting, in due season, the ill effects of over-dense urban populations. It may, however, be remarked that the impoverished classes, especially the great immigrant contingent, will be far less likely to return to a rural environment than the well-to-do, and yet it will shortly affect the social and economic conditions as well as the vital statistics of the wage-earning classes. We may confidently expect a greater physical efficiency, a higher bodily standard, though municipal sanitation will be always required, and remain the principal factor in strengthening the powers of resistance to hostile environment. One point of common agreement is that, as a result of the rapid advances in sanitation and improved methods of treatment, there has been a notable decrease in prevalence and fatality of most infective diseases, particularly those more or less fostered by overcrowding (*e. g.* phthisis, diphtheria, diarrhœal diseases, etc.). Three well-defined classes, however, have, according to the census for the decade ending May 30, 1900, distinctly increased; they are cancer, affections of the kidneys, and the degenerations, fatty and fibroid. Thus during an increase in the population of 50 per cent. in the United States myocardial degenerations have increased 150 per cent. and certain types of chronic nephritis have also risen in frequency to nearly 200 per cent. The determination of the causes of this rapidly increasing frequency of these morbid states is clearly the task of the medical profession.

Respecting the degenerations—myocarditis, arteriosclerotic changes and kidney diseases—Crandall says: "The power of alcohol in the form of malt liquors to produce degenerate changes is so well-known to pathologists that the conclusion is irresistible that the radical increase in these diseases comes largely from changed drinking habits."

The notable increase in these morbid conditions, however, is not due to a single cause, and substantial progress can not result from too much emphasis on any one agency the undoubted potency of which remains undemonstrated.

It is probable that a more universal application of refined methods of diagnosis accounts, in a measure at least, for the apparent disparity in the number of cases of nephritis and myocardial degeneration in recent times as compared with the showing of older statistics.

The census between 1890 and 1900 indicates an increasing prevalence of two additional diseases, in respect to both of which progress in our knowledge has been slow and never encouraging. I refer to diabetes mellitus and lobar pneumonia. The census previously referred to indicates that chronic diabetes mellitus has nearly doubled in point of frequency in a single decade.

Whilst we shall continue to look to the bacteriologic laboratory for the discovery of the definitive cause of this metabolic ailment, and to the pathologist for a mind's-eye picture of the morbid state of the tissues, the data obtainable from an investigation of the manner and habits of life, which exert more or less etiologic influence, are of intrinsic medical importance, and would serve as accessory factors in diagnosis as well as straws for the application of measures for treatment.

Although impossible to recognize a boundary line between the "variables of health" and disease in

chronic diabetes mellitus, it can not be doubted that abnormalities of the glycolytic functions of the liver and pancreas, associated with inappreciable structural changes (more especially in the cells forming the islands of Langerhans) which interfere with proteid metabolism and the metabolic disturbances, are dependent in large measure on the overuse of the mind, intemperance, and irregular habits of body; in a word, on improper modes of living.

Physiology has contributed much to the intricate processes involved in the nutritional diseases. Morbid physiology (general pathology) is most intimately bound up with the modes and predilections of American life, particularly of the so-called privileged classes.

Diseases and conditions that are successfully treated by a correction of the mode of life are apt to be regarded as functional in nature, when, in reality, definite although undiscoverable structural lesions already exist, the foundation of an insidious and progressive disease already laid.

Now it is conceivable that a broader application of data as yielded by vital statistics would render more clearly recognizable the terrible significance of an enlightened public, living in idle acquiescence to positively injurious prevailing customs. A federation of forces, however, in connection with the investigation of special diseases even, is necessary to make this branch of inquiry productive of really important information; for example, the coöperation of committees on vital statistics with the creation of centers under the auspices of a national organization, such as the American Medical Association, would prove effective. I would instance lobar pneumonia, which, as before stated, is increasing in prevalence, as a disease in which the light of future investigation after this method of research would prove preliminary to important discoveries and decisions. Indeed, the local diversity in social conditions and climate in different sections which are far separated by geographical distances in this country, renders such a procedure an absolute necessity. The statistical data gathered by individuals, notable those of E. F. Wells, are of real value, and one point approximately settled is that the death rate by decades during eighty years is practically unaltered—"certainly not decreasing." The census for the decade between 1890 and 1900 shows an increased prevalence of this disease from 186 to 191 per 100,000.

A marked numerical increase in the number of cases of pneumonia has taken place since the advent of epidemic influenza[1], but this does not account for the slowly rising incidence of the disease during previous non-epidemic seasons. Other reasons have been given for the augmenting prevalence of pneumonia: increased facilities for travel and the tendency for people to congregate (Wells), the highly infectious character of the disease and the neglect of prophylactic measures in crowded centers (Walsh). Among accessory causes of the increased prevalence of pneumonia may be mentioned a change in the prevailing meteorologic conditions. As shown elsewhere, the wanton destruction of the native forests has been attended with an exaggeration in the range of variability of such meteorologic conditions as temperature and humidity. It has been long known and universally recognized that this disease bears a vital relation to the seasons, and that the greatest morbidity coincides with the most pronounced climatic changes. It is probable that the increased incidence of the disease will be shown to be dependent in part on augmenting prevalence of visceral degenerations, particularly of the cardiovascular system and the kidneys. Be it remembered that in a large measure these are the direct or indirect result of an era characterized by undue devotion to business, social excesses, and club life, with its attendant unseemly hours and unconcealed conviviality. It must be confessed that the extent to which lobar pneumonia is dependent on these degenerations acting as predisposing factors is imperfectly known, but it can not be doubted that a conservative attitude toward the question accords to them a prominent position among the agencies unfavorably affecting the prognosis.

Out of a total of 275 cases of necropsied lobar pneumonia at the Philadelphia Hospital for a period of six years from January 1, 1896, to March 1, 1903,[2] 250, or about 90.9 per cent., showed cardiovascular lesions, principally chronic endocarditis and general atheroma of the vessels. A small number of the cases, fourteen, or 5 per cent., showed acute plastic pericarditis, and eleven, or 4 per cent., chronic pericarditis. Renal lesions were recognized in 90.5 per cent. of the totality of cases. Chronic interstitial nephritis was noted in 145, or 52.7 per cent.; chronic parenchymatous nephritis in fifty, or 18 per cent., and acute nephritis in thirty-eight, or 13.8 per cent. Among the remaining twenty-five cases was one of renal calculus, another of renal tuberculosis, and in many of the remainder subacute nephritis was noted.

These figures afford strong presumptive evidence that renal and cardiovascular degeneration rank as potent predisposing conditions, and clear and convincing proof that they bear a close and vital relation to the high mortality rate of lobar pneumonia. It should be stated that the patients admitted into the Philadelphia Hospital belong to the pauper element of society and the subjects are principally adults.

TABLE I.

Ward.	Area in Acres.	Population for 1900.	Population per Acre.	Percentage of Deaths from Pneumonia.		
				1899	1900	1901
First	448.0	37,019	85.0	8.92	12.93	10.16
Second	282.8	35,206	128.0	14.10	17.75	14.52
Third	122.2	24,693	202.0	14.46	17.93	17.80
Fourth	146.6	22,562	154.0	11.37	16.69	18.09
Fifth	215.4	16,868	78.0	10.46	11.81	11.96
Sixth	215.4	8,042	37.0	9.86	19.57	13.12
Seventh	281.0	28,137	100.0	13.10	13.92	13.05
Eighth	278.4	15,757	55.0	10.21	17.25	9.65
Ninth	256.0	6,953	27.0	6.21	11.90	8.64
Tenth	229.8	19,967	86.0	8.47	10.84	12.29
Eleventh	134.4	11,843	88.0	13.89	10.46	8.00
Twelfth	113.5	13,850	122.0	7.79	10.75	7.42
Thirteenth	165.8	17,427	105.0	6.61	15.69	7.75
Fourteenth	151.7	19,405	121.0	7.51	10.81	8.04
Fifteenth	771.4	50,379	65.0	12.59	12.73	10.14
Sixteenth	179.8	15,788	88.0	7.82	8.74	11.29
Seventeenth	160.6	17,908	111.0	9.80	10.09	12.09
Eighteenth	416.0	29,643	71.0	10.29	11.18	9.56
Nineteenth	416.7	55,246	121.0	10.63	11.65	9.46
Twentieth	469.8	43,276	92.0	8.33	11.15	11.79
Twenty-first	4,562.6	32,168	6.0	10.28	13.71	10.96
Twenty-second	12,738.6	64,832	4.0	8.97	12.39	10.76
Twenty-third	2,051.2	26,109	12.0	10.39	8.86	9.50
Twenty-fourth	2,656.0	53,023	20.0	7.37	8.70	10.93
Twenty-fifth	2,640.6	51,723	20.0	12.53	12.97	11.56
Twenty-sixth	896.0	45,615	51.0	10.63	12.96	10.45
Twenty-seventh	2,308 2	28,004	12.0	*	*	*
Twenty-eighth	655.4	43,931	67.0	8.10	7.82	10.33
Twenty-ninth	89.6	60.096	67.0	13.49	11.11	9.71
Thirtieth	332.2	28,874	87.0	9.32	12.79	10.86
Thirty-first	456.3	33.139	73.0	10.07	11.61	10.90
Thirty-second	517.8	39,889	77.0	9.76	9.47	9.11
Thirty-third	2,844.2	65,372	23.0	10.27	12.86	11.64
Thirty-fourth	3,568.0	43,706	12.0	10.63	12.46	9.01
Thirty-fifth	21,287.0	8,614	0.4	7.25	9.36	10.37
Thirty-sixth	3,891.8	46,811	12.0	10.28	13.43	11.93
Thirty-seventh	332.8	22,445	67.0	12.89	11.03	13.12
Thirty-eighth	255.4	33,104	128.0	9.21	9 29	9.47
Thirty-ninth	3,077.8	40,377	13.0	10.59	11.75	11.87
Fortieth	5,177.0	19,438	4.0	6.68	9.42	10.09
Forty-first	400.0	11,328	28.0	.....	7.69	4.57

*Population and deaths occurring in Almshouse (Twenty-seventh Ward) do not appear in this table. Deaths in Almshouse, 1,637.

Forty-one (41) per cent. of deaths from pneumonia occurred after the age of forty years.

The reports of the health departments of leading cities, in particular that of New York, furnish valuable data from which important tentative influences

may be drawn, but sure ground can result only from research work of a broader character than has yet been undertaken in this country. From the record of vital statistics of Philadelphia and New York I have compiled two tables (*vide infra* tables No. 1 and 2), which show that pneumonia is more or less limited to centers, and these correspond in the main to the most densely populated areas, with their allied conditions of squalor and poverty.

Pneumonia, like other acute infections that prevail epidemically, shows a wave-like character, on comparing different years for the same locality. Exclusive of epidemic outbreaks, there is an evident tendency to a preponderating incidence in overcrowded districts, and among the impoverished classes. Thus the average mortality rate for four years in New York (*vide* Table 2), taking the eight wards which are most densely populated, from the tabular list is 18 per cent.

The fourth, sixth, seventh, tenth, eleventh, thirteenth, fourteenth, and seventeenth wards of New York City were embraced in this estimation. In contrast with the figures just given, eight wards, representing the most sparcely settled portions of the city of New York (*e. g.* first, fifth, eighth, ninth, fifteenth, sixteenth, eighteenth and nineteenth) gave for the same period of four years an average mortality of 14.3 per cent.[3] It was observed in the compilation of these mortality statistics that an elimination of the epidemic periods would make the differences in percentage dependent on the population somewhat greater.

TABLE II.

Ward.	Area in Acres.	Population U. S. Census of 1900.	Population per Acre.	Percentage of Deaths from Pneumonia.			
				1899	1900	1901	1902
First	154	9,516	62	11.2	1.81	0.9	12.1
Second	81	1,488	18	2.9	9.11	1.5	7.1
Third	95	1,797	19	10.3	9.61	2.9	10.5
Fourth	83	10,554	222	20.4	22.8	18.0	20.1
Fifth	168	8,298	49	12.1	15.3	15.5	12.6
Sixth	86	20,004	266	18.8	18.0	15.8	20.4
Seventh	198	89,237	451	16.9	17.5	16.0	17.1
Eighth	183	29,059	159	15.4	16.9	15.0	19.0
Ninth	322	59,650	185	13.1	15.3	13.4	12.9
Tenth	110	71,879	638	18.1	15.8	15.5	16.9
Eleventh	196	99,144	413	18.2	18.4	17.4	18.0
Twelfth	5,504	476,602	86	12.8	15.2	12.7	14.4
Thirteenth	107	64,117	550	21.6	23.7	18.3	21.3
Fourteenth	96	34,035	332	18.2	20.7	22.4	20.1
Fifteenth	198	24,066	122	14.1	21.4	14.0	18.6
Sixteenth	349	52,808	123	12.1	13.2	11.1	12.3
Seventeenth	331	130,796	395	13.8	17.3	13.7	17.2
Eighteenth	450	61,32	163	11.2	13.2	10.8	12.2
Nineteenth	1,481	257,448	174	12.0	16.7	14.4	11.4
Twentieth	444	89,798	202	13.7	13.0	12.3	11.9
Twenty-first	411	60,211	147	12.9	16.4	17.0	13.6
Twenty-second	1,529	189,261	124	13.7	14.5	12.0	12.8
Average percent.	....	.....	.	13.0	16.0	12.8	14.4

In arranging the statistics for Philadelphia I have included only those wards in which the inhabitants were equally distributed throughout the entire ward. Per contra, wards having large area and a low population per acre, but this population located in certain sections of the ward only, have not been included. Thus the following wards became available for the purpose of contrasting those giving the highest with others showing the lowest mortality: First, Second, Third, Fourth, Fifth, sixth, seventh ninth, tenth, eleventh, twelfth, thirteenth, fourteenth, fifteenth, sixteenth, seventeenth, eighteenth nineteenth, twentieth, twenty-eighth, twenty-ninth thirtieth, thirty-first, thirty-second, and thirty-seventh.[4] The eighth ward was not included on account of being inhabited principally by a better-to-do class and on account of containing the Pennsylvania Hospital, the former condition lessening the liability of pneumonia, while the latter institution named would tend to increase the mortality from this disease, since many of its patients come from the third, fourth, fifth, and sixth wards.

The portion of the city west of the Schuylkill river was excluded from this computation for reasons similar to those just mentioned.

Out of the twenty-five wards included in our figures I have estimated a percentage of deaths from those showing the most dense population per acre allowing for the location of hospitals, homes, etc. (*e. g.* second, third, fourth, seventh, thirteenth, seventeenth, and nineteenth wards), and I find the percentage of deaths from pneumonia to be 12.8 per cent. Those wards showing less dense population tion, the first, ninth, tenth, sixteenth, twenty-eighth, and thirty-second, gave an average of 9.5 per cent.

The second, third, and fourth wards were occupied largely by foreigners (Italians, Russians) and showed the highest percentage of deaths from pneumonia while the seventh ward, which contains a large colored population, also shows a very high death rate.[5]

As shown by MacDougall's statistics, unfavorable occupational conditions probably have less effect in causing pneumonia than phthisis. In my own investigations it was observed that divisions of Philadelphia having an industrial population, modestly though comfortably housed, furnished a death rate but little in excess of that of the sections inhabited by the well-to-do. The whole subject of occupational diseases, eminently important to the medical world, is closely united with the social and economic conditions of the wage-earning classes, but its consideration here would lead me too far afield.

REFERENCES.

1. Philadelphia Hospital Reports, Vol. 14, p. 57, 1896, by the writer.

2. For permission to examine and employ the records of this hospital the writer is indebted to Dr. J. V. Shoemaker, President of the Board of Charities and Corrections.

3. The writer desires to acknowledge with thanks the kind aid of Dr. William H. Guilfoy, registrar Department of Health, N. Y., in furnishing data for the above table.

4. The following wards have not been included in the estimation of the lowest percentages for the following reasons: The Twelfth Ward, while it shows a low population per acre (86) has a number of hospitals and homes which contribute largely toward it high death rate from pneumonia. The Second and Third Wards show a population of eighteen and nineteen per acre; there are but few children under five years and few aged persons living in these wards, and this lessens the mortality from pneumonia. The Twenty-first and Twenty-second wards, because they are occupied mostly by the well-to-do classes. The Fifteenth, while it has been included in my calculation, contains a large colored, Italian, and French population.

5. My acknowledgements are here due to Dr. L. Napoleon Boston for assistance rendered in connection with the statistics gathered in Philadelphia.

Traumatol.—Naudin speaks in terms of the highest praise of the use of traumatol in surgery. It is a therapeutic agent of the first rank, of the greatest value in surgery. It is indicated in those affections which have been treated so generally by iodoform. It has given excellent results as a dressing in all infected wounds and ulcers, especially ulcers of the legs of which the cicatrization is interminable; also in burns, in chronic suppurative otitis, and in ocular surgery. Personally, the writer has employed traumatol in venereal diseases (soft and indurated chancres, syphilitic sores, etc.) with surprising results. As a dressing for anthrax treated by the thermocautery, it has always dried up the secretion and brought about cicatrization far more rapidly than does iodoform, and the pain is almost nil. In several cases of suppurative rectitis, suppositories of traumatol, and especially insufflations of the powder, have caused the disappearance of the purulent secretion at the end of a few days, with consequent rapid cicatrization.—*La Médecine Modeine*, February 11, 1903.

CANCER AND IMMUNITY.*

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OMAHA.

On such occasions as this we take great pleasure in recalling the past and dwell with great delight on the achievements along the lines that have most engaged our attention. We, as surgeons, especially those whose professional activity began in the pre-antiseptic period, review the successive changes from that period of expectancy to the present period of aseptic accuracy with the greatest satisfaction. No one can fully appreciate the present status of surgery who is not personally familiar with the period when wound complications were the rule and when faith was pinned on the belief in "laudable pus."

However great the change has been in surgical mortality, in the great improvement in wound repair and in the comparative freedom from wound complications at present, when we consider the number of diseases treated surgically, we must confess that many problems remain unsolved. We are not prepared to say, even now, as Boyer did in his great work, "Traite des Maladies Chirurgicales" (1814-1822), that he believed that surgery had reached perfection. The great advances of the past have taught us the imperfections of the present, and have pointed out to us the lines of research for the future.

At the outset, we are not unconscious of the fact that the profession itself is not yet agreed on many well-founded propositions. Many still cling with too much tenacity to old and deeply-rooted doctrines. Progress has been so rapid. The surgeon has, perhaps, been in advance of the physician along scientific and practical lines. The physician has observed that the surgeon has gradually invaded his field, thus creating some antagonism, but it has become less apparent, and more coöperation has been the rule since bedside observation and a clearer pathology have demonstrated the actual conditions.

In this connection, we are convinced that there is still too much difference of opinion between the physician and the surgeon regarding the so-called borderland cases. In that class of affections which primarily are so-called medical, and later may become surgical, in which the early stages are obscure, in which no positive diagnosis can be made, in which there is no improvement from the usual internal treatment, these constitute a class in which an exploratory incision would not only make a diagnosis clear, but would frequently lead to a cure.

Still, too much time is wasted in the medicinal treatment of such affections as goiter, tuberculous lymph nodes, pulmonary abscesses and gangrene, empyema, abscesses and tumors of the liver, obstruction of the biliary passages, diseases of the pancreas and tuberculous peritonitis. Chronic Bright's disease and ascites due to hepatic affections, always believed to be purely medical, have recently received the attention of surgeons, and the success has been sufficient to give much encouragement. The foregoing constitute a class of borderland cases in which it is often impossible to state where medical management ends and where surgical treatment begins.

Surgical advancement in the future will not consist so much in the radical changes in operative technic as in improvement in diagnosis and diagnostic aids. Many of our diagnostic formulæ are even now undergoing complete changes, and the future will lead us to a precision in the recognition of disease that we little dream of now. The early recognition of malignant disease is a problem of future development, especially malignancy affecting the internal organs. With our present aids it is impossible to recognize internal cancers sufficiently early to do a radical operation. Our only course at the present is an exploratory incision as soon as reasonable grounds for malignancy exist.

The field that seems full of promise and gives us hopes for great expectations in the future is that of immunity and immunization. It now seems that many tissue changes will be solved along these lines.

From our present viewpoint the question of immunity seems to tower above and overshadow all others. It involves the greatest problems for the future investigator to solve. Out of these researches will be evolved methods for the exact treatment of that great list of surgical affections which, at present, we can, fortunately, to a great measure, avoid by exact asepsis and can control, to a great extent, by antiseptic measures when once developed. But we still stand helpless in the presence of severe forms of septicæmia, pyæmia, tetanus, and other toxic invasions. Infections sometimes occur after the most carefully executed operative procedures. Accidental infections will always comprise a large proportion of our surgical material, a group of cases that furnishes a fatality all too great.

Our present helplessness in the presence of extreme toxæmia, we must confess, lies in our imperfect knowledge of the exact conditions under which the toxins operate. We may say, in a general way, that toxic bodies attack and destroy cellular elements. When, however, we study this question of infection in a more serious manner, we find that a flood of light has been thrown on this problem by Ehrlich and his followers.

The two greatest problems of the future, cancer and immunity, shall engage our attention to-day. Malignant disease seems to be on the increase. We stand so helpless in its presence when fully developed that we exert our feeble energies and grasp eagerly for any fact that seems to offer new light for its better understanding. It will be our effort at this time to, as briefly as possible, review the more important facts known regarding the etiology of cancer and then, after making clear to ourselves the revelations thus far made in the recent studies of immunity, determine, if possible, what relations, if any, exist between the two.

These considerations were prompted by personal observations made in a number of cases of undoubted malignancy that indicated the probable infectiousness of cancer. It is well known to us all that the infectiousness of most infectious diseases was first determined clinically, and that the clinical observations were later determined and confirmed microscopically and experimentally. The cases to be here related came under the author's personal care, and it is hoped that they may serve as contributory evidence to the observations already recorded by others *that malignant disease, under certain conditions, is infectious.*

Case I.—Mrs. H., aged forty years, of spare build, very small amount of adipose tissue, presented in the outer and upper quadrant of the left breast a hard, nodular, painful, movable, walnut-sized growth, of one year's duration. In the axilla could be felt a hazelnut-sized nodule. She had frequent lancinating, radiating pains in the breast. There were no evidences of acute or subacute inflammatory signs, no local redness or elevation of temperature. The clinic diagnosis of cancer of the breast was made and a radical operation was ad-

*Oration in surgery, delivered at the fifty-fourth annual meeting of the American Medical Association, held at New Orleans, May 5 to 8, 1903.

vised. Various family matters prevented her from submitting to an immediate operation, so that several months passed, after which it was observed that the neoplasm had diminished in size and it finally disappeared.

It may be urged that this may not have been a cancer or that no one should make a diagnosis unless there be a confirmation by the microscope. Is the microscope always certain? We have all observed cases that ran a clinical course of malignancy after the microscopic findings indicated benignancy, and vice versa. The pathologist always inquires after the clinical features. He is disinclined to give an opinion unless he can know something of the history and symptomatology. The above case, in every detail, resembled many others that were demonstrated microscopically to be malignant, consequently it would appear that we are justified in the clinical diagnosis of cancer.

Case 2.—Mrs. J., age thirty-five years, presented herself with an inoperable, extensively ulcerating carcinoma, involving the outer half of the right breast. The breast was unusually large. The outer portion of the ulcerating surface had been in constant contact with the upper and inner side of the arm. Portions from both breast and arm were removed for microscopic examination and proved to be alveolar carcinoma. No operation. She died in three months.

Case 3.—Mrs. D., age thirty-five years. She came under observation with a typical epithelioma of the cervix uteri. The vagina was large and relaxed, so that the neoplasm rested in contact with the lower portion of the posterior vaginal wall. Hysterectomy was recommended, but was refused. She presented herself again in two months, in which time there had developed an epithelioma at the point of contact between the cervical growth and the posterior vaginal wall. An operation was done, but the patient died from recurrence eight months later.

Case 4.—Mrs. G., age forty-five years. Came under observation with a typical cauliflower growth, involving the cervix uteri. Small particles were removed, which proved microscopically, to be carcinoma. The uterus was fixed, the growth appearing to be too extensive for operative interference. No operation was advised. After several months the neoplasm became smaller and gradually disappeared, the uterus becoming movable. At the present time, eight years later, she appears well.

Here we have four cases of undoubted cancer, each one of which presented some of the features of an infection, as in lupus or syphilis. Cancer is extremely slow in its development, its premalignant stage often lasting many years. This fact possibly may account for the negative outcome of inoculative experiments hitherto conducted. This long developmental stage is not unlike lupus, leprosy, and other forms of undoubted infection. In two of our cases we observed secondary growths which appeared at points where the primary neoplasm was brought, more or less continuously, in contact with previously healthy surfaces, a very common occurrence in nearly all forms of infection. In two of our cases the neoplasm disappeared spontaneously, the disappearance depending, no doubt, on some form of catabolism not yet understood. The elucidation of this form of cytomorphosis will give the key to the control, inhibition, and elimination of the atypical cell proliferation which constitutes malignancy.

The term cancer, so commonly employed, refers to growths made up chiefly of epithelial cells. There is really no good reason why the term cancer should be limited to epithelial growths. Cancer signifies "crab." It was originally used to signify malignancy and meant connective tissue growths as well as those of epithelial origin. For our purpose at this time we will limit the term cancer to epithelial neoplasms, and we will confine these considerations to its etiologic factors.

The mystery of its origin seems as deep almost as in the days when cellular pathology was unknown. No problem in pathology has received more thought and speculation. No subject has had bestowed on it more earnest effort and unremitting toil. Regarding its etiologic evidence, we must confess that we have only a mass of negative proof. When observers believed that they had found the specific organisms, scores of workers in the same field soon demonstrated their error. So to-day we can only say that the evidence which shows what we do *not* know of the cause of cancer is voluminous, and we must admit that we know little of its etiology.

We know something of its cell characteristics. We know that malignant disease is essentially a cell proliferation that has, biologically, many features that are opposed to the physiological tissues in which they take their origin. We find an atypical life history in the cancer cells. The nucleus divides in an asymmetrical way. We note that unusual karyokinetic figures in the nucleus are usual in new growths, pointing to changes in the cellular life history. Regarding carcinoma, certain bodies have been demonstrated, believed by some to be parasites, having some casual relation to the cell changes.

It is a well-established fact that the nucleus perpetuates the nature and function of the cell, and any change in the nucleus changes the cell in its function and process of division. According to W. V. Shaw, "the growth of cancer cells is then to be looked on as an effort of reproduction in damaged tissue, the incidence of the damage falling on the nuclear structures."[1]

This statement is based on observations made by him in connection with experiments on free swimming larvæ which developed from the stimulation of ova of certain lowly organized animals, causing a proliferation of cells. The ova had not been fertilized by spermatozoa. Adult organisms were not developed, but larvæ capable of independent life. These results were obtained by stimulating the ova with strychnia and by mechanical movements of the ova. This cell growth was compared to growth of tissue in partially damaged structures. Shaw believes that such damage alters the nature of these cell structures so that the vegetative functions of the cell run riot and the cells become parasitic toward the organism in which the growth is taking place. This view seems to find support in those connective tissue growths that develop in tissues that have sustained a trauma and in which the sarcoma develops; or in epithelial growths that form on surfaces that have been subject to prolonged irritation, as exemplified by the chimney-sweep's and paraffin-worker's cancer forming on an old chronic dermatitis; or a cancer forming on the site of a prolonged irritation by the smoker's pipestem on the lower lip. We have seen many times that cancer develops in epithelial tissue that has been subjected to irritation for a long time, usually extending over a period of years. We have long recognized irritation to be at least one of the causative factors. Just what metabolic disturbances take place and what the underlying causes are is not yet clear. That cancer is infectious has been proven by many clinical observations. This has been shown by Eberth, who collected twenty-two cases in which cancer was transmitted from lip to lip, tongue and palate. Behla reported eight

instances of death from malignant growths in physicians and surgeons who were inoculated from tumors, and four instances of apparent human infection from cancerous animals, dog and hen. He also alludes to a cancer epidemic among the white mice in the Pathological Institute at Freiburg as evidence of the contagiousness of cancer (Hektoen). Roswell Park believes that, for New York State at least cancer is increasing at an alarming rate.

Attempts have been made to show that cancer is endemic, peculiar to certain localities. Behla cites cases of Behrens, who found in a village ten deaths out of thirty-eight to be due to cancer. Pfeiffer, Powers, and Friesinger maintain that in certain houses (cancer houses) and marshy districts in the vicinity of ditches and streams containing sluggish water, especially if the stagnant and polluted water were used for watering garden vegetables and for drinking purposes, cancer is relatively frequent (Hektoen). This would point rather to a microphyte than to a microzoon as the etiologic factor.

Since infection of living tissue is believed in every instance to be due to bacterial invasion, naturally bacteriologists directed their attention toward the discovery of a specific germ. Very soon we had a long list to enumerate. Plimmer of London examined, in six years, 1,298 carcinomata, and in 1,130 he believed that he found parasitic bodies. Sjöbring laid much stress on cell inclusions. Russell described his fuchsin bodies, which were spherical or oval. L. Pfeiffer of Weimar published several monographs on the protozoa as a cause of cancer. Eisen brought out his Cancri amœbæ. Korotneff believed that he had found an organism which he termed Rhopalocephalus carcinomatosus. Bosr found and described an organism that he called Myxosporidia coccidia. Gaylord of Buffalo described at great length bodies that he believed bore an etiologic relation to cancer. Sanfelice of the University of Cagliara emphasized the etiologic importance of bodies that he named Saccharomyces neoformans. A very large number of other publications on this subject made their appearance, none of which differed in any essential point from those bodies just mentioned.

While the presence of the aforesaid bodies described by the different observers can be demonstrated and are present in a large proportion of the cases of cancer, all the requirements necessary to prove them to be the organisms solely responsible for cancer have not been fulfilled. The requirements necessary are (1) the organism must be isolated; (2) a cancer must be produced when the organism is introduced into another body; (3) the organism must be recovered from the cancer produced. It has been shown that, while the first requirement has only apparently been fulfilled, the second has been, in a number of cases, seemingly produced. More careful investigations have proven that the experimental growths were not cancer. The third requirement has not been fulfilled.

All of the work mentioned above was carefully reviewed in all its details by the cancer committee, who, in their second annual report to the surgical department of the Harvard Medical School, showed conclusively that the bodies described by the various investigators under different names were not cancer nor the cause of cancer. I can do no better than to quote in full the results of their labors. They bear the marks of painstaking and conscientious work. The conclusions of the Harvard cancer committee were written by Edward H. Nichols, and were as follows:

It has been claimed by the adherents of the theory of the parasitic origin of cancer that: (1) A proliferation of epithelial cells analogous to the lesions seen in cancerous tumors can be produced by certain well-known protozoa (nodules caused by the Coccidium oviforme). (2) Certain skin lesions characterized by epithelial cell proliferation are due to the action of a so-called protozoon (Molluscum contagiosum). (3) Blastomycetes are constantly present in human cancers and are the cause of the lesion. (4) By experimental inoculation of animals with blastomycetes, true epithelial or cancerous nodules can be produced. (5) Finally, the well-known endocellular bodies seen in the protoplasm of cancer cells have a definite morphology, are parasites and the cause of cancer.

It has been the object of the investigators, the results of whose work appear in the preceding pages, to study each of these questions. As a result of the lines of work pursued by them under the direction of the Cancer Commission during the past year, it is concluded that: (1) The lesion produced by the Coccidium oviforme is essentially a process of chronic inflammation, and is not analogous to the lesion seen in cancer. (2) The lesion of Molluscum contagiosum is characterized by certain changes in the epidermis, is not due to the action of a protozoon and is not analogous to cancer. (3) The so-called "blastomycetes" (saccharomycetes) of Sanfelic and Plimmer are torulæ. (4) The lesions produced by these "blastomycetes" (torulæ) are, essentially, nodules of peculiar granulation tissue, are not cancerous, nor, in any sense, true tumors. (5) Blastomycetes are not constantly present in human cancers. (6) The peculiar bodies seen in the protoplasm of a cancer cell are not parasites, nor the cause of the lesion, but probably are, in part at least, atypical stages of the process of secretion by glandular epithelium.

It is clear that in the present status of the etiology of cancer, bacteriologically considered, the case has not been proven. But it does not follow that it will not be shown that cancer is due to a specific and well-defined organism. It may be an organism so minute as not to have been brought within the range of the microscope. It is possible that no stains have yet been found that possess the requisite affinity for its complex molecular constitution. The necessary artificial medium for its cultivation remains for some future investigator to solve. Be it what it may, since the clinical features give strong evidence of the infectiousness of cancer, the search must and will be continued along the same lines.

In this search for a specific contagium, cellular metabolism must not be forgotton. Its consideration and study is perhaps more important than the isolation of a specific germ. It cannot be denied that the more exact our knowledge of cytomorphosis becomes the clearer will be our understanding of cell proliferation. It has long been understood that there must be certain stimuli that cause cell growth and certain inhibitors that limit cell development and exercise control in accordance with the requirements of the tissues. Certain other influences bring about a disturbance of the normal equilibrium between the stimuli and the inhibitors. It is evident that the exact nature of the stimuli, the inhibitors, and the disturbers must be ascertained. This involves a study of the cell constituents and the fluids that surround it. As we see, it is a question of chemistry.

In this connection it is important to take note of a very novel hypothesis bearing on the formation of new growths propounded by Homer Wakefield.

He believes that a neoplastic formation is not an exaggeration of anabolism, increased or excessive proliferation, but that it is a product of catabolic

stasis; that is, normal cell division is unimpaired, the anabolic process continuing to the point of maturity of the cell. It attains the meridian in its life and reaches the post-meridian state when it should undergo normal catabolism, a complete dissolution and disappearance of the cell. Instead, something has supervened to check catabolic changes, the cell becomes superannuated and its existence is prolonged until finally it undergoes various degenerative changes. Normal cell production continues, but normal cell dissolution is retarded or abolished, hence the cells accumulate, producing the appearance of what is regarded as cell proliferation.

This condition Wakefield has termed catabolic stasis or subcatabolism. He states that the intercellular substance is richly alkaline and that the tissue cells are more or less soluble in it. The cells, during the period of their growth, generate sarcolactic acid and during this period they are richest in protoplasm. After the meridian the cells offer decreased resistance to the solvent powers of the alkaline medium and lose their protoplasm, the nucleus alone remaining.

He infers that, before the meridian is reached, the acidity produced by normal cellular activity protects the cells by its neutralizing effects on the intercellular alkalies, and that this preserves the investment of protoplasm. Now, if from any cause, the normal alkalescence of the intercellular substance is reduced or if, in a given area, the acidity increases, catabolic stasis affects all the cells in that area. Suboxidation consequently takes place. It is therefore believed that cancer formation is an acid process.

Briefly, tumor formation, according to this hypothesis, rests on a stasis of catabolism, subcatabolism, and suboxidation, in the presence of normal anabolism. The cell inclusions, observed by many investigators and regarded by them as protozoa, cancer parasites and as blastomycetes, Wakefield regards as products of disturbed nuclear division. This new hypothesis, at present, rests only on theoretical grounds, but the arguments are so thoughtful and so suggestive that they deserve careful attention. Their chief importance, at this time, consists in the bearing out and support of the methods of research along chemical lines.

We are all familiar with Virchow and the birth of cellular pathology, with Ehrenburg and the growth of bacteriology, and now we have arrived at, and are in, the humoral or chemical era. The trend of all research at the present time is beyond cells and beyond bacteria. It is to determine the chemical operations in and around the cells. This line of research began in the leucocytes because they were the most available. In their study it was possible to establish basic principles. From the leucocytes to the erythrocytes was only a step and then the epithelial and connective tissue cells received attention. This field of research is a new one. It is occupied by a vast army of patient and earnest toilers. The fruits of their labors will be beyond our greatest expectations. It is our present purpose to see if the cancer problem can be solved along these lines.

What has malignant disease to do with immunity? The entire subject of immunity has to do with infection. It has to do with its nature, mode of action and control. Has cancer any characteristics that pertain to infection? Bacteriologically we have found none. Clinically we have a mass of evidence that would seem to place cancer among the infectious diseases.

In order to have a clear understanding of the modern conception of immunity it is necessary to review as briefly as possible and in barest outlines without comment the most important features of our present knowledge of the subject. Much material that may seem essential to a complete elucidation of this great and important subject, had to be eliminated on account of the limited scope of this dissertation.

More than a century ago we find that John Hunter was familiar with some antiseptic properties of the blood. He found that a small amount of putrefying material could be added to a given quantity of fresh blood without producing putrefaction. Consequently, he advanced his doctrine of "the living principle of the blood." This, as an observation, was almost forgotten, and its import was not fully realized until Nuttall, in 1888, began his systematic work in Flugge's laboratory, studying the antibacterial properties of the body fluids, especially the blood serum.

The greatest impetus to the study of immunity was given by Metschnikoff in calling attention to the participation of the leucocytes and other cells in the process of infection, establishing his well-known theory of phagocytosis. His views are so well understood that we need only to call attention to them at this time.

Following Nuttall, Pfeiffer discovered, in 1894, "the extracellular disintegration and solution of cholera spirilla in the peritoneal cavity of immunized guinea-pigs."

The greatest attention and interest was aroused by Behring's great discovery of antitoxic immunity. Bacteriologists at once endeavored to elucidate, by elaborate researches, the exact way in which immunity was established. Chief among these was Ehrlich. It was soon shown, however, that immunity in most bacterial infections did not depend, in the main, on the antitoxic principle.

Pfeiffer's phenomenon afforded a starting point, from which Metschnikoff, Bordet, Ehrlich, and Morgenroth began their labors and brought forth a series of discoveries that have been epoch-making.

A series of antibodies were differentiated and classified as antitoxins, antienzymes, cytotoxins agglutinins, precipitins, and coagulins. Antibodie, were in turn produced by these, with the exceptions of the antitoxins.

It was determined that to every cellular group of an animal species there appears to correspond a specific cytotoxin. These various toxins have been termed leucotoxin, neurotoxin, spermotoxin, nephrotoxin, thyrotoxin, etc.

These antibodies have been divided into two groups—first, the antitoxins which are single bodies; second, the cytolysins, whose antagonistic effects require the coöperation of two bodies.

Of these two bodies, the one which actually destroys the foreign cells is normally present in the cells or fluids or the organism, but it seems incapable of action without the intermediation of a body which is distinguished from it by a greater resistance to heat. The two elements composing cytolysins exist quite independently of each other, so that one may be present without the other or be artificially removed without affecting the other.

To demonstrate the mode of action and constitution of the specific antibodies, Ehrlich has propounded the theory of receptors or side-chains. The atomic grouping of the toxin molecule, which affects the union with antitoxin as well as with a particular cell, he has designated as haptophore groups.

In view of the fact that certain molecule groups of the living protoplasm favor the taking up of certain poisons, he has termed them receptors. According to his theory of antitoxic formation, after the introduction of toxins, the receptors are produced in ex-

cess, and finally are thrown off into the blood as useless ballast. The free circulating receptors are the antitoxins, termed amboceptors, intermediary bodies. The action of antitoxins is explained thus: They take charge of the hatophore groups of the toxin molecules and prevent them from approaching the receptors of the tissues[2]. There are as many receptors as there are toxins, while almost every day new ones are discovered.

Behring gives the most exact and brief definition of Ehrlich's antitoxin theory: "The same substance, which, when incorporated in the cells of the living body, is the pre-requisite and condition for an intoxication, becomes the means of cure when it exists in the circulating blood." Every antiserum protects only against substances through which it becomes immunized. Every antiamboceptor protects only against its particular amboceptor.

Ehrlich and Morgenroth found, in experiments with goat's blood, thirteen different new lysins, which represent so many receptors. "The receptors are in the cells, not for the purpose of linking poisons to the cells, but to seize certain foodstuffs, particularly proteids, and the toxins, bacterial and other foreign cellular substances, if capable of inducing the immunizing reaction, which chance to have the requisite combining affinities for the receptors."

The living body possesses bactericidal and cytolytic substances which may protect it by destruction of invaders or may injure it by destruction of its own cells, according to the mates with which they are paired.

In considering the physiological mechanism of the cells, we find that they are designed, primarily, for the assimilation of food, and, secondarily, to meet pathologic conditions, the production of antitoxins, cytolysins, and other similar bodies. The receptors are in the cells for the purpose of taking up foodstuffs, chiefly proteids. The toxins and bacterial cellular substances have combining affinities for the food receptors, if they are capable of inducing an immunizing reaction.

In producing immunization against bacteria, it is the intermediary body (amboceptor) which is generated. It has been found that these antibodies have a specific relation to the substances which caused their formation, as has been shown by the injection of a specific serum into an animal at certain intervals, of toxins, against which an antitoxin is desired.

The specific nature of these antibodies is further shown in their application to serum diagnosis, as shown by the Widal agglutination test for typhoid fever and the serum test in the diagnosis of bacillus dysenteriæ Shiga, an organism shown to be the cause of acute dysenteries by Flexner, Vedder, and Duval.

When Roux and Yersin discovered diphtheria antitoxin and Ehrlich the origin and mode of action of antitoxin, a lasting foundation for the study of immunity was laid. It was positively shown that "soluble toxins enter, as assimilable substances, into combination with constituents of the body cells for which they have an affinity," and are enabled to produce immunity or to exert toxic effects.

The expectations that we should soon be enabled to solve all questions regarding the action of toxins after the discovery of soluble, bacterial toxins, have only partly been realized, especially regarding the action of the pyogenic micrococci, which concerns us most as surgeons.

However fruitless, hitherto, the practical results regarding toxins of many pathogenic, and especially pyogenic, organisms, the principle has been established, and it is only a question of method and time when all body toxins and their antitoxins shall be definitely known.

Pfeiffer directed his attention to the bacteria and found substances, toxins, in cholera spirilla, which became free only after the bacteria were dead, and which were termed intracellular poisons. This was a most important step in advance, but we must acknowledge that we know as yet very little about the action and nature of intracellular bacterial poisons.

It is interesting to note from the result of Flexner's experiments with venom that their action on red blood-corpuscles, leucocytes, and nerve cells is like that of duplex cytotoxins, which depend on the combination of intermediary bodies contained in the venom on one hand, with corresponding complements in the cells or fluids acted on. This is shown by the addition of venoms to fresh blood, which brings about the quick destruction of the red blood-corpuscles. If the fresh blood has been washed with an isotonic salt-solution, so as to remove all the complement, we find that the corpuscles are not dissolved, but agglutinated. It seems that the venom serves chiefly to bring "into necessary relations with constituents of the body cells, poisons we already harbor or may generate, but which are harmless without the intervention of intermediary bodies."

Flexner and Noguchi have shown that the leucotoxic, the neurotoxic, and other cytotoxic properties of venom depend on combinations of venom, intermediary bodies with complements contained in the cells poisoned by venom, or in the fluids bathing these cells, indicating that the snake venom contains only a part of the complete poison.

Flexner and Noguchi also demonstrated that hemorrhages in various tissues of the body resulting from poisoning from certain venoms is due to the presence in venom of a cytotoxin which has the power to dissolve endothelial cells, which they termed endotheliolysin (hemorrhagin). It causes extravasation of blood through its direct solvent action on capillary endothelium.

The hæmolysins have been most extensively studied because of their great pathologic significance, and it has been found that many bacteria have hæmolytic power. The secondary anæmias, so constant in streptococcus infections, in pneumonia, typhoid fever, and other diseases, afford a most striking example.

Normal blood serum contains antihæmolysins which protect red blood cells from bacterial hæmolytic agents. Associated with hæmolysins are bacterial hemagglutinins, possessing the power to clump red corpuscles.[3]

Heuter and Klebs believed that thrombi were due to the coalescing of red blood-corpuscles. Welch calls attention to hyaline thrombi formed by agglutinated red corpuscles. White corpuscles are agglutinated by certain bacteria and also by pus cells.

What is urgently needed is a separation of these poisons and a determination of their source, constitution, mode of action, and degree of specificity.

It will not be out of place here to allude to the studies made of the ductless glands, because of their supposed bearing on immunity. Sajous urges that the adrenal extractives have a decided affinity for oxygen, offering a key to tissue respiration and to the functions of all other organs now classed as the ductless glands. It has been found that the red corpuscles are not the only carriers of oxygen, but that the blood plasma contains and distributes this gas. Schmiedeburg, Jacquet, Claud Bernard, and others demonstrated the existence of an oxidation

ferment in the plasma, and these bodies are now entertained as an oxygen-laden secretion. This secretion is believed to permeate nearly all the body elements. The blood also contains a fibrinogen body which combines in certain quantities with fixed portions of the plasma's oxygen. The changes in the temperature of the blood were traced to variations in the amount of the fibrinogen in the plasma. The adrenals have been shown to be connected with the anterior pituitary body by various sympathetic ganglia. The anterior pituitary body is regarded as the governing center of the adrenal system. Overactivity of this body increases the adrenal secretion, consequently oxidation, therefore vital resistance. Depression of the activity of the pituitary body causes decreased supply of oxygen, consequently depressed vital processes.

The thyroid secretion, thyreoidin, has been shown to sustain the efficiency of the pituitary body. Excessive thyreoidin production stimulates the pituitary body and produces exophthalmic goiter. Deficient thyreoidin production leads to myxœdema. The adrenals, the pituitary body, and the thyroid gland constitute the adrenal system. According to this line of research, it is believed that toxins act directly on the adrenal system, and, by decreasing or increasing its secretion, decrease or increase the oxidation process. Certain toxalbumins and many drugs stimulate the adrenal secretory powers to a certain limit, and, when exhibited in excessive doses, depress or arrest the functions of this system.

The posterior pituitary body has been shown by Berkley, Andriezen, and others to be the chief functional center of the nervous system. It is the center for such emotions as shock, excitement, etc.

It governs all organic functions through the nervous system. The secretions of the pancreas and spleen, according to Schiff, and later by Herzen, unite and change trypsinogen into trypsin, a solvent for the albuminous bodies in the pancreatic juice. This ferment performs an important part in immunizing processes, in that it destroys toxalbumins.

Viewing these labors in the light of Ehrlich's researches, the oxidizing substance represents the amboceptor; the spleno-pancreatic internal secretion, trypsin, represents his complement. To produce a proteolytic action of trypsin, fibrinogen and the oxidizing substances are required. These views are somewhat at variance with those commonly accepted, but are of sufficient importance to deserve consideration in this connection.

From the foregoing it would seem that the doctrine of phagocytosis plays an unimportant rôle. But we find that the French, or phagocytic school, at head of which is Metschnikoff, recognizes the full significance of acquired immunity and the cytolytic principles represented by the coöperative action of intermediary bodies and complements. The German, or humoral school, led by Ehrlich, recognizes the leucocytes to the fullest extent.

The chief difference between the French and the German schools consists in the belief by the advocates of phagocytosis, that the complements reside in the leucocytes, whereas the adherents of the humoral school believe that they exist in the blood plasma.

While, in what has here preceded, we have been concerned in the consideration of chemical problems, we must not overlook the fact that behind all is a governing force which resides in the central nervous system.

The practical outcome of these studies has been found in the production of antitoxic sera, some of which have been proven to have a definite and exact effect under certain conditions. We find these sera divided into two principle groups: (1) those that have an anti-bacterial action, and (2) those that have a purely antitoxic action. Of all the sera the diphtheritic is best known. According to Welch, the mortality of diphtheria has been reduced from 40 to 15 per cent. by its use.

Antitetanus serum has been disappointing. Reports coming to us from different sources are conflicting, the mortality ranging from 0 per cent. to 70 per cent. from practically the same methods, which consist in administering the serum by the subcutaneous, intracerebral and the spinal methods. Antityphoid serum has failed to fulfil expectations even more than antitetanus serum. The antistreptococcus serum of Marmorek, while it seems to have exerted a specific effect in purely streptococcic infections, appears to exert no influence in the presence of mixed infections. The antipneumococcic serum has not yet emerged from the experimental stage. Nothing can be said of its effects. The anti-plague sera of Haffkine and Yersin demonstrated that, as a preventive, it reduced the number of cases to one-twentieth and the mortality in a given number of cases was reduced from 33 per cent. to 13 per cent. (Calmette). The antitubercle serum has been shown to have a specific effect on tuberculous tissue, but remains powerless in the presence of mixed infections. The antivenom serum has been demonstrated to have a positive usefulness in certain snake bites. Calmette's antivenin has been proven to be of undoubted use in leprosy.[4]

Many other sera have been described, but their usefulness thus far has been shown to be of an uncertain nature. Consequently, we will leave them out of consideration at this time.

When we pass in review all that is positively known in relation to the question of immunity, we can not deny that some of the principles underlying this great question have, in a measure at least, been revealed. The evidence is conclusive that "the same substance which, when incorporated in the cells of the living body, is the pre-requisite and condition for an intoxication, becomes the means of cure when it exists in the circulating fluid."[5]

Ehrlich, in his investigations of diphtheria toxin, demonstrated "that soluble toxins enter as assimilable substances into direct combination with constituents of the body cells for which they have an affinity, and only thereby are enabled to bring about immunity or to exert toxic effects." Further, in connection with Metschnikoff, Bordet, Morgenroth, and Ehrlich, it is shown that "the organism possesses a power to produce substances specifically antagonistic to all sorts of foreign cells, cellular products, and derivatives. The substances capable of inducing this immunizing reaction appears to be mainly of an assimilable, albuminous nature, or at least intimately associated with such material."

The principle of toxins and antitoxins has become as firmly established as any other in medicine or surgery. We have noted that antitoxins from pure cultures have a certain affinity for and possess immunizing power in specific infections, but fail in the presence of mixed infections. We see at once that failure to immunize does not violate the principle, but that the method of application has been at fault. We know that diphtheria toxin has a specific effect for the products of the Klebs-Loeffler bacillus, and that it controls and cures in the presence of these, but fails when there is an admixture of other forms of infection. This is shown by the 15 per cent. mortality which still exists. We have noted that anti-streptococcus, tuberculous and plague sera have a specificand a decided effect in pure infections, but that they fail in the presence of other specific germs. We observe with satisfaction the

certainty of the action of a given antitoxin in its union with the toxin from which it was produced. It at once becomes apparent that, in the presence of several toxins or a mixed infection, it will require several antitoxic substances, a combination of antitoxic sera, or a serum containing different kinds of amboceptors, so combined as to meet and unite with the several toxins in a given case. Coley endeavored to meet such indications by combining streptococcus and bacillus prodigiosus sera in treating inoperable sarcoma.

These observations presage a revolution in therapeutics, which perforce means a refinement in diagnosis, beside which what we do now will scarcely bear comparison.

The inferences to be drawn from the foregoing indicate that the future work will be biochemic. It appears that the solution of cell metamorphosis, as it is observed in pathologic conditions, will be in the field of chemistry. Ehrlich's theory of the side-chains has given us a working hypothesis almost as practical as the atomic theory when applied to chemistry. It is not an idle dream to believe that the revelations of the future will not only consist in a complete exposition of cells and body fluids, or a perfect understanding of the governing brain centers, but may extend to the life principle itself, although life itself may and will ever belong to the unknowable.

Our chief interest, however, will always center in the cell and its governing influence. Just what influences are responsible for normal cell division may never be known. But it is within the bounds of human possibility to know what influences may be responsible for atypical and excessive cell growth. Excessive cell growth, both in the leucocytes and connective tissue cells in acute infections, we can assume to be due to toxins that are in excess of the amboceptors. The existence of cytolysins and anticytolysins is now undisputed. The one destroys, the other protects the cells. We have noted that the chief function of a receptor molecule is to combine with nutrient molecules, a metabolic, a chemical process. The birth and growth of the cell is restricted within certain limitations, and is regulated by chemical law. Now the problem depends on our ability to ascertain the exact influence that carries cell division beyond its normal bounds and causes excessive cell growth, as we observe it in malignant new growth. That the process is one of localized excessive nutrition is apparent. The localities of predilection are frequently at points where the cellular elements are exposed to frequent insults, where the tissues are damaged, establishing a *locus minoris resistentiæ*, as, for example, in the mouth gastrointestinal tract and the female reproductive organs. A point of least resistance, damaged tissue, if you please, always offer a soil for bacterial invasion. Cancer very often develops in tissues that have long been irritated, no doubt liberating a complement that unites with a specific infection when introduced under proper conditions. Such is not always the case, however. In fact, we know that in the majority of tissues that sustain irritations and almost constant traumatism for many years never become malignant. The simple traumatism does not develop cancer. A specific toxin must be introduced, probably also an intermediary body to complete the side-chain, which increases karyokinetic energy. We have noted in our studies of immunity that the life or death of the cell depends on its intra- and extra-cellular composition, so we may say that the whole process, whether it relates to normal or excessive cell growth, is chemical.

An objection may be urged at this point, which consists of the fact that the propositions of immunization thus far considered affect groups of cells extending over a wide range, *i. e.* the vascular, the muscular, and the glandular or cerebrospinal systems. It has been shown that cancer is always at the outset, and often throughout its entire course, absolutely a local disease. It would not seem rational to attempt immunization of the entire system against a strictly local disturbance. We will naturally turn our hope toward a method that will enable us to affect local immunization.

That local immunization is possible has been demonstrated by P. Römer in the following convincing abrin-immunization experiment: As is well known, abrin, which is the toxalbumin of the jequirity bean, will produce a severe conjunctivitis in animals and men. Ehrlich had demonstrated that rabbit's conjunctivæ became immune after the installation of abrin. Römer instilled into the right eye of the rabbit weak abrin solutions, the dosage being rapidly increased until immunization was produced. In three weeks the rabbit was filled. It was then shown that if the right conjunctivæ, which had undergone severe inflammation, were rubbed and macerated with a certain amount of abrin and injected into a healthy animal, it had no effect. But if the conjunctiva of the left eye, which had received no instillation, were rubbed and macerated with abrin and injected into an animal, death always followed. Römer concluded from this observation that in conjunctival immunizations a part of the autotoxin existed in the conjunctiva itself. A local antitoxin was produced.

It would seem that these results establish definitely the principle of local immunization in indifferent tissues. These observations have an important bearing on the adaptation of the cells in local affections. That local affections of various forms or general affections with local manifestions can be best managed by the local introduction of exceedingly small doses of the specific remedy, was shown by Professor Bouchard before a recent meeting of the Egyptian Congress. He found that articular rheumatism disappeared after the injection *in situ* of small doses of salicylic acid, and in some cases only half a grain. We must conclude that local cell metabolism can be influenced by local rather than by general diffusion. The inhibition of excessive cell growth must be accomplished in the same way.

It would seem then that the cancer question must be solved along the lines of chemistry. Since we know that contagious or infectious energy does not depend on the bacterium itself, but on its products, which are purely chemical, it would seem that it matters little whether the specific parasite is found or not. Since the cancer germ has thus far successfully eluded the most vigilant search, it becomes more and more evident that in the field of chemistry will be found the solution for our problem.

It will be difficult to rid ourselves of time-honored views. Purely theoretical speculation, like the hypothesis of cell proliferation from inclusions of embryonal matrices, according to Cohnheim, must give way to the demands of modern science that insist on actual observations and practical demonstrations.

Now then, will it be unreasonable to hope, that when protoplasmic changes are thoroughly understood and when the body sera have given up their secrets and the influences that govern cell growth, that we may also find the antibodies which will inhibit cell multiplication beyond natural bounds?

The studies in the field of immunity have, as yet, only assumed the proportions of the initiatory stage. A vast unexplored wilderness lies before

us. The pioneers have begun their work well. They have outfitted themselves in a manner that will, in the near future, enable them to throw unexpected light in the pathway of their conquest of discovery. They are only on the verge of this vast domain. What lies beyond the borders we can no more foretell than could Boyer know that in twenty-four years after his death we should have an anæsthesia, and that in fifty years the world would have an antiseptic surgery. And yet, in the light of our present knowledge, the hope, amounting to a conviction, arises in us that even in our lifetime, if we are spared a few years more, we will have an exact biodynamic and biochemic science that will make diagnosis accurate and precise, and one that will enable us to treat and control all infections with an exactness not now possible. While the surgeon is now constantly encroaching on the field of the internist, the time is not far distant when the physician may not only reclaim his own, but with it that large group of neoplasms known as malignant growths that from time immemorial has been the exclusive property of the surgeon.

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Bacteriologic Study of the Blood in Thirty Cases of Clinical Typhoid Fever, Two of Which Proved to Be Paratyphoid and One Doubtful.—E. H. Ruediger says that among some of the general deductions from his and other recent work on the bacteriology of the blood in typhoid fever, the following are worthy of special stress: In all probability, typhoid bacilli circulate in the peripheral blood of all typhoid-fever patients during the first few days of fever, and at the beginning of relapses and recrudescences, disappearing from the blood shortly before the temperature starts to fall. As the typhoid bacilli are abundant in the peripheral blood during the first few days of the disease, it becomes possible by the demonstration of their presence to make an early and positive diagnosis, frequently before the reaction of agglutination can be obtained. By cultures from the blood, it also becomes possible to differentiate between typhoid and paratyphoid fever. The method of blood cultures is comparatively simple and easy, and can readily be applied to clinical work, both hospital and private. It gives the best means of making a positive diagnosis, provided it is applied early while the temperature is rising, and no examination can be considered exhaustive without such cultures.—*Medicine.*

Fistula of the Cornea.—James Moores Ball proposes the following operation to obviate the danger of injury to the lens during the treatment of corneal fistula. The keratome is to be introduced into the anterior chamber as in the first step in the operation for iridectomy. The tip of the instrument is to pass beyond the fistulous area, and the instrument is then to be held *in situ* while a cautery is used to destroy the epithelial lining, the tag of iris-tissue, which is often present in the fistula, and the bulging bleb of Descemet's membrane. The keratome is to be withdrawn carefully to avoid injury to the lens. Atropine and a compress bandage are to be used in the after-treatment. During the operation the lids should be separated by a speculum, and the eyeball should be fixed with forceps. It is neeessary that the forceps should be placed several mm. behind the point at whieh the keratome is to be introduced. If the forceps be placed on the globe at a point opposite the place at which the keratome is to be passed, the globe may be subjected to sufficient pressure to cause a rupture of the weakened area. The operation must then be postponed until such time as the anterior chamber shall have re-formed.—*St. Louis Medical Review.*

Ataxia without Tabes.—C. H. Cattle describes the case of a man who had an ataxic gait, and was unable to stand steadily with the feet together and the eyes closed. His knee jerk was lost, there were some patches of anæsthesia on the legs, but apparently no muscular wasting. It was not locomotor ataxia, beeause the pupils reacted to light and did not show any spinal myosis. It was a case of *alcoholic pseudo-tabes*, differing from the true tabes in the above-mentioned points, and in the fact that it was found that certain of the leg muscles did not respond to faradism, but did to a weak galvanic current, and this more readily with the positive pole on the muscles than with the negative (reaction of degeneration). The disease is peripheral neuritis, the pseudo-ataxy being caused by greater affection of the sensory fibers than of the motor. The patient rapidly improved after being taken into the hospital where he could not drink, and where galvanism and massage were applied.—*Medical Press and Circular.*

The Operative Treatment of Carcinoma of the Rectum.—F. M. Caird says that ten patients who were subjected to this radical cure of complete extirpation of the earcinoma, all recovered from the operation. In the males, the coccyx and portions of the sacrum had to be displaced or removed. In the female, at the most, only the coecyx was taken away. In four males and one female a sacral anus was established, over which the patient had fair eontrol, and in four females and one male the result was perfect, the patients being able to defecate normally after complete restoration of the anal eanal. In one instance only was primary union of the bowel obtained. The author describes the operation, two of the patients died within a year from local glandular recurrence, the others were alive and well, one four months, one ten months, three one year, one eighteen months, and one four and a half years respectively after operation.—*The Scottish Medical and Surgical Journal.*

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ARTERIOSCLEROSIS.

THE *Albany Medical Annals* for March, 1903, contains a symposium on this subject. Dr. DeLancey Rochester says the causes are strains of occupation, and poisons introduced into, or generated within, the economy. Heredity may be of considerable importance, and almost all cases show two or more of these factors. The poisons introduced are syphilis and other infections, lead and alcohol. Those arising within the body are the products of faulty metabolism. The symptoms may be classed as cardio-vascular-hæmic, cerebral, renal, pulmonary, and gastrointestinal. Among the last, constipation and indigestion (intestinal and gastric) are important, and tympanites and eructations are not uncommon. Pulmonary symptoms are sometimes so pronounced that a clinical group of "spasmodic asthma and pulmonary affections" has been described; and chronic fibroid pneumonia is, in certain cases, the pulmonary expression of the disease. The renal symptoms are those of interstitial nephritis. Cerebral symptoms vary from mild dizziness and lack of memory (particularly recent) to violent vertigo, complete loss of memory, actual dementia, and apoplexy. Ocular symptoms are chiefly loss of vision. The diagnosis ultimately depends on the vascular symptoms; cardiac hypertrophy, pulse of long duration and high tension, with an increased second sound over the aortic orifice. The appearance and persistence of vague pains, or paræsthesiæ (tingling, prickling, numbness or persistent coldness), or sharp neuralgic attacks, demands a search for the vascular changes. Arteriosclerotic malnutrition is either flabby and corpulent; or sallow, emaciated, and rather cachectic with arcus senilis. More or less anæmia is always present, and weakness, shortness of breath on exertion, præcordial distress, vertigo, and nausea may occur. Dr. G. R. Butler says that when the coronaries are not involved, the main, and for a time, the only, symptom may be hypertrophy of the left ventricle, chiefly in middle aged or quite young, robust, muscular men, mostly the victims of some intoxication, or large eaters, or the subjects of hard and prolonged muscular work. Subsequently dilatation and ruptured compensation occur. When the coronaries are involved, fibroid degeneration of the heart, angina pectoris, coronary thrombosis with sudden death, and, rarely, aneurysm or rupture of the heart occur. Of these sequelæ chronic myocarditis is by far the most common. The earliest symptoms which, when present, arouse a justifiable suspicion of it, are a sallow, pallid face, with enlarged venous radicles, premature grayness, a tendency to a wet and leaky skin, and a distinct loss of strength and energy. Compared with the strength of the apex beat, the pulse is apt to be weak, and is irregular or intermittent. Frequent gastralgic attacks are to be regarded askant. They have extreme importance, and later become typically anginal, with irregular, weak, often slow pulse (50-30). These latter are rather characteristic. In advanced cases the physical signs of dilated heart with a gallop rhythm, often also the systolic apex murmur occur. True angina pectoris is a rather rare symptom. If angina occur, even in the absence of hypertrophy and of palpable arterial hardening, along with heightened tension and accentuation of the aortic second sound with a peculiar, slightly harsh or clicking quality at the instant of closure, it is safe to say that the angina is genuine and not false. Several instances of the Stokes-Adams syndrome were observed; a permanently slow pulse (20-40), with peculiar, vertiginous, syncopal, apoplectiform or epileptiform attacks, usually in elderly, far advanced arteriosclerotics. Dr. I. P. Lyon discusses the renal condition, which may be the primary affection, or secondary to arterial sclerosis. The discrimination between the alternatives depending in any given case upon the history, the degree of arteriosclerosis compared with the amount of renal impairment, the sex, the age, and the course under prolonged observation. Syphilis, alcoholism, plumbism, gout, and long-sustained, severe physical strain point strongly to probable primary arterial disease. In the latter, also, the patient is likely young or middle-aged, owing to causal syphilis or alcoholism. The practical value in the discrimination lie in the avoidance of adding to the strain of the stiffened arteries by kidney flushings, sweat baths, and similar drastic measures, and in the avoidance of mistaking the pulse of small volume for one of low tension and consequent prescription of digitalis. Dr. C. G. Stockton discusses the effects upon the digestive system, which include thrombotic gangrene of the intestine and also of the stomach. He cites cases in which meteorism, colic, and other disturbances are due to deficient blood supply, and improve under the nitrites. His record book shows that about 60 per cent. of arteriosclerotics complained of digestive symptoms. Dr. William Browning says Demange has reported scleroses in the cord, not of insular form, as definitely of arteriosclerotic origin. Clinically, a picture not unlike lateral sclerosis is produced. Therapeutically, these cases improve most under the vasodilators. In the brain we have the organic paralytic forms, the outcome of a progressive, or severe arteriosclerosis, which often presents a syphilitic or traumatic etiology. Also we have the ordinary and best known type, of which the following signs are regarded as suggestive: vertigo; various paræsthesiæ and pareses; transient aphasias; ataxic movements; faint turns; hebetude and sleepiness; pains or pressure in the head; impairment of memory; excitement or mental confusion; lack of energy; obstinacy, a tendency to depression, fear of losing the mind, intolerance of mental strain, alcohol and tobacco; and occasionally convulsive phenomena, not rarely

Jacksonian in type. Flickering before the eyes or transient blurring of vision and contraction of the visual field occur in advanced cases. Of great diagnostic importance is the tortuosity of the smaller retinal vessels and of their terminal twigs. Much of the "neurasthenia" of middle age is of arteriosclerotic origin, and the same is true of the traumatic psychoses. The author doubts the bad omenship of arcus senilis, and considers that tortuous temporals and hardened radials have but a limited bearing. The treatment should include open air life, mental and physical relaxation, laxatives (particularly salines and sulphur waters), regulation of diet, proper sleep and anti-lithics, including iodide. Dr. Adolph Meyer says at present we can distinguish no distinct arteriosclerotic form of insanity. His autopsies are classified into: cases with focal lesions involving varying degrees of dementia, cases with foci of softening without focal symptoms, cases with multiple very small foci of softening, especially the cortex, in several of which epileptic attacks developed, and cases in which the lesion is fairly uniform and diffuse.

THE USE OF SALICYLIC ACID AS A FOOD PRESERVATIVE.

THERE has been going on for a number of years an agitation upon the question as to the danger from the use of various antiseptics for the preservation of articles of food, and there have been many and warm arguments for and against such practice. The question is one of those upon which it is difficult to render an absolute opinion of general application, but concerning which a decision can be reached only after a careful consideration of all the facts in the individual case. The factors that enter into such a decision are the toxic activity of the preservative used and the amounts in which the food thus treated is taken, together with the harm that may result from failure to employ the preservative. Some aspects of this important question are discussed from a practical point of view by Drs. C. J. Macalester and T. R. Bradshaw (*Lancet*, March 14, 1903, p. 717) in the course of a paper read a short time ago before the Liverpool Medical Institution. They deal more especially with salicylic acid, which, it has been contended, is injurious to health because (1) it is an antiseptic and antifermentative and therefore likely to interfere with the digestive processes by destroying the digestive ferments; (2) after absorption it is likely to affect adversely the general health and to interfere with nutrition; and (3) it is an irritant and therefore likely to damage the mucous membrane of the gastrointestinal tract. It was, however, found, on actual observation, that the digestive processes proceed in the presence of salicylic acid in practically saturated solution, namely one to 500, and that this exerted no greater retarding effect than many articles, such as table salt, that are always present in a mixed diet. As a matter of fact, salicylic acid is rarely if ever used as a preservative in such large proportions as this, as the resulting taste would prevent the popularity undiluted of any substance containing it. Further it was found by actual test that as much as five grains of the acid could be taken daily by an adult and proportionate amounts by children without doing harm or causing ill health. This is a larger amount than would be taken with preserved food by any individual under ordinary conditions, but even when given in larger amounts, as in the treatment of acute rheumatism, and for considerable periods of time, it is not known to have produced toxic or other ill effects, such as damage to the gastrointestinal mucosa. A further justification for the employment of salicylic acid as a food-preservative is the fact urged by these writers that it renders possible the use, by the poorer classes of the community, of preserved fruit, fruit juices, and the like at moderate cost, so that the practice has a distinct economic value. Salicylic acid may, in this connection, take the place of alcohol with its attendant physiologic dangers.

From the foregoing observations, in conjunction with other evidence, we are asked to believe that the use of salicylic acid as a food-preservative not only is free from deleterious effects, but it further permits of the manufacture and employment of wholesome, agreeable, and inexpensive articles of food without intoxicating properties.

Against this plea it must be admitted that good wholesome food, as food cannot be improved in any shape by the use of preservatives. We may congratulate ourselves, perhaps, that under certain conditions these agents may not do positive harm, still they by no means add to the value of food as such. The argument that they place otherwise inaccessible and expensive articles within easy reach of the poor is hardly forcible enough to offset the danger of favoring adulteration in general, and giving unprincipled manufacturers the freest possible opportunities for the fraudulent practices to which they are so notoriously addicted.

MR. HUTCHINSON ON LEPROSY.

In a recent issue of the *Hospital* there is a calm and well-balanced review of the recent investigations of Mr. Jonathan Hutchinson on the leprosy question. It is well known that he has advanced the view that the great cause of the disease is the consumption of decayed or badly cured fish. It is certainly remarkable that at an age when most men of his ability and standing seek a well-earned repose, that he should undertake long and fatiguing journeys solely in the pursuit of science and in seeking an elucidation of one of the vexed questions of medicine.

The theory of contagion in the disease is still unsettled. The former unreasoning and cruel dread of the malady has long since abated, and as the *Hospital* remarks, "the general experience of modern times has led most communities to realize that the fear was very much in excess of the danger." There are always a few lepers in England but the nature of their malady is hardly recognized except by the physicians who have them in charge, and there is no authenticated instance of the disease being conveyed to the families of the sufferers. But during his inquiries in Africa Mr. Hutchinson arrived at the conclusion that such spreading is liable to occur amongst the members of uncleanly communities, and that it is brought about, in his belief exclusively, by the contamination, by leprous hands, of the food that is eaten by other members of the family of which the leper forms part. This, which he describes as "commensal communication," he regards as practically the only way in which the disease is liable to be conveyed from one person to another, or to occur independently of the consumption of

the badly cured fish, which he regards as the natural home of the leprous bacillus. It follows that he also regards the buccal or intestinal mucous membranes as the only channels through which this bacillus can find entrance into the human subject.

Mr. Hutchinson visited the leper institutions in India in order to determine the validity of the argument against his theory—namely, that the natives there assembled were not fish-eaters. He found that this contention was not true. He learned that fish was largely eaten, and that it was among the fish consumers that this disease was most prevalent. The most striking instance of this fact was noted among the "Salsette Christians," so called. These people are the descendants of the converts to Romanism made by the Jesuits under Portuguese rule. They number about fifty thousand, and yet among this number there were found in one asylum 369 lepers in contrast to 324 cases furnished by the whole of the enormous Mussulman population of the Bombay presidency.

Questions like the one considered are never settled except by the collation of facts from wide areas of territory and by different observers, and when the entire truth becomes known, the sweeping conclusions of the pioneers generally require modification in view of the later experience of the settlers. But there can be no doubt that the observations of the distinguished physician and traveler have greatly increased the date at our command for an intelligent solution of the vexed problem. His motives are most praiseworthy. As the *Hospital* well observes, he belongs "to that order of philosophers who love truth better than their own system."

Official Supervision of Antitoxin and Virus Production.

Under the provisions of an act of the last Congress, the Secretary of the Treasury has issued regulations governing the preparation, propagation, and sale of virus, serum, toxin, antitoxin, and analogous product in the District of Columbia. As the act provides that no interstate commerce, and no importation or exportation shall take place in such articles, unless in method of preparation they shall conform to that required for the District of Columbia, these restrictions amount to a far-reaching system of supervision. The chief requirements are that the place of manufacture must be licensed, after inspection by an officer of the Public Health and Marine Hospital Service above the grade of assistant surgeon, and upon his recommendation; and that the license shall be good only for one year, it being, of course, renewable on expiration. The license is liable to suspension or revocation by the Secretary of the Treasury, upon the recommendation of an inspector. Inspectors are to make unannounced visits, and shall examine into the methods in use, and shall, from time to time, purchase specimens of the products in the open market for examination and test as to efficiency. All specimens are required to be labeled with the name of the product, the name, address, and license number of the manufacturer, and the date beyond which the contents cannot reasonably be expected to yield their specific results. Fraudulent labeling, or other violation of the provisions of the act is punishable by fine of not exceeding five hundred dollars, with or without one year's imprisonment. These regulations go into effect August 21 next. As an official guarantee that the label shall stand for a definite degree of potency, and assured standard of reliability, this is a step in the right direction.

The Army Medical School.

On April 14 thirty-eight assistant surgeons in the army received diplomas in military surgery, sanitation, and other special branches, and were pronounced qualified to act as army surgeons in the field. The Army Medical School of this country, established in 1893, has since its inception, considering the inadequate facilities for thorough instruction provided by the government, done exceedingly well. Included in its faculty are some of the most brilliant surgeons, pathologists, bacteriologists, and sanitary experts in the United States. The successful result of the investigations undertaken in Cuba to solve the yellow-fever problem, will ever be remembered to the honor of the Army medical corps. The work already performed in the Philippine Islands by members of the Army Medical Service has been most satisfactory, and it may be predicted that American investigators in the Far East will play an important part in tracing the origin of many tropical diseases through the instrumentality of the same service. The means at hand for training the young medical men of the army have been up to the present woefully defective. The hospital facilities are especially meager. The only general hospital available for the instruction of the student medical officers is the old general hospital at the Washington barracks, which is lacking in almost all the essentials of a modern hospital. This condition of things, however, will soon be at an end, for steps will soon be taken to erect a new general hospital in Washington, which will be in every detail all that an up-to-date military hospital should be. Under the circumstances, therefore, the results of the examinations which have just taken place are remarkably good, and redound to the credit of professors and students alike. In these days of sharp and unremitting competition among medical men, both the army and navy as careers for young medical men are full of promise. Indeed, it would be no exaggeration to say that upon the whole a young man would do better to enter the army or navy medical service than to become a civil practitioner. The prizes, from a pecuniary standpoint, are not so great, but the position is assured, the life is varied and full of interest, and the opportunities for practice, and especially for scientific research, are assuredly more open to the army or navy medical officer than to the rank and file of the medical profession.

The Shiga Variety of Dysentery Bacilli in an Epidemic Near New York.

To the *Journal of Medical Research*, March, Prof. W. H. Park and Dr. H. W. Carey contribute notes upon the serum reactions obtained in laboratory investigations of cultures collected from cases of epidemic dysentery which occurred at Tuckahoe during the past summer. In July, August, and September last, there were about 350 cases of dysentery with a mortality of about 6 per cent. at the above-mentioned place. The average age of fatal cases was somewhat less than three years.

The authors summarize the result of their researches as follows: "From a fatal case of dysentery a bacillus was obtained which, in all but one of many cultural tests seemed identical with Shiga's Japan and Flexner's New Haven culture. The only point of difference being that the Tuckahoe culture produced a trace of indol in peptone solution. The specific agglutins developed in animals through infection of the group of "dysentery," bacilli, which produces considerable indol and develops acid from mannite, did not agglutinate the Tuckahoe, Shiga, or New Haven cultures. All

bacilli, so far obtained in America, Flexner's Baltimore and Philadelphia cultures, and ours from New York City and Seal Harbor—outside of the New Haven and Tuckahoe cultures, seem to belong to this class. The serum reactions of the blood, taken from a number of convalescent cases, with the Baltimore culture, were, on the average, much more marked than those obtained by us from the blood of acute cases of other intestinal diseases, and indicate that this variety of bacillus, as well as the Tuckahoe variety, was present and active in many of the Tuckahoe dysentery cases. Three months later the serum reaction had largely disappeared in the cases tested, and was about alike for both varieties of bacillus."

The conclusions come to by the authors were that not one but several varieties of the Shiga group of bacilli cause dysentery. Already two distinct varieties have been found in the intestines of those suffering from acute dysentery and colitis; which, in the opinion of the writers, are probably exciting factors in the disease. Drs. Park and Carey agree with Martin and Lentz in their statement that the Shiga type differs from Flexner's Manila-Baltimore type in cultural and agglutination reaction, but totally disagree with their assertions that one type of organism is a factor in dysentery, and the other not.

Ankylostomiasis.

Owing to the result of the investigations made by Mr. Charles Wardell Stiles in the Southern States of this country with regard to the prevalence of ankylostomiasis there, much interest has been evinced in this little-known disease. In the *British Medical Journal*, March 28, is an account of the malady by Surgeon Lieut.-Col. Oswald Baker. This writer says that the parasite—the ankylostoma duodenale—was first discovered by Dubini of Milan in 1838, and later in 1847 in Egypt, by Bilharz. Greisingier, who was working with Bilharz, came to the conclusion that it was the sole cause of the anæmia so prevalent in Egypt, known as Egyptian chlorosis. McConnel isolated the entozoön in India, where it is a prolific cause of sickness and death. Dr. Giles, who had been investigating the nature of Kala-azar in the same country, said that in his opinion the disease was simply ankylostomiasis occurring in a malaria-stricken district. In 1879 the anæmia of a progressive and fatal type, which attacked thousands of laborers working in the St. Gothard tunnel, was announced to be ankylostomiasis. The anæmia of the tropics, attributed to beriberi, malaria, general dropsy, and debility, Colonel Baker says is due to ankylostoma duodenale.

The disease is believed to exist interruptedly over three-fifths of the habitable globe. Dr. Thornhill of Ceylon states his conviction that the parasite is the greatest enemy of the human race in the tropics, with which view Colonel Baker is more or less in agreement.

The water-borne theory of infection by the ankylostoma duodenale is no longer tenable. Giles and Sandwith have both shown that this mode of infection is most unlikely. Colonel Baker says "the ova are discharged in myriads with the dejecta, and under favorable circumstances yield embryos in from one to two days. This phase of development takes place outside the body, because exposure to the oxygen of the atmosphere is essential to its accomplishment. These embryos when they gain entrance to man, quickly grow into mature parasites. Now, the inhabitants of countries wherein ankylostomiasis is very prevalent are for the most part tillers of the soil, and generally live in overcrowded villages where sanitation is unknown. They have no latrines, and ease themselves anywhere, often close to their dwellings; they are dirty in their persons, and eat food with their hands, which are unwashed, and sometimes soiled with earth containing embryos. Earth eating is too common in Egypt." This description of the habits of the Egyptian coincides somewhat closely with the manner of living followed by the lower classes in the Southern States. The conclusion, therefore, is that infection is spread by dejecta uncovered, and a generally insanitary mode of life. Dr. Loos of Cairo asserted that ankylostoma embryos entered the body through the hair follicles of the skin. Manson, however, is not prepared to endorse Loos's views.

The writer in the *British Medical Journal* thinks that, in view of the marked changes found in the liver in post-mortem examinations, the question of the ankylostoma being capable of producing a toxin which has hæmolytic and other destructive properties, must be briefly considered. Some observers maintain that such is the case, and to support their views appeal to the analogous action of the bothriocephalus latus, which, although not a blood-sucking parasite, generates a blood toxin which causes profound anæmia.

As to the means of prevention, Colonel Baker says these are summed up in the word sanitation. Burial of the excreta would quickly stay the spread of the disease and ultimately stamp it out. For the treatment of ankylostomiasis there is no vermifuge comparable to thymol. Treated early the malady is easily cured, but neglected it tends to a fatal issue. Therefore, the dejecta of all persons who are received into hospitals, jails, and asylums in the tropics should be searched for the ova of the parasite, and the diagnosis of no tropical disease associated with anæmia should be considered complete until this investigation has been made.

Philadelphia Pediatric Society.—At a stated meeting, held April 14, Dr. G. G. Davis exhibited two patients showing results of bloodless operation for congenital dislocation of the hip. Dr. DeForest Willard presented skiagraphs illustrative of a variety of cases of congenital dislocation of the hip treated by operation. Dr. James K. Young reported the case of a patient with double congenital dislocation of the hip. Dr. Young also reported the case of a patient with spastic paraplegia improved by operation. After tenotomy not only was the patient able to get about better, but there was also an improvement in the mental condition. Dr. William G. Spiller exhibited a patient with Little's disease, and also a patient with family spastic paralysis spinal, both of whom were improved by operation. Dr. Edwin E. Graham reported a case showing the non-susceptibility of the newborn to measles. Although the mother was suffering from the disease at the time of birth and the child was not separated from her, the latter escaped entirely. Dr. Graham reported also a case of pertussis with unusual cerebral symptoms. The patient was a child in whom sopor and finally coma developed in the sixth or seventh week of an attack of whooping-cough. Intracranial hemorrhage was at first suspected, and later meningitis. Lumbar puncture was performed, but yielded no definite information. After death lesions suggestive of tuberculous meningitis were found.

News of the Week.

Prof. C. A. Ewald of Berlin is on a visit to this country, and has been the recipient of many courtesies from his numerous professional friends. While in New York he will be the guest of Dr. Max Einhorn, and will, at intervals, visit Washington, Baltimore, Philadelphia, and Boston, returning home the latter part of this month. On his arrival here on Wednesday, a luncheon was given in his honor at the University Club by Professor Osler of Johns Hopkins, and a dinner the same evening by Dr. Einhorn, at the latter's residence, after which the distinguished foreigner read a paper before the German Medical Society on "Gastric Crises." Next week he will read a paper before the Congress of American Physicians at Washington, after which he will visit the other cities mentioned. As his main object is recreation, he will doubtless have abundant opportunities to prove how warm will be his welcome by his many American admirers.

At the dinner given by Dr. Einhorn there were present besides Mesdames Ewald and Einhorn, Drs. Wm. Osler and J. C. Hemmeter of Baltimore, W. G. Morgan of Washington, C. G. Stockton of Buffalo, Drs. A. Jacobi, L. Weber, A. Caillé, Willy Meyer, E. Quintard, and Geo. F. Shrady of this city.

Doukhobors Marching Again.—A dispatch from Winnipeg, Man., dated May 2, says that fifty half-naked Doukhobors are on the march for Saskatoon. The first detachment was reported at Elbow Village, twenty-two miles from home, on the night of May 1, where the head man was trying to persuade them to go back home. They say they are searching for Jesus, and will not stop until they find Him. The men have discarded their trousers and are marching in their boots and coats, shouting and singing.

The Rapid Growth of New York City.—The population of New York City is increasing at a remarkably rapid rate. The birth rate is now 5 per cent. higher than the death rate, and a large proportion of the phenomenal immigration which has been coming to New York of late remains there. The population of the city is now estimated by the Board of Health at 3,687,000, a gain of 250,000 in the three years since the census was taken. Of this gain 90,000 was in Manhattan, 50,000 in the Bronx, 90,000 in Brooklyn, and 20,000 in Queens. The gain in population in Richmond is but slight.

A $25,000,000 Pure Milk Company.—The People's Pure Milk Company of New York City was incorporated on May 2 with a capital of $25,000,000.

Cholera at Manila.—A cable despatch to the *Sun*, dated May 3, announces that cholera is gradually increasing throughout the archipelago, concurrently with the return of the hot season. The deaths from the disease in Manila itself average twenty weekly. The health authorities have strengthened the guards employed to prevent the contamination of the water supply.

The Columbia Literary Monthly on Athletics.—This magazine for May contains a long editorial article devoted to the question of athletics as carried on in Columbia College. The article is a trenchant, and in many respects a well-written, attack on the position which is accorded to athletics at Columbia. It deprecates the extreme worship of the strenuous life with which students at colleges nowadays appear to be imbued, and suggests that love for athletics is being carried too far among American college students. True enough.

The Goodsell-Bedell Bill and Sanatoria.—A letter has been sent to Governor Odell, by the New York Charity Organization Society's Committee on the Prevention of Tuberculosis, requesting him to veto the Goodsell-Bedell bill. The letter draws attention to the fact, that the effect of this bill becoming law would be to render it impossible for a city of the first class to erect a sanitarium outside its own limits under the laws of 1900 authorizing such action. The bill, however, goes far beyond even this, and would equally interfere with any hospital, camp, or sanatorium which might otherwise be erected by a private philanthropist, a fraternal society, or any other association or corporation.

Drug Stores Reopened in Havana.—It is reported, in the New York *Tribune*, that the druggists in Havana reopened their stores on May 2, on the understanding that no tax will be levied on patent medicines for fifteen days. It is probable that the dispute between the druggists and the government will be settled without further trouble.

Philadelphia Neurological Society.—At a stated meeting, held April 28, Dr. John K. Mitchell exhibited a case of poliomyelitis in an adult involving all four extremities. The patient was a young man, twenty years old, who, following loss of consciousness and a febrile attack eighteen months before coming under observation, was completely paralyzed, with preserved sensibility. There was gradual though imperfect return of power first in the head, then in the right arm, next in the left forearm, and finally in the left thigh and the right leg. The knee-jerks and the cremasteric reflexes were absent, the plantar and the abdominal reflexes diminished. The muscular responses to electric stimulation were diminished, without degenerative reaction. Under treatment, principally with massage, movements, and electricity, improvement took place slowly but steadily. The case was shown on account of the widespread and irregular distribution of the paralysis and of the age of the patient. Drs. Wm. G. Spiller and T. H. Weisenburg reported a case of brachial palsy in an adult, resulting from a lesion of the spinal cord; and they exhibited a man suffering from tuberculosis and presenting paralysis of the forearm with wrist-drop and painful swelling of the wrist-joint. Dr. Horace Carncross exhibited a case of Thomsen's disease associated with pseudo-muscular hypertrophy. The patient was a young man of about twenty-two years, who weighed fifteen pounds at birth and remained abnormally large during childhood. Later the muscles in the upper extremities underwent wasting, while those in the lower extremities remained large, though not correspondingly strong. In addition, the patient had difficulty in initiating movements, the attempt being attended with a certain degree of resistance, which diminished as the movement was continued. The response of the muscles to electric stimulation was slow and sustained. The mother had for a time presented some intermittent spasm of the muscles of the face. Dr. Alfred Gordon read a paper entitled "A Note on the Periodic Insanities, with the Report of Three Cases of Intermittent Melancholia." He pointed out the tendency on the part of intermittent or recurrent melancholia to set in and also to terminate rather abruptly. Dr. Wm. Pickett prerented a communication entitled, "Senile Dementia: A Statistical Study of Two Hundred Cases, with Special Reference to Types of the Disease."

The Death of Dr. Hugo Lupinski.—At a meeting of the Academy of Medicine of Grand Rapids, Mich., the following resolutions were adopted:

"In the prime of manhood, at the zenith of his success, in the midst of a wide field of usefulness and

endeavor, Dr. Hugo Lupinski departed this life April 7, 1903; and,

"*Whereas*, In the death of Dr. Lupinski the Academy of Medicine of Grand Rapids, as a whole, and individually, has suffered an irreparable loss, in that his loyalty to the principles upheld by the Academy was unflinching, and his ability as a scientific physician lent value and dignity to its meetings; and,

"*Whereas*, The community at large, as well, has lost a true citizen and a faithful public servant, possessed of strong convictions and the courage of them,

"*Be it therefore Resolved*, That we, the Academy of Medicine and members of this community, do hereby express our sense of loss and sorrow, in a full realization of the good works and noble traits of character of our lamented colleague and brother; and,

"*Be it Resolved*, That these resolutions be spread upon the records of the Academy, and that copies be furnished to the medical press, within the judgment of the secretary of this society, and to the sorrowing family of Dr. Lupinski, in evidence of our sympathy and grief.

(Signed) Charles E. Hooker, M.D., Chairman;
Henry Hulst, M.D.,
Perry Shurtz, M.D.

Philadelphia County Medical Society, South Branch.—At a stated meeting, held April 24, 1903, Dr. Jos. M. O'Malley reported a case of ulcerative endocarditis and he exhibited the heart. Dr. J. H. Musser presented a communication entitled, "The Diagnosis of Endocarditis." Dr. J. C. Wilson, a paper entitled "The Treatment of Endocarditis," and Dr. A. E. Roussell, a paper entitled "Septic Endocarditis."

American Medico-Psychological Association.—The fifty-ninth annual meeting of the American Medico-Psychological Association, late Association of Medical Superintendents of American Institutions for the Insane, founded in 1844, will be held at Washington, in affiliation with the Congress of American Physicians and Surgeons, May 12, 13, 14 and 15.

Obituary Notes.—Dr. James Conland, aged fifty-two years, died at his home in Brattleboro, Vt., on May 2, from nervous exhaustion and heart disease. Dr. Conland was born in Brooklyn, N. Y., and graduated from the medical department of the University of Vermont in 1878, and practised in Brattleboro for a large part of his professional life. Dr. Conland was a great friend of Rudyard Kipling, who owned property and spent several summers in Brattleboro. The deceased physician is said to have greatly assisted the English author in the preparation of "Captain Courageous," and, among a rare collection of first editions, possessed the manuscript of that work.

Dr. James A. Roache died at his home, 312 Jefferson avenue, Brooklyn, N. Y., on May 3. He was born in New York City in 1869, and went to Brooklyn in 1873, where he studied at St. Patrick's Academy, and later in St. Francis's College, and in 1891 was graduated from the Long Island College Hospital, while for a time he was an interne in St. Mary's Hospital. At the time of his death he was one of the visiting physicians to that institution. In 1899 Dr. Roache was married to the youngest daughter of ex-Register Hugh McLaughlin, the leader of the Kings County Democracy.

Dr. Harris Lee Paige, aged forty-five years, died at Dover, Del., on April 30, in an attack of apoplexy. He was a graduate of Jefferson Medical College.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

PUBLIC HEALTH—MISTAKES IN DIAGNOSIS—DANGERS OF HYPNOTICS—VELVRIL—LYSOFORM—JURYMEN ON DOCTORS—RURAL MIDWIVES—SMALLPOX—COUNTY COUNCIL AND PATHOLOGISTS—NEWSPAPER SCIENCE AND MEDICINE—DEATHS.

London, April 17, 1903.

The unusually mild winter we have had seems to have had a beneficial influence on the public health. The returns for the first quarter (thirteen weeks) of the present year show a death rate for the seventy-six greater towns of 17.3 as against 19.9 for the corresponding quarter of last year. London's mortality has been exactly the same, but some of the suburban rates have been remarkable—ranging from 9.1 at Hornsey to 16.6 at West Ham.

To balance the winter we have, so far, a cold spring. The Easter holidays were spoiled to many by an unexpected cold snap—particularly those seeking out-door amusements. In Buckinghamshire eight degrees of frost with strong wind has ruined the hopes of a good fruit crop, and farther north snow and frost have caused heavy loss to the flock masters as the lambing had begun. Yesterday, in London, we had several snow showers with cutting wind, and this morning I learn that further up the Thames valley twelve degrees of frost were registered during the night—a most unusual fall.

The study of mistakes is a profitable one, whether our own or other people's. Perhaps the latter is the more attractive. A part of this extensive subject, viz., mistakes in the diagnosis of malignant disease, was brought before the Harveian Society on the 2d inst. by Mr. Raymond Johnson, who set out with the remark that these mistakes are often due to the primary tumor being overlooked and a symptom caused by a secondary deposit taken for the disease. A case of this kind was that of a woman with paralysis and muscular atrophy of the upper limbs, the nature of which was doubtful until a small, hard nodule was accidentally discovered in one breast. At the autopsy many secondary growths were found, and one in the spine involved nerve roots, which explained the symptoms. He showed a tumor of the upper end of the humerus, from University College Museum, which had been diagnosed as sarcoma and amputation at the shoulder performed. The microscope showed it to be carcinoma and the patient was found to have cancer of the uterus. Spontaneous fracture of bones may be due to secondary carcinoma in a central position and so causing no swelling. Abdominal tumors present other difficulties. Mr. Johnson mentioned inflammatory deposits simulating hard tumors, localized peritonitis again, gallstones, psoas abscess and other conditions. He referred to a case of abdominal section revealing a large retroperitoneal tumor with the appearance of sarcoma. A history of epistaxis and "blood in the joints" suggested the possibility of an extravasation due to hæmophilia. For months altered blood oozed from an opening in the incision and the tumor gradually disappeared, the patient being quite well four years afterward.

Mr. Johnson's paper evoked the relation of other cases, in some of which the diagnosis seemed to have been too gloomy, though in others the reverse error had occurred. Dr. James Taylor said he knew of one patient supposed to be certainly dying from cancer, but who is now quite well. Dr. Prickett mentioned the case of a lady of seventy-three years with fetid discharge and a mass thought to be undoubtedly malignant, extending from the cervix to within an inch of the vulva, and considered too advanced for operation. In less than a year it was gone. Either the diagnosis was wrong or malignant growths sometimes disappear spontaneously. Mr. Malcolm instanced an operation on a child of four years for tumor of the kidney which proved to be sarcoma of the tail of the pancreas. After death a secondary growth was found within the portal vein. In another case, supposed to be gallstones, cancer of the head of the pancreas was revealed at the operation, and at the post-mortem, five weeks later, the duodenum seemed a tube of cancerous tissue. In a case of supposed ovarian tumor, the peritoneal cavity was found on operation completely obliterated, so nothing could be done, but eighteen months later there was no tumor to be detected and the patient was quite well. In another, inflammatory disease of ovaries and tubes was diagnosed; the pelvis was found shut off by adherent intestines; an opening was made through the posterior vaginal fornix, but no pus was found in the hard, pelvic mass which was then looked upon as cancerous, but a few months later it had disappeared and the patient was quite well.

Our new Therapeutical Society is proving a vigorous

infant and we may hope for it a longer life than its predecessors. Several interesting communications respecting little known remedies have been submitted for examination. At the last meeting a collection of roots from Lake Nyassa was exhibited. In due time we shall hear more of these, as the society resolved to publish abstracts of papers and proceedings. Under the fostering care of the Society of Apothecaries there is promise of success.

The Master of the Worshipful Souls, Mr. W. Parson, presided at the meeting on the 31st ult., elections to the council were confirmed and then Dr. Nestor Tirard read a paper on "Some Dangers of Hypnotics." He said all, both old and new, involve danger. The conditions under which untoward results occur not being solely dependent on the dose. The danger may be limited to the patient, but the blame may be laid on the prescriber or dispenser. Dr. Tirard quoted a therapeutic index which gave fifty remedies for insomnia, many, of course, but little known, but the majority were spoken of as producing refreshing sleep without depressing circulation or respiration, though later on some toxic effects might be mentioned. He held that all might be dangerous. Sulphonal long held its ground as safe, if slow and somewhat uncertain; later came accounts of giddiness, drowsiness, headache, ataxic gait, collapse, and other serious effects, which often set in after the patient had apparently been benefited by previous doses. So with trional and tetronal, the toxic effects may suddenly set in after the prolonged use of moderate doses. Paraldehyde, the taste of which is to many very disagreeable, has nevertheless led to a habit and produced deterioration comparable to chronic alcoholism. The presence of certain diseases may render ordinary doses dangerous *e. g.*, chloral in cardiac degeneration or dilatation. Instances were given of poisoning under different conditions. In one case a bottle which had contained 250 gr. of sulphonal was found and the patient remained unconscious for a week, although prompt treatment was obtained. Other cases arose from the patients increasing the doses prescribed; one was named in which he deliberately altered his prescription. Cases have also unfortunately occurred in which blame has attached to either prescriber or dispenser. It is further a common trick of *habitués* to keep their narcotic in a bottle labeled with an innocent name. One person had solution of morphine labeled sal volatile, and a nurse gave it with fatal result. The hypodermic syringe became full of risks when it passed into the hands of the public, and the difficulty of treating a case of overdose thus given was pointed out by Dr. Tirard. Seconding him in that, I would add that there is danger in leaving this instrument to be used by nurses. I have always held that doctors are too ready to hand over some of their work to nurses. They have seen it done in hospitals and have imitated their teachers. But even in hospitals there is more of this than there ought to be. Dr. Tirard would only permit hypnotics to be dispensed on a freshly-dated prescription, which should be retained and returned to the prescriber. In the discussion on this paper. Dr. de Haviland Hall mentioned the difficulty that patients insisted on sleep being procured at any price. In a case where $\frac{1}{10}$ gr. of atropine was given for opium poisoning he recommended the dose to be reduced to half, and the attendant gave $\frac{1}{20}$, thinking that the half of $\frac{1}{10}$. The patient died.

A second paper was then read by Mr. Peyton T. B. Beale on the new aseptic film called "Velvril," which is a mixture of nitro-cellulose with a nitrated oil and is soluble in acetone, but not in most other liquids. The skin being washed with acetone may be painted over a wound with a solution of velvril and the film pressed firmly on it with dry sterile wool and a bandage. Left thus it will peel off in ten or twelve days, but it can be removed any time by laying a damp cloth on it for a few minutes. Velvril was said to be absolutely impervious to all ordinary liquids or gases, never to harden and to be unchanged by sterilizing in boiling water, but the solution in acetone is itself sterile and unirritating. It was suggested that it be used for bougies and catheters and replace india rubber in surgical practice.

I am reminded by Mr. Peyton Beale's communication that he has for some time been using lysoform at King's College Hospital as an antiseptic and bactericide. For sterilizing the skin this fluid may be rubbed in for two or three minutes. It makes a lather and can be washed off with sterile water. As a deodorant in gangrene, etc., it is most powerful in a strength of 1 in 40. As a gargle or mouth-wash 1 in 60 is enough. With pus it forms a thick ropy fluid, which can be washed away with water. A plug soaked in 1 in 20 left in a burrowing abscess or sinus for a few hours will effectually cleanse it.

At an inquest on Saturday the jury wished to censure a doctor for refusing to go to a stranger in the night until paid. The coroner, who was a doctor, explained that people had no more right to demand the services of a medical man without payment than to require the baker or butcher to supply them. He said every holiday time medical men get called out with a tale that somebody has poisoned himself or is injured, and on arrival find that nothing but a drunken brawl has occurred, and gets nothing for their trouble. "I have been through the mill and know," he added.

At another inquest some of the jury expressed indignation with a doctor who had been called in to treat the deceased for an overdose of opium. There was no evidence, favoring suicide, but these jurymen thought the doctor ought to have called in the police!

Mrs. Heywood Johnstone, who describes herself as "Chair*man* of the Rural Midwives' Association," is appealing for funds to pay the secretary pioneer and visiting superintendent to set this organization at work to train and provide midwives for the villages. You will remember that Mr. H. Johnstone was the leader of the party which forced the Midwives' Bill through Parliament in opposition to the voice of the great majority of the profession.

Local outbreaks of smallpox in the provinces are still giving rise to uneasiness among sanitary authorities.

The County Council has written to the chief hospitals respecting its scheme of employing skilled pathologists at inquests. Guy's has already answered pointing out that in difficult cases the pathological expert would be valuable, but that it should not supersede the clinical medical evidence, and that the fee of two guineas would not secure the services of pathologists of the required standard.

The "Mystery of Radium" is the subject of some correspondence in the *Times* of more or less interest, according to the point of view of the reader. Various theories are being put forward to explain what little we know about radium, most of them with a confidence that takes for granted our knowledge is complete. But scientific men are not indulging in any such supposition.

When the newspapers take up medical or scientific matters they are often amusing. One of them has just reported that the authorities of St. Bartholomew's Hospital have discovered that patients who could afford to pay resort to their out-patient department, and have therefore put up a board saying inquiry will be made as to the circumstances of applicants. Bart's men who remember that board for some quarter of a century are amused.

Another paper came out the day before yesterday with a statement that the Royal Commission on Cancer would shortly report in favor of treatment by high frequency currents. As there is no Royal Commission on Cancer in existence, this is early news indeed.

Deputy Surgeon-General G. B. F. Arden (M.R.C.S., 1854) died at sea on the 1st instant, on his way home from Madeira. He served in the army from 1854 to 1879. He was through the New Zealand war (1863-6), for which he had the medal.

Dr. James Priestley died on the 31st ult. of septicæmia, contracted in the course of his professional work. He was only thirty-eight years of age, but he had made his mark. He took his B.A. in 1886, M.B. in 1894, and M.D. of the Royal University of Ireland in 1897, having taken the Public Health diploma of the English Colleges in 1893. He was for some time assistant medical officer in Paddington, and afterward senior of the N. E. Fever Hospital of the Asylums Board. Five years ago he went into private practice at Lee-on-the-Solent where he had attained success and the esteem of his neighbors.

Dr. J. Glen Forsyth, Assistant Medical Officer of the West Riding Asylum, Wakefield, died on the 11th inst., after a few days' illness. He took his M.B., Ch.B. Edin., in 1899.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

A CHINESE MEDICAL INSPECTOR—SOME ACCOUNT OF SURRA, THE HORSE DISEASE—THE MANILA MEDICAL SOCIETY—RECOVERY FROM PISTOL SHOT WOUND OF INTESTINE.

To facilitate its work among the 60,000 Chinese residents of Manila, the Board of Health has appointed a Chinese physician, Dr. Han Kee, as Medical Inspector. Dr. Han Kee is a graduate of the English Medical School at Hongkong, and is said to be well qualified professionally in the practice of scientific medicine. He will also be the medical superintendent of the Chinese hospital in Manila. It is believed that he will have an excellent influence with the Chinese element here, since he is of their own race and can approach them in their own language.

In deference to the opposition of the Chinese to cremation as a method of disposal of the dead, and to secure their support as far as possible in matters of sanitation, the health authorities of Manila will hereafter furnish metallic coffins gratuitously in the case of Chinese dying

of plague, so that the bones of the deceased may ultimately be removed to China for burial, according to Chinese custom. Bodies must be packed in quicklime in hermetically sealed metal coffins and be buried for a term of years before removal. As plague is occurring only in the poorer class of coolies, the friends and relatives of those who have died of this disease are frequently too poor to buy the sanitary coffins required, and hence the health authorities have decided to furnish the latter without cost in plague cases among the Chinese.

Americans who have just returned to Manila from the island of Panay state that cholera has been stamped out, but that malarial fever has taken its place and the number of deaths from the latter disease is very large. Much of this sickness is the result of the ignorant superstitions entertained by the natives regarding the alleged poisoning of the wells by the Americans during the cholera epidemic. As a result, American missionaries who are conducting free dispensaries in connection with their other duties find it a matter of much difficulty to induce the natives to accept and use their medicines. Malaria has thus become very prevalent and the officials find considerable difficulty in dealing with the situation.

Major-General Davis, commanding the army in the Philippines, has sent out a party to explore the mountains near Mariveles, at the entrance to Manila Bay, with a view of finding a site for a convalescent hospital above the 2,500-foot level. Many of the mountains near the bay are 3,000 to 4,200 feet high, and the present inaccessibility of the government sanitarium at Benguet raises the question as to whether a suitable locality for a convalescent hospital cannot be found near to Manila.

To facilitate sanitary work in the islands, the status of provincial and municipal health officers has been changed. Hereafter they will be regarded not as purely local officials, but as officers of the general government, and as such will be liable to transfer for duty to other provinces or towns as need arises. This change was made largely as a result of the cholera epidemic, when it was found difficult to displace local officials of inferior qualifications, who had not yet had experience with cholera, by better men who had had ample experience in this respect. The change will not be favorably regarded by those affected, as they are chiefly Filipino physicians who have outside practices in addition to their other duties, and these practices they will be loth to surrender.

A report on surra, the horse disease so prevalent here, written by Veterinarian Evans of the British Indian Army, has just been published by the military authorities here. The report forms part of the material being collected relative to surra by a commission of line officers now travelling in India and the Dutch East Indies investigating this disease which during the past year destroyed about one-fourth of the cavalry horses in the Philippines, besides a vast number of native ponies. The disease has lately been studied by our own army surgeons, who have proved the inoculability of the disease, discovered the specific microorganism in the blood, traced this microorganism through a biting fly, and identified the fly. In view of the acquirement of so much data on the subject, upon which proper measures of prophylaxis can be intelligently based, it seems unfortunate that the present report should have been selected for the stamp of military approval, when it is so "mixed" in its pathology and in respect to the method of transmission of the disease. The report states, in addition to many facts of no value and some misinformation with regard to the disease, that surra is characterized by a specific infusorium found in the blood, is incurable and transmissible by inoculation. It exists in India chiefly in the rainy season, from June to November, and is rarely seen in the spring. It is confined to certain districts, and animals removed from those districts before the surra season escape the disease. The necessity for the cleaning up and destruction of horse manure around stables and old camping grounds is insisted upon. A biting fly, of undescribed species, is found in the surra districts during the surra season. Veterinarian Evans still clings to the old idea that surra is in some way transmitted through impure water or on green forage cut on marshes soaked with stagnant and foul-smelling water. He consequently bases his prophylactic measures on this belief and completely ignores measures calculated to limit the disease by preventing inoculation through the agency of biting flies, which are at present the only known medium for conveying the infection.

The program of the February meeting of the Manila Medical Society included interesting papers by Dr. William B. Wherry, on the sterilization of drinking water by the use of benzozone, and by Dr. H. W. Yemans, on personal hygiene in the tropics. The tests relative to the sterilization of drinking water was carried out as a result of the excessive expense connected with the supply of distilled water to the San Lazaro Hospital. Dr. Wherry used benzozone in 1-1,000 solution, and found that all non-sporulating bacteria present in the city water supply were destroyed by a strength of 1-60,000, acting over a period of five minutes. Experimenting with the typhoid bacillus as a type of the less resistive organisms, to which class the cholera bacillus and Shiga's dysentery bacillus also belong, it was found that sterilization invariably occurred in five minutes, where sufficient benzozone solution was added to 300 c.c. of sterilized water to which 1 c.c. of a fresh bouillon culture of typhoid bacilli had previously been added. It was stated that the saving which could be effected by the use of benzozone in relation to the drinking-water supply of San Lazaro Hospital alone would amount to more than $200 per month. The use of benzozone has no unfavorable effect upon the organism, even when acting over long periods of time, and does not render the water to which it has been added unpalatable to the taste. Ever since the beginning of the cholera epidemic benzozone in 1-2,000 solution has been used by a number of persons for all drinking purposes. In spite of the favorable bacteriological tests for the sterilization of drinking water by the use of benzozone, it should not be forgotten that the chief water-borne disease in the tropics is amœbic dysentery, and that the effect of benzozone upon the lower forms of animal life has not yet been worked out. The simple plan of boiling all drinking water is also the most safe. While the use of benzozone might seem to have a certain value for military use, the rapidity with which it decomposes would seriously interfere with its transportability and hence its value for this purpose. As an intestinal antiseptic, benzozone has much value, since it is the most powerful germicide known. The manner in which it destroys bacteria is not understood, since although it is known to possess oxidizing powers, these are only about one-sixtieth as great as in the case of hydrogen peroxide, which has much less effective germicidal powers.

Dr. Yemans, in his paper on personal hygiene in the tropics, placed special stress on the necessity of avoiding chilling at night in the prevention of congestive diarrhœas. He urged the use of a more loose and rational dress, particularly among the white women, many of whom wear corsets. He believes that the too free use of soap and friction with towels is an important factor in the occurrence of skin diseases of a parasitic nature among foreigners, the soap macerating and removing the superficial epidermal layer while the friction with rough towels produced minute lesions upon which the microorganisms of parasitic skin disease found favorable conditions for their multiplication and development. The common use of imported carbonated table waters by Americans was deprecated as being largely responsible for the constipation so commonly found among foreign residents—in many instances the use of plain boiled water, in lieu of carbonated waters, was found to effect a complete cure in many cases of obstinate constipation without the necessity of resorting to medication. Much of the constipation existing at present among foreign residents is due to the disuse of fresh fruits and vegetables as a result of the existence of cholera.

Dr Banister of the army, exhibited a patient in whom recovery had followed laparotomy for pistol shot wound of the intestines; and Dr. McDill showed a fifty-pound multilocular ovarian cyst and a large dermoid cyst which he had removed from the same patient, a young Filipino girl. In connection with these two cases, the president of the society, Dr. Donelan, an English physician long resident in Manila, stated that to his knowledge a laparotomy had never been performed in the Philippine Islands prior to the coming of the Americans, except a few cases of Cæsarian section performed by the Spanish friars on the dead body to enable baptism of the fœtus. The influx of a high class of medical men with the American army had been of the greatest value in raising the standard of scientific medicine and operative surgery in the islands.

Prolapse of the Posterior Vaginal Wall.—Roche reports the case of a woman of thirty-nine years. She was the mother of five children. Cough caused a small vulvar tumor, the size of a mandarin. Urination was frequent, and there was incontinence on laughing or exertion. There was a very marked projection of the posterior vaginal wall. Rectal touch showed that the rectal wall had not followed the vaginal wall. There was a narrowing of the rectum, annular, with irregular walls. The uterus was small and anteflexed. The fact that the rectal wall did not follow the vaginal is quite rare. It is probably due to the presence of the narrowing. This contraction was bacillary in origin.—*Journal de Médecine de Bordeaux*, April 5, 1903.

Progress of Medical Science.

The Boston Medical and Surgical Journal, April 30, 1903.

A Case of Juvenile Aortic Stenosis, with Subsequent Insufficiency; Sudden Death; Autopsy.—Albert N. Blodgett describes the case of a young man of twenty years who was under observation for two and a half years. His pulse was 58 to 60, suddenly relaxing under the finger. Clinical symptoms pointed to cardiac affection, which was confirmed by physical examination. The patient fell dead while boxing with a college companion, having received only a moderate blow on the side of the face. At the autopsy the diagnosis was made of chronic aortic endocarditis with stenosis of the opening; hypertrophy of the left heart, and general venous engorgement. The author attributes the affection to the results of a syphilitic affection of some years before, the traces of which were still distinctly visible. There was no history of rheumatism or any other infective disorder to which the lesion of the heart could be ascribed, and it was certainly not congenital.

Albumosuria.—Chauncey Rea Burr says that albumosuria is the term used to describe that condition in which albumoses are present in the urine. It is a pathological state, and its importance has been but dimly appreciated till very recently. Clinically, albumosuria is found where there is leucocytosis; it is highly probable that a large part of the albumoses present in the blood of febrile cases is derived from the leucocytes. The author gives directions for the detection of the various forms of albumoses present in the urine. He also gives a list of the diseases in which they are found. Albumoses are toxic; cobra venom consists of 98 per cent. of albumose and peptone and 2 per cent. of globulin. Its toxicity resides in the albumose. The treatment of albumosuria and peptonuria is, in general, that which is employed for the septic state. The neurotoxic element is best combated by oxygen and strychnia. The best method of administering oxygen is by the ingestion of a new chemical compound, magnesium dioxide. Another agent of value is normal salt-solution, administered preferably in rectal injections of a pint or half a pint morning and night, the bowels having previously been emptied by an enema. The author, in closing, lays emphasis on the fact that, apart from lesions of the digestive tract, albumosuria is indicative of leucocytosis, and peptonuria of pus absorption.

Strangulated Hernia in an Infant Six Weeks Old; Operation; Recovery.—George Tully Vaughan reports the case of a colored male child in whom a tight swelling about the size of a hen's egg was seen in the scrotum and inguinal region. Operation was decided on, and about eighteen inches of ileum were found in the sac of the tunica vaginilis testis, highly congested, with a portion adherent to the bottom of the sac. This portion looked almost gangrenous in patches. The constriction was at the internal ring, and this had to be slightly enlarged before the intestine could be reduced. The peritoneum and transversalis fascia were sewed across with kangaroo tendon as high up as possible, the cord was raised from its bed and one suture introduced to bring together the conjoined tendon and Poupart's ligament, the cord replaced, and the aponeurosis of the external oblique and fascia united over the cord by a continuous kangaroo tendon suture. The skin was united with continuous silkworm-gut suture and sealed with collodion. No attempt was made to dissect the funicular process of the peritoneum from the cord—it was simply closed above by means of a kangaroo tendon suture carefully inserted so as not to injure the cord. There was no further trouble, no vomiting nor excessive crying. The stitches were removed eleven days after the operation and the patient discharged well five days later.

New York Medical Journal, May 2, 1903.

A Case of Nævus of the Scalp and Nose Treated by Hot-water Injections.—F. Griffith reports the case, his patient being a girl of seven months. The scalp area involved was first treated by injection of water at a temperature of from 180° to 200° F. One fluid drachm was injected without any anæsthesia. A dry dressing was applied, held in position by thin india-rubber straps. In a few days the original swelling had almost entirely disappeared. Subsequent injections completed the cure. The nasal area was then treated in the same way. In neither instance was the skin-surface damaged by the heat of the injections. The chief danger following the employment of this method of treatment is that of embolism, but this tendency seems to be overcome by having the water near the boiling point when injecting, thereby insuring prompt and firm coagulation.

The Tendo Achillis Shortened for the Restoration of the Function of the Calf, Lost as a Result of a Previous Tenotomy.—R. A. Hibbs reports three cases illustrating his paper with some excellent photographs. The facts revealed by the operations in these cases for shortening the tendon, viz., the dissimilarity in every important particular of the structure filling in the gap between the ends of the old tendon to normal tendon, may be considered unmistakable evidence that the subcutaneous division of the tendo Achillis is not always so successful as it has long been considered to be; that while in some cases the healing process seems to reproduce a structure sufficiently strong to perform the function of tendon, in others exactly similar, it does not do so, and that one cannot be sure in a given case what the result will be. Therefore, there must be some condition or conditions necessary in order that the healing process may be entirely successful, which cannot be secured with certainty by that operation, and Hibbs is convinced that they are: (1) The preservation of the sheath. (2) The preservation of the continuity of the tendon. And these cannot be secured except through an open operation.

The Operative Treatment of Stenosis of the Larynx Following Intubation and Tracheotomy; Report and Exhibition of Cases.—A. B. Duel emphasizes the following points: (1) The largest sized tube possible should be inserted, under an anæsthetic. In case of contraction, rapid dilatation should be done by beginning with the small sizes and working up to the large special tube, which is to be left in place. This special tube should be as large as can be inserted, and the constriction below the neck only $\frac{1}{32}$ of an inch smaller than the retaining swell. (2) This tube should be left in, undisturbed, for six weeks at least. It should then be removed, and, if a cure has not been accomplished, it should be replaced for six weeks longer. The trouble in these cases is that autoextubaton and frequent reintubation defeat the purpose of the tube by constantly irritating the larynx. Duel is therefore in favor of splitting the larynx and holding the tube in place by means of the retaining clamp early, in such cases, rather than of resorting to a tracheotomy, which, almost invariably adds cicatricial bands to the already existing hypertrophy. In patients who have already been tracheotomized for a considerable time, so that bands have already formed, these constrictions should, if possible, be gradually dilated, and the special tube be then allowed to remain. Should it be impossible to dilate, however, or should autoextubation take place frequently after dilatation, a thyreotomy should be done and the tube be held in place.

The Treatment of Gastric and Duodenal Hemorrhages.—Max Einhorn says that we should first check the bleeding and then combat the disease underlying the hemorrhage. General measures include rest in bed, total abstinence from food and drink and opiates subcutaneously or per rectum. Rectal enemata will furnish proper nutriment. Saline infusions subcutaneously or per rectum are of service. Ice-bags may be applied to the abdomen. Ergot may be given by the hypodermic method. Injections of gelatin are often useful. It may be given by the mouth in the forms of calfs-foot jelly. Einhorn prefers the subcutaneous route, injecting about 100 c.c. of a two-per-cent. solution into the gluteal region. Adrenalin is also of service. Surgical measures are of two kinds—first, the location of the bleeding area and excising or cauterizing it, and, second, performing a gastroenterostomy. The indications for surgical intervention are thus summarized: (1) Very profuse hemorrhages recurring at comparatively short intervals (two to three days) demand immediate operation. (2) Profuse gastric, and especially duodenal hemorrhages, occurring once or twice yearly with more or less regularity, and each time greatly endangering the life of the patient, require an interval or, so to say, prophylactic operation, to avoid a return of the hemorrhage. (3) Frequent small hemorrhages of the stomach or duodenum which greatly debilitate the patient and cannot be stopped by rational therapeutics, often demand operative measures. Here, also, a gastroenterostomy will generally be employed.

Journal of the American Medical Association, May 2, 1903.

The Meaning and Significance of Leucocytosis.—The views of R. N. Willson are summarized in the following statements: (1) The term leucocytosis must include every increase in the absolute number of the leucocytes of the blood examined, as well as every increase in the percentage count of the various leucocytic forms. (2) A leucocytosis, of whatever nature, must always be regarded as a clinical sign of importance, but never of such weight as to influence against equally convincing physical signs. (3) A high percentage of the polymorphonuclear forms in the absence of an absolute leucocytosis indicates the presence

either of pus or of some grave inflammatory process, together with a low vitality of the patient. (4) Specific factors may rarely exert such an unusual influence as to interfere with the customary reaction of the polymorphonuclear cells. At least one instance has been noted in which the total number of leucocytes was increased at the same time, with a marked reduction in the number of the polymorphonuclear forms. This condition is, probably, seldom encountered. (5) Single counts of the leucocytes, or single estimations of the leucocytic percentages are often misleading; while a persistent series of observations will seldom fail to aid in the diagnosis and treatment of the condition. (6) A gradual, but steady, rise in the total count of leucocytes above the customary number usually indicates the presence of an active and augmenting inflammatory influence. When this increase reaches large proportions it may be looked on as an indication of the presence of an active leucocytic process (seroses or purulent effusion, localized pus collection, pneumonic exudate, etc.), provided the clinical picture also bears out the suggestion.

Is the Consumptive Chest Flat?—From a study of over 350 cases, Woods Hutchinson presents the following deductions: (1) The typical tuberculous chest is round instead of flat, and has an average index of about 80, nearly 10° above the normal. (2) This type of chest precedes the disease. (3) It is an abnormal persistence of the fetal, infantile, and child-type of chest. (4) Any chest more than eighteen years of age which shows an index of 80 or higher should be regarded as abnormal and as rendering its possessor more than usually liable to tuberculosis. (5) The occurrence of such a chest in any patient over eighteen years of age, suspected of tuberculosis, raises a strong probability of the disease. (6) The chests of growing boys and girls should be systematically measured at stated intervals, and wherever the index is found distinctly higher than that normal for their age active measures should be taken to remedy the defect. (7) All those sports and exercises which involve wide-swinging use and play of the arm, chest, shoulder group of muscles, such as tree climbing, swinging from ladders, from rings, from bars, ball throwing, spear hurling, tennis, swimming, will tend to correct this defect and flatten the chest down to its proper index.

Shock Produced by General Anæsthesia.—F. B. Turck discusses this question with relation to disturbances of the blood and gastroenteric tract As a result of his experimental studies, he offers the following conclusions: (1) The circulatory disturbance is a direct result of the chloroform or ether acting on the vasomotor centers. (2) The prolonged effect of chloroform and ether on the splanchnic circulation results in congestion associated with fall in temperature. Temperature may fall without fall in blood pressure. (3) The direct effect of the toxins of chloroform and ether acting on cells, with disturbance of metabolism, may produce toxic products. (4) The resulting elaboration of toxins produces symptoms of "autointoxication," associated with the formation of hæmolytic and agglutinating bodies, and precipitins. (5) Indirect toxic effects result from retention of toxic products through disturbances of elimination. (6) There is lessened resistance of the blood serum to normal excreted toxins. (7) There is lessened resistance of the blood serum to bacterial toxins. (8) There is diminished resistance to the development of saprophytic and pathogenic microorganisms. (9) This may be partly explained by the changes observed in the sera, such as diminished antiferment properties, hæmolysis, agglutination, precipitins, etc. (10) That reflex effects result, such as reflex irritation set up by the excretion of the anæsthetic into the stomach and intestines. (11) As the result of atony there is the formation of toxins in the stomach and intestines through bacterial growth. (12) Atony of the stomach and intestines results in the accumulation of gases and interference with the circulation. (13) There is increased toxicity of the stomach contents in the presence of chloroform and ether.

A New Method of Shortening the Round Ligaments Intraperitoneally for Retroversion.—H. T. Byford alludes to the familiar Alexander operation and the modifications thereof made by various colleagues. He advocates another modification, which consists in folding the ligaments anteriorly according to the method of Dudley, but in stitching the loop to the abdominal parietes about opposite or behind and a trifle above the internal inguinal ring. The ligament is grasped with hæmostatic forceps and pulled out of the abdominal incision until it is drawn as far out of the inguinal ring as possible without doing violence to the tissues. Then a medium-sized catgut suture is passed through the center of the ligament about a quarter of an inch from the uterine end, and the same suture is passed through the ligament about half an inch from the internal-inguinal ring. The suture is then drawn tight and tied like an ordinary ligature, except that it, of course, includes only half of the ligament in its grasp. The inner edges of the loop thus formed should now be touched with a chemical irritant, such as Monsel's solution or 1 to 5,000 mercuric bichloride, in order to destroy the endothelium and secure firm adhesions. The irritant is then wiped off and the edges sewed together by fine catgut that entirely closes in and covers up the irritated peritoneal surfaces The end of this fold is then touched with the chemical irritant and stitched forward beside the bladder about opposite and a little above the level of the external inguinal ring. This, of course, will be only a peritoneal attachment and should be rather high, because the peritoneum is held in place here rather loosely. Thus we practically have two round ligaments on either side, one going from the uterus partly through the first catgut ligature to the attachment behind the external inguinal ring, and the other from the uterus to the ligature and from there to the internal inguinal ring, etc.

Philadelphia Medical Journal, May 2, 1903.

The Radical Cure of Inguinal Hernia in Infants and Young Children.—Charles Greene Cumston believes that: (1) Experience has demonstrated the innocuity of radical operation for hernia in infants. (2) The operation is indicated in all cases of strangulation, in all cases in which the contents of the sac cannot be retained by a truss, and in every case in which irritation of the skin is produced by the mechanical appliance, and in children of the poor who cannot receive the necessary and proper attention at their homes.

Report of a Case of Painless Amputation of the Leg after the Intraneural Injection of Cocaine.—John H. Gibbon reports the case of a man of fifty years with a far advanced tuberculous disease of the ankle-joint and bones of the tarsus. Fifteen minutes before the operation, $\frac{1}{4}$ gr morphine and $\frac{1}{150}$ gr. atropine were given hypodermically. The sciatic and anterior crural nerves were then exposed by infiltration anæsthesia (Schleich's fluid), and injected with a 1 per cent cocaine solution. The introduction of the fluid into the nerve was not painful, probably because of the solution already injected about it. It was about eight minutes before anæsthesia was completed. When the circular division of all the soft parts was made, the patient felt no pain. During the amputation and after it there was no evidence of shock except a slightly increased pulse-rate. The temperature immediately after operation was 99.2-5°, pulse 112, respiration 20. The recovery was uneventful. The solution must be pure and fresh, and the technique perfect in order to obtain good results. This method should be limited at this time to cases in which general anæsthesia is contraindicated.

A Case of Perforated Ulcer in Typhoid Fever.—James C. Wilson and George G. Ross emphasize the following points: (1) Eighteen or twenty hours prior to the probable time of perforation the patient became extremely nervous and restless and perspired very freely. Could this have been evidence of threatening perforation? Could the deep ulceration of the bowel wall, until it approached the peritoneal coat, have caused sufficient vasomotor disturbance to account for the vasomotor symptoms? (2) Perforation in which the initial pain was referred to the penis and there persisted for twelve hours without being referred to the abdomen. Could this pain in the penis be due to the proximity of the inflammatory area to the ureter or bladder? (3) Perforation without collapse. This man's temperature remained high, he had no syncope. No vomiting, sweating, or pain in the abdomen. (4) The unavoidable delay in making a positive diagnosis. (5) The difficulty in securing the family's consent and the loss of five hours of valuable time consequent thereto. It has been noticed in many cases that there has been an absence of explosive symptoms, indicating the serious intra-abdominal condition in perforation, and it is probably due to the depressed condition or inactivity of the patient's mental and nervous system.

Medical News, May 2, 1903.

Some Practical Points in the Anatomy of the Gall-bladder Region.—George Emerson Brewer calls attention to the following important points in the anatomy of this region: (1) A knowledge of the position of the nerve trunks of the abdominal wall; (2) a knowledge of the normal position, size, shape, and relations of the gall-bladder and ducts, their blood supply, and the normal position of certain constant lymphatic nodes; (3) the most frequent variations from the normal in these structures, both congenital and acquired; (4) variations in the arrangement of the blood supply of the liver and gall-bladder; (5) the relations of the duodenal orifice of the common bile duct; (6) the anatomy of the infrahepatic peritoneal basin.

The Mortality in Appendicitis; Its Cause and Limitation.

—A. J. Ochsner presents his conclusions on this subject, some of which are as follows: The mortality in appendicitis results from the extension of infection from the appendix, to the peritoneum or from metastatic infection from the same source. This extension can be prevented by removing the appendix while the infectious material is still confined to this organ. Peristaltic action of the small intestines distributes the infection. This is also accomplished by operation after the infectious material has extended beyond the appendix, before it has become circumscribed. In case neither food nor carthartics are given from the beginning of the attack of acute appendicitis and gastric lavage is employed, the mortality is reduced to an extremely low percentage. Even though this treatment has not been employed, and the patient has a beginning diffuse peritonitis, the mortality will still be less than 4 per cent. if peristalsis is inhibited by gastric lavage and the absolute prohibition of all forms of nourishment and carthartics by mouth is established. The mortality following operations for chronic appendicitis is exceedingly low.

Indications for Extirpation of the Gall-bladder.—Maurice H. Richardson concludes that certain lesions in themselves demand removal of the gall-bladder whenever possible. Such are new growths and gangrenes. Contracted and inflamed gall-bladders with thickened walls are better treated by cholecystectomy. All gall-bladders which do not permit easy and efficient drainage should be extirpated. Drainage is preferable in the dilated and infected gall-bladder, which is neither gangrenous nor to any great extent changed. Generally, drainage rather than extirpation is demanded in acute cholecystitis with severe constitutional symptoms. When the gall-bladder is dilated, or at least not contracted, and when it is not gangrenous. In chronic cholecystitis with dilatation and thickening of the gall-bladder, especially when a stone is impacted in the cystic duct, extirpation is preferable, unless the stone can be dislodged backward into the gall-bladder. When drainage is quite as advantageous. In simple gallstones, without evidence of infection or changes incompatible with complete restoration of function, simple drainage is indicated. In chronic pancreatitis, drainage through the gall-bladder is indicated. Reopening of the biliary passages may in the future be required.

American Medicine, May 2, 1903.

An Interesting Complication in the Diagnosis of Gallstone.—Guy L. Hunner reports two cases of omental adhesions to old operation wounds situated at some distance from the gall-bladder. In one case the diagnosis of gallstones was only tentative, while in the other a positive diagnosis was made. The true diagnosis in the second case was suggested only during the operation, and this as a result of observations made while operating on the first patient. The presence of a scar showing a previous abdominal operation should put the surgeon on his guard when making a diagnosis of any obscure abdominal condition, no matter how distant the scar from the site of the symptoms. The second patient was seized with attacks of pain in the hepatic region. They were accompanied by rise of temperature, profuse sweating, nausea, and at times severe vomiting. The attacks of pain were generally intermittent. At operation the gall-bladder and ducts were seen to be perfectly normal. But dense adhesions of the omentum were found at the site of the former wound. These were carefully freed, and the patient made an uneventful recovery.

Some Points Pertaining to the Therapeutic Management of the Uræmic State.—Heinrich Stern states that all uræmic manifestations depend upon the condition of the blood, but while this exhibits some characteristics which are, in a measure, common to all types of uræmia, the serum of every variety possesses some distinctive feature. This is dependent upon the different underlying renal condition, and upon the specific material of the infectious disease, in consequence of which uræmia may appear, and the decomposition products of the retained substances. Promotion of sweating is indicated under certain restrictions in every case of acute uræmia. It is especially valuable when employed soon after the onset of the uræmia phenomena. If sweating is kept up by active measures, enteroclysis with a weak sodium chloride solution, or hypodermoclysis with a hypotonic solution of salt, should be performed at certain intervals. The improvement afforded by venesection is probably due to nothing else but the relief of the vasoconstriction in the kidneys or in the central nervous system or in both these places. Subcutaneous or intravenous introduction of a weak solution of sodium chloride dilutes the blood, produces diuresis, and compensates for the blood lost by venesection. The effects may bridge over a critical phase in the uræmic attack. While morphine in small doses is innocuous in uræmia of acute renal disease and chronic parenchymatous nephritis, and may possibly be a factor in effecting subsidence of convulsive symptoms, it is not indicated in uræmia of chronic interstitial nephritis.

Peritonitis in Typhoid Fever without Perforation, with a Report of One Case Caused by the Bacillus Typhosus, and Another Simulating Acute Appendicitis.—J. L. Yates concludes that: (1) Non-perforative peritonitis usually results from an extension of inflammation through the bases of deep intestinal ulcers, but may also arise from the migration of bacteria through an intestinal wall which is relative but slightly abnormal. (2) Meteorism thus predisposes to infection of the peritoneal cavity, and by decreasing the normal peritoneal absorption furnishes a secondary cause for peritonitis. (3) An hæmotogenous origin of peritonitis is possible in typhoid fever. (4) Non-perforative peritonitis is commonly caused by the typhoid bacillus and the resulting inflammation is usually diffuse and often severe. (5) The inception of such a peritonitis is clinically indistinguishable from the so-called signs of perforation, and the symptoms in both are due to peritoneal inflammation. The prognosis is probably equally grave in the two forms. (6) There should be appropriate surgical intervention immediately the peritonitis can be recognized. Enterostomy is indicated when there is meteorism with the peritonitis, or when it affects the prognosis and is intractable to ordinary therapeutics. (7) Thrombi, and among them those composed of agglutinated red blood-corpuscles, may lead to hemorrhages into the wall of the intestine, and the resulting changes favor the transmigration of bacteria into the peritoneal cavity. (8) Infarction of the spleen may have a similar thrombotic causation, but simple splenic infarction is probably not a cause of peritonitis. (9) The specific action upon human blood of an agglutinin generated by the typhoid bacillus can be demonstrated in vitro.

The Lancet, April 25, 1903.

The Drainage of the Knee-joint in Acute Suppurative Arthritis.—H. L. Barnard advises that all really acute cases for suppuration in the knee-joint, say with a temperature ranging from 103° to 104° F., should be treated by anterior and posterior incisions, more especially if they arise from punctured wounds. When the suppuration arises from autoinfection and is subacute, with a temperature of not more than 102°, the author would first make lateral incisions on either side of the patella and wash out the joint thoroughly and drain it. The joint must be treated as though it were an aseptic case, for in autoinfection we have usually to deal with one microorganism only, and that often a mild one. We must, therefore beware lest in casting out one microorganism we admit several others worse than the first. Should this partial drainage fail to bring the temperature down, in a day or two, the posterior pouches should be laid opened and thoroughly drained.

A Case of Dropsy, the Result of Inflammation of the Kidneys, Treated by Laparotomy.—The patient was a woman of thirty-one years and under the care of H. P. Planer. She had been tapped but without relief. On admission to the hospital, under the author's charge, her urine was very albuminous, the body was greatly swollen and in a state of advanced ascites. Convinced that the cause of the dropsy was kidney disease, he decided to remove the fluid by means of laparotomy. The operation was done under chloroform and ether, a solution of tepid salt water containing a little sodium bicarbonate being at the same time introduced into the breasts. This latter procedure secured a good behavior of the heart during the operation. A large amount of fluid escaped through the abdominal incision. From each side of the latter a strip of the expanded peritoneum was removed and the wound sutured. The effects of the operation were at once manifested for the better. The bowels became regular, secretion of urine was increased, and the albumin disappeared. Three weeks after the operation the patient left the hospital feeling completely well. Ascites had completely disappeared, and nine months later her health was excellent. The author adds to the history of the case a few words of advocacy of laparotomy over tapping in cases of excessive ascites.

Infective Endocarditis in Its Clinical Aspects.—In the third Lumleian lecture T. R. Glynn concludes the discussion of the symptoms of infective endocarditis and goes on to speak of complications, diagnosis, and treatment. The various points made are illustrated by histories of cases that have occurred in his own experience or that have been recorded in literature. He notes that there is at times a close resemblance between chronic tuberculous disease of the lungs and chronic forms of infective endocar-

ditis. In both the onset may be insidious and the symptoms similar—namely, anæmia, wasting, debility, slight pyrexia, and pulmonary troubles. Careful physical investigation, with the examination of the blood and sputum, will probably enable a definite opinion to be formed. When pthisis is associated with chronic disease of the valves of the heart—and the disorder more frequently accompanies mitral disease than was formerly believed—the resultant symptoms necessarily conform to the chronic type of infective endocarditis. Fortunately, in such complicated cases examinations of the apices of the lungs and sputum usually furnish reliable indications of the nature of the disease and disclose the origin of the pyrexia. In one of his cases chronic tuberculous disease of the lungs was associated with infective endocarditis. The disease of the valves of the heart was due to streptococcic infection and not to infection by the tubercle bacillus. He notes the absence of any specific in the treatment of the malady, and does not find much encouragement in the results thus far obtained with anti-streptococcus serum.

The Symptoms and Diagnosis of Stone in the Kidney.—In the Hunterian lecture Clement Lucas enumerates the following as the symptoms of stone in the kidneys: pain, frequent micturition, hæmaturia, retraction of the testis, passage of gravel or small calculi on previous occasions, the grating of multiple calculi, total suppression of urine, the results of skiagraphy and family history. Pain may be absent. To be of much aid in diagnosis it must be unilateral. Its character varies greatly. It may be transferred, radiated or reflected to some distant area. It is worse at night, is increased by jolting exercise, and is said to vary with the composition of the calculus. Lucas mentions also the "stamping test," to the results of which he attaches considerable importance. The patient supports himself by resting one hand on some firm object, then is told to flex the thigh on the suspected side as high as possible. The psoas muscle being thus strongly flexed, by its contracted belly presses the kidney forward and outward. Next the patient brings the limb suddenly down, stamping the heel firmly on the ground. The kidney in this way suddenly loses its muscular support and is caught, as it were, unawares, whilst the jar carried through the pelvis and spine is communicated to it. A sudden acute pain is commonly caused by this manœuvre when a calculus is present. In one case in which he employed this test it answered only too well, for the patient was immediately seized with acute renal colic, which necessitated his being put to bed, where he lay for some hours in great agony. It was evident that a stone had been displaced from a calyx and had fallen over the outlet of the pelvis, whence it was removed by operation some days later.

British Medical Journal, April 25, 1903.

The Surgical Treatment of Gastric Ulcer.—C. Mansell Moullin has operated upon fifteen cases with two deaths. In twelve the ulcer was excised or ligatured in various ways. In two, gastro-jejunostomy was performed, as the ulcer could not be dealt with locally; in one the ulcer proved to be in the duodenum and not in the stomach. In four cases the immediate cause for operation was persistent pain and vomiting. These all recovered. In the other eleven, the cause was hæmatemesis, and in six of these transfusion had to be performed on the table or immediately after. Two of these died. They were both *in extremis* at the time of operation.

Case of Chronic Pancreatitis, with an Account of the Post-mortem Examination.—Gilbert Barling reports both the history and necropsy of this case. There was marked enlargement of the pancreas, and at necropsy the main bile ducts were much dilated. The only condition found which might have caused obstruction to the flow of bile, and with it pancreatic juice, into the bowel was the chronic inflammation in the pancreas. As to treatment, prolonged drainage of the gall-bladder will suffice in some cases, but in others further measures are required.

Knock-out Blows.—James Gray Duncanson states that the temple appears to be a particularly vulnerable part of the head. A swinging, short-arm blow on the ear may cause rupture of the membrana tympani, dizziness, and collapse, followed by sickness. Recovery is slow, but may be perfect. Blows on the body must be above the belt. A severe blow about the cardiac region may cause syncope and death. Diaphragmatic blows are not, as a rule, so dangerous to life. Blows over the kidneys are still inadvisedly admitted as fair. Great shock results from them. Johnstone says: "The most dangerous and infinitely painful form of 'knock-out' is that which is accomplished by a left-hand hook on the mark." The "mark" is the size of the palm of the hand, and corresponds with the center of a triangle formed by the ziphi-sternal articulation above, and a line joining the bony ends of the seventh ribs below; behind this lies the pylorus. Blows on the stomach are attended by great shock.

An Address on the Importance of an Early Diagnosis of Cancer of the Stomach, with a View to Radical Treatment, with Remarks on Operative Results, Immediate and Remote.—A. W. Mayo Robson calls attention to the following points: (1) How desirable it is to make an early diagnosis of cancer of the stomach in order that a radical operation may be performed at the earliest possible moment. (2) That it may be needful to perform an exploratory operation in order to complete or confirm the diagnosis. (3) That such an exploration may be done with little or no risk in the early stages of the disease. (4) That even when the disease is more advanced and a tumor perceptible, an exploratory operation is, as a rule, still advisable, in order to carry out radical or palliative treatment. (5) That where the disease is too extensive for any radical operation to be done the palliative operation of gastroenterostomy, which can be done with very small risk, may considerably prolong life, and make the remainder of it much more comfortable and happy. (6) That some cases, thought at the time to be cancer, too extensive for removal, may, after gastroenterostomy, clear up completely and get quite well. (7) That in cases of disease of the cardiac end of the stomach too extensive for removal, the operation of gastrostomy may considerably prolong life and prove of great comfort to the patient by preventing death from starvation. (8) That even where the disease is too extensive either for removal or for a gastroenterostomy being performed with a fair chance of success, the operation of jejunostomy may occasionally prove of service to the patient. (9) That where a radical operation can be performed, the thorough removal of the disease may bring about as much relief to the patient as does the operation for the removal of cancer in the breast, uterus, and other organs of the body, and that in some cases a complete cure may follow.

Münchener medicinishe Wochenschrift, April 14, 1903.

Abnormal Mobility of the Gall-bladder.—Viktor Lieblein reports a case in which the diagnosis of a carcinoma of a floating right kidney was made. The tumor was freely movable in the abdomen, but situated upon the right side. The patient was plainly cachectic, and the condition was of some months' standing. Upon operation the tumor was found to be the gall-bladder, partially filled with stones. The gall-bladder was opened, the stones evacuated, and the wound closed. Recovery followed. The interest in the case attaches to the absence of all liver or biliary symptoms, the false diagnosis, and the marked mobility of the gall-bladder.

A Rare Case of Measles.—Bernhard Machold reports a case of measles in which, fourteen days after the initial eruption, there appeared over the entire body a bluish macular eruption, which lasted for three days, and which was followed by slight desquamation. The origin of the eruption is somewhat obscure, although it is most probable that it is to be regarded as a recurrent attack of the rubeola. It was certainly not due to the action of any drug or other substance ingested, since the diet of the patient had been carefully watched and no medicine had been administered. During its presence there was no rise in temperature or any constitutional symptoms.

Juvenile Tabes and Its Relation to Hereditary Syphilis.—P. Linser reports a case which adds still further evidence to the syphilitic origin of tabes. The patient was a female, thirty-four years of age, and since her fifteenth year had suffered from indefinite tabic symptoms. Shortly after passing twenty-five years of age, she developed immobility of the pupils, paræsthesial, and loss of the patellar reflex. Thus the diagnosis of tabes was definitely established. As a child the patient had suffered with certain cutaneous eruptions and enlargement of the lymphatic glands. The etiology of these eruptions, etc., was made clear when it was ascertained that the patient's father had died from a progressive paralysis resulting from a syphilitic infection.

Berliner klinische Wochenschrift, April 12, 1903.

A Rare Murmur in the Lung.—P. K. Pel reports the case of a phthisical male, thirty-two years of age, in whom, over the entire upper lobe of the right lung, but loudest in the supraspinatous fossa there was heard a loud systolic murmur, which was of a high-pitched musical tone. The author thinks that its origin was both venous and arterial. This might occur in either one of two conditions: (1) A direct union between the pulmonary artery and vein, an arterio-venous anastomosis, or (2) a dilatation of the vein as it came in contact with the artery. It is probable that in this case, the cause of whichever one of these lesions was present, was to be sought in a tuberculous process of the vessel walls.

Society Reports.

AMERICAN MEDICAL ASSOCIATION.

Fifty-fourth Annual Meeting, Held at New Orleans, La., on May 5–9, 1903

By Telegraph to Medical Record.

GENERAL SESSION, FIRST DAY, MAY 5, 1903

The first general session was held in the Tulane Theatre, New Orleans, La. The theatre was well filled when, at 11 A.M., the President, Dr Frank Billings of Chicago, called the meeting to order. After the opening prayer by the Rev. H. G. Davis, the association was welcomed in a speech by his Honor, Paul Capdeville, the Mayor. Hon. Leon Jastremski of Baton Rouge, representing the Governor, welcomed the association on behalf of the State of Louisiana, paying a graceful tribute to the self-denying life of the medical profession. The New Orleans bar was represented by Henry P. Dart, Esq., who called attention to the evident tendency of the day to assume that not a minute of the twenty-four hours belongs to the physician or his family. One great cause of this was thought to be the rapidly increasing demands of the hospitals. No wonder, the speaker said, that the physician was himself fast becoming an object of charity. He was not only allowed, but even expected to give of his time, body, means, and life-blood, morning, noon, and night. The speaker suggested that the medical profession should halt and seriously consider this momentous question, and see if it were not really doing itself a grievous wrong. Dr. J. A. Witherspoon of Nashville, Tenn., the first vice-president, delivered a stirring and witty address in response to the hearty words of welcome of the preceding speakers.

President's Address.—Dr. Frank Billings of Chicago delivered this address, taking for his theme, "Medical Education in the United States." (vide page 721) After comparing medical education in those days, when numerous money-making medical schools were flourishing, with the few well-equipped modern schools, attention was directed to the ever-increasing domain of medical science, and the great demands upon the students' time. The laboratory method of instruction was commended, but it was pointed out that this was enormously expensive, the cost being estimated at $400 or $500 per student. The pressing need for a broad preliminary education was insisted upon, and it was shown that by a proper adaptation of the curriculum to the needs of the prospective medical student, it was possible to secure the requisite education without an inordinate lengthening of the complete course. In a word, the commercial schools must go, and the medical teaching of the future must be done in a few large universities in the great medical centers. The speaker estimated that 2,500 graduates in medicine would fully satisfy the demand, and as this would mean about 10,000 matriculates this number of students could be cared for in from twenty-five to thirty-five medical schools.

Evening Session: Oration on Surgery.—Dr. A. F. Jonas of Omaha was the orator of the evening.

SECTION ON PRACTICE OF MEDICINE.

W. S. Thayer, M.D., of Baltimore, Md., Chairman.

Address of Chairman.—Dr. W. S. Thayer of Baltimore delivered the opening address, "Observations on the Teaching of Clinical Medicine." He compared the curriculum in most of our schools with that which was required in England and France. In Great Britain, for instance, the schools required at least six months' service as a clinical clerk in the medical ward, and a similar time as a dresser in the surgical wards of a hospital. In Paris the student was required to give the entire morning to ward work for two years, one year in the medical and one year in the surgical department. He believed that an equal amount of experience should be required in this country, but it seemed to be impossible for the following reasons: (1) The absence of State or National laws requiring such work; (2) the multiplicity of medical schools and the existence of many such institutions unconnected with hospitals of sufficient size to furnish material for the instruction of the students; and (3) a widespread prejudice existing in many hospitals against the admission of students to the wards and against the use of patients in general for the purpose of instruction.

The problems involved in the study and teaching of clinical medicine differed in no essential from those connected with the teaching and study of physiology, and until we recognized this fact and met it squarely our clinics would remain unproductive and our teachings inadequate.

The Boy Venereal Peril.—Dr. Ferd. C. Valentine of New York, the author of this paper, summed up his advice in the following words: "If you want to be a healthy, strong, successful man; if you want to live a happy life, do not smoke, do not drink alcoholic beverages, do not associate with corrupt people, and do not indulge in any vices. If you have been so unfortunate as to lose your health for any of the above reasons do not take the advice of an advertiser, do not take advertised drugs, but consult your physician.

Continued Fever, neither Malarial nor Typhoid; a Clinical Study.—Dr. T. J. Happel of Trenton, Tenn., read this paper. He said that the physicians in the North, as a rule, contended that every continued fever was either typhoid or malarial, whilst in the South many physicians were sure that they had to deal with a third fever, the mortality of which was so slight that opportunities for post-mortem study had been so far nil. The blood and secretions had been examined microscopically, and chemically with negative results. The blood did not respond to the Widal test, and it did not show the presence of the plasmodium malariæ. In a former paper he had referred to a number of such cases treated by him in the last ten years, all offering favorable opportunities for careful study at the bedside. He then detailed six additional cases that he had treated since July last, making a total of about one hundred cases. He emphasized the points of difference from a clinical standpoint, and added that the bedside study taught plainly one thing and the work in the laboratory another. These cases were not ushered in abruptly by a chill, but they had usually, for a few days, prodromes of malaise, then rigors; sometimes a slight chill, followed by a slight rise in temperature, which did not attain its maximum for from three days to a week. Whilst this fever presented marked remissions for the first week, they were not so decided as in the second week, and were even more marked in the third week, amounting to intermissions with profuse sweatings. The chills, or cold rigors, were sometimes accompanied by aching of one set of muscles, and sometimes of all, resembling in that respect la grippe. After a day or two all pain ceased and the patient complained of nothing. The intermissions varied from one to four in twenty-four hours and could be made more marked by sponging with tepid water in all cases, by aconite and gelsemium in a few, and by the coal-tar derivatives in almost all of them. One of the most marked peculiarities of this fever was the disproportion between the pulse rate and the temperature. The ratio was frequently reversed, the pulse beating between the normal and ninety with a temperature of 103 to 105°, or even higher. The hand applied to the pulse and then to the forehead would lead one to say that the patient was free from fever when the thermometer in the axilla or mouth would reveal a high temperature.

Southern Fevers.—Dr. William Krauss of Memphis, Tenn., read this paper and summed up his remarks as follows: (1) A very sudden hyperpyrexia in midsummer was more apt to be sunstroke than "congestion"; hence quinine should not be given without cause. (2) The malarial leucocyte count was only collateral evidence

of malarial infection, and the count must include all the cells in the spread. (3) The Widal test might lead us into error in a small percentage of cases; the blood culture test was more difficult and had no negative value. (4) A chill or fulminant onset of a typhoid fever was not sufficient evidence of a complicating malaria. (5) A chill or sudden disturbance of a temperature curve during convalescence in typhoid fever was not necessarily malarial. (6) In a malarial infection, the persistance of an irregular sub-continuous fever after thorough cinchonization was not evidence of a typhoid complication or of remaining plasmodia. (7) A positive diagnosis of summer-fall fevers was not always possible. (8) In the hygienic management of summer-fall fevers we should presuppose a double infection, irrespective of symptoms. (9) Some of the summer-fall fevers were typhoid, some malarial, and a few of them were neither one, but the writer was opposed to the belief of an "this-" fever.

A Clinical Observation of Ninety Cases of Typhoid Fever with Four Deaths, with Special Reference to Therapeutic Fasting.—Dr. R. M. Harbin of Rome, Ga., read this paper. The conclusions that he adduced were as follow:—(1) Fasting or a restricted diet were indicated because of pathological conditions. (2) Clinical facts indicated that emaciation occurred independently of the amount of food taken. (3) All severe cases should be subjected to fasting for twenty-four to forty-eight hours to relieve the active symptoms which exhausted the patient more rapidly than the lack of food. (4) After a fast a restricted diet of broth, diluted milk, etc., in definite quantities should be prescribed. (5) Gelatin prevented too rapid emaciation in certain cases and rendered hemorrhage less liable. (6) The cold bath, or the modified cold bath, was more effective during a fast. (7) Peristalsis favored the absorption of toxins, and cathartics should be used only to remove undigested food. (8) The presence of intestinal ulcers should be assumed to exist in every case, and the proper treatment was rest, which was better attained by fasting and a restricted diet, thus preventing hemorrhage and perforation. (9) The presence of diarrhœa and vomiting indicated the adoption of the fasting treatment. (10) Fasting and a restricted diet shortened the course of the disease, and many cases ran an abortive course after the amphibolic period. (11) Many of the vaunted cures from specific drugs were, in fact, dietetic cures. (12) Recrudescences were nearly always due to dietetic errors. (13) In the report presented there were forty-eight cases without a death. Of eighty-seven whites two, or 2.2 per cent. died; of the colored, two died. The low mortality of 4.4 per cent. of all cases he ascribed to the therapeutic fasting.

A Report of 529 Cases of Typhoid Fever in Colorado.—Dr. J. N. Hall and Dr. C. E. Cooper of Denver, Col., presented this paper. From an analysis of a considerable number of cases covering twenty years in different parts of Colorado, they concluded that typhoid fever was practically the same disease there as elsewhere. Many of the cases called mountain fever had been included in the series presented; they knew of no such disease as "Mountain Fever." Typical examples had hermorrhages, rose spots, Widal reaction, and many of the complications of typhoid, and were certainly typhoid fever. The false name was gradually passing out of use. In 1889 Dr. Hall concluded that, from an analysis from his 108 cases, typhoid fever was milder there than in the East; but a wider experience had convinced him that it did not differ materially in this nor in any other respect from the disease as reported from this or most other countries. He believed that diarrhœa was less frequent in Colorado than elsewhere.

Dr. T. B. Futcher of Baltimore advocated the frequent examination of the blood serum for the Widal test. This was the routine at the Johns Hopkins Hospital, and every case was submitted to such an examination when he was discharged from the hospital. The possibility of a paratyphoid infection should be borne in mind. With reference to the administration of the coal-tar derivatives he said we should remember the fact that they frequently gave rise to chills and sweatings of a rather severe grade. Chills and sweating in typhoid fever might occur at the onset, with the advent of complications, and at the time of convalescence and with the giving of coal-tar derivatives.

Dr. James R. Tyson of Philadelphia said that during an experience of thirty years the tendency had been to limit the number of continued fevers. Each winter he ran across several of these anomalous fevers, which at first eluded diagnosis, but invariably turned out to be either typhoid fever, malaria, or some of the more unusual modifications of typhoid fever, such as paratyphoid or colon-bacillus infection. On the other hand, there was no doubt but that a number of these continued fevers were due to irritative causes, such as intestinal indigestion or the so-called ptomain poisoning, where the irritation would be kept up for a certain length of time.

Dr. J. A. Witherspoon of Nashville, Tenn., had seen several cases such as those described by Dr. Happel, but they had started suddenly, and not gradually. The disease did not occur at the same season as typhoid fever, it might occur at any time from the cradle to the grave. One attack made another more liable to occur, and he had seen five attacks occurring in the same individual. The pulse was rather rapid, prostration was early, and the sweating marked. There was an irregular type of fever, and this was the most noticeable feature. The fever often resembled the septic type. The abdomen was not tympanitic, but rather flat or scaphoid. Constipation was more often present with the passage of scybalous masses. There was not a condition of hebetude, but rather that of irritability. Epistaxis was rare, while herpes labialis was common.

SECTION ON SURGERY AND ANATOMY.

James E. Moore, M.D., Minneapolis, Chairman.

Chairman's Address.—Dr. James E. Moore of Minneapolis opened the meeting of this section with an eloquent plea for exploratory operations. He spoke first of the importance of the surgical laboratories of the day, and dwelt particularly on the great Rockefeller institute of New York. Those institutions, combined with other modern methods of teaching surgery, were producing a young race of men who were competent to do exploratory work. Such men must be highly moral, as well as intellectual, for there was no greater responsibility than that which hinged upon the opening of the human body. The paramount importance of the surgical developments in the upper zone of the abdomen, which had but recently yielded to the efforts of the externist were then referred to The relation of gastric ulcer to carcinoma of the stomach was considered by some authorities to be so close that all of these malignant growths found their origin in the primary ulcer. If this were true, how important must be the early diagnosis obtainable only by exploration. In conclusion, he said that it was impossible to portray the importance, as well as the danger of exploration; all in all, it depended on the moral and on the technique of the operator.

Suppression of Urine.—Dr. H. J. Whitacre of Cincinnati presented this report of a most interesting case:

A young woman had induced abortion upon herself by taking large quantities of ergot, and by introducing a catheter into the uterus. Five days afterward, in addition to having a terrific hemorrhage, she had a temperature of almost 105°. For two days she had passed but four ounces of urine, and it was of the type obtained in hemorrhagic nephritis, except for the absence of casts. After applying all the usual therapeutic agents, including intravenous injection, he resolved

to decorticate the kidneys. Immediately after this operation, improvement was marked, and one hour later the patient began to void urine, improvement from this time was constant and eventful. The author divided suppression of urine into two classes, *i.e.* obstructive and non-obstructive. The treatment of the first was always surgical; that of the second might be.

Fat Necrosis of the Kidney.—Dr. J. R. Guthrie of Iowa read this paper. He said that the formation of fat was not as yet understood physiologically, much less pathologically. Bacteria might be concerned in the change. The cause of the fat necrosis was, however, always associated with certain well-known phenomena, viz., changes in the blood supply, diminished oxygen, narrowing of the arteries, persistent venous congestion. When considering the problem of fat necrosis in the kidney it was not without import to note that these conditions might all be produced by prolapses. A case was cited in which he had been obliged to perform nephrectomy, there seemed little doubt that the destruction of the organ in this case, which amounted to entire liquefaction, was attributable to the prolapse.

The Surgical Treatment of Nephritis.—Dr. A. H. Ferguson of Chicago, in presenting this communication, said that he was sorry to begin by disputing the priority of Edebohls to this operation. He had operated prior to that New York surgeon, and had published his results over a month before him. The cases were both of interstitial nephritis, and in each case the diagnosis was confirmed microscopically by Klebs.

Dr. Arthur Bevan of Chicago opened the discussion of these papers. He said that the importance of the problems associated with anuria had not been given thought by the profession. He would classify anuria as follows: (1) that due to obstruction; (2) that which was of reflex origin, and (3) nephritic anuria. The first was surgical; the second rarely so. He was not slow to denounce decortication, and believed that the important element in the treatment consisted in a wide-reaching nephrotomy.

Dr. Jepson of Iowa agreed that Dr. Edebohls was not the originator of the decapsulation method. He felt that it could be of benefit only in cases of interstitial nephritis.

Dr. McClaren of Minnesota believed that the advantages obtainable by operation in cases of nephralgia were dependent upon the splitting and the stripping of the capsule.

Dr. Gibbons of Scranton said that Edebohls unquestionably was the first to recommend decortication for the treatment of chronic Bright's, and he very emphatically considered it curative.

Dr. Ramón Guitéras of New York said that this operation for chronic Bright's disease was still in its infancy. Recent reports showed that there was no increase in the blood supply after decortication.

Dr. McArthur of Chicago reported a case in which he had decorticated both kidneys with marked improvement.

Dr. Whitaker said that he could not agree with Dr. Bevan's classification, and that relief would come from nephrotomy because of the character of the blood supply from the capsule.

Dr. Ferguson, in closing, said that it was idle to preach as Johnson had done, that in the decorticated kidneys of normal dogs there was no increase in the blood supply, first, because the fatty capsule had not been sufficiently removed, and, second, because these normal and healthy organs did not require such increase.

Indications for Cholecystostomy.—Dr. B. B. Davis of Omaha read this paper. He said that the results of simple drainage of the gall-bladder were often painfully poor. In 20 per cent. the relief was only partial. Fistulæ persisted in about 25 per cent. On the other hand, less than 1 per cent. of these cases in which the bladder had been entirely removed continued to have pain, and fistulæ formation was almost unknown. There were numerous advantages of the more radical operation, and it should always be undertaken whenever the patient's condition warranted it, even in cases of profoundly septic bladders. The function of the gall-bladder was probably as negative as that of the appendix; furthermore, the wall was almost invariably thick, and one of the chief causes of pain was the adhesions which were dragged upon by the peristaltic action of the duodenum. Another advantage of total extirpation was that absolute immunity from gallstones was obtained because the cholesterin, from which the bulk of them was made, formed only from the mucous membrane of the gall-bladder.

Exploratory Operations on the Gall-bladder.—Dr. F. A. Dunsmoor of Minneapolis related a large series of cases, from which it was easy to conclude that a dangerously large number of grave and complicated lesions of the biliary passages presented little or no clinical evidence of their presence. Many of these have no jaundice; they complained simply of dyspepsia. Under the strict limitations which were recognized by all, he urged that exploratory incisions be made with greater freedom and frequency in the upper abdominal regions. When the time came for this to be done there would be fewer deaths from pronounced sepsis of the parts.

Dr. Mays of Minnesota, in the discussion following these papers, said that he was coming to the conclusion that a great deal of care should be exercised in deciding whether to drain a gall-bladder or to cut it out. It was not possible, always, to determine which course was better to pursue at the operation, but a knowledge of the cause of death was helpful. Death ensued mostly in those cases in which the cystic duct had been patent, and was suddenly put out of use by being tied off. This, of course, was not taking into consideration the cases of fulminating sepsis of the gall-bladder. It was fortunate that the majority of the cases in which cholecystostomy was indicated were best suited anatomically, as well as clinically, to this form of operation. Death occurred from acute suppression of the hepatic functions, and he felt that whenever a bladder was cut out, in which the cystic duct had been sufficiently free to allow of its filling with bile, that a drainage tube should always be placed in the severed duct and brought to the surface, so that there should be no possibility of a backward pressure of the bile.

Dr. A. J. Ochsner of Chicago deplored the frequency with which cases of cholelithiasis wandered around vainly looking for relief. Often gastritis was the only symptom, the classic symptoms being frequently absent. He would favor cholecystectomy in every case, but regarded it, except under chosen conditions, as more dangerous to the patient.

Dr. Davis, in closing, said that he did not mean to assert that all cases should be treated by ablation; however, nine-tenths of all gall-bladders which come to operation presented lesions not alone internally, but externally, and in their walls as well. They were friable, bound down by adhesions and functionless. These cases called for removal.

Section on Obstetrics and Diseases of Women.

A. Palmer Dudley of New York, Chairman.

President's Address.—Dr. A. Palmer Dudley said that twenty years ago conservative gynecology was looked upon as more or less foolish; and that followers of the same were considered fit subjects for the insane asylum. The success of operations depended upon the amount of the organs removed. Electricity, for a time, had its innings, but was found to be inadequate for this sort of work. Neurologists called a halt because of the production of premature menopause. In 1887 the author started his

experiments upon the female appendages to see what results might be obtained by conservative operations. He claimed no priority in this sort of work, as in 1885 Carl Schroeder had first done conservative surgery on the female appendages. In 1891 Polk of New York had championed the cause of conservatism in a paper read before the American Medical Association in Washington, D. C. He had tried conservative surgery in 269 cases. His object being to preserve all that portion of the organs which he thought might functionate. The factors which he took into consideration before operating upon a case were age, social position, occupation, and marital condition. In operating upon a female patient for pyosalpinx, if the tube were patent at the uterine end, he opened the tube, washed it out, and dropped it back into the pelvis. Dermoid cysts required radical treatment, and under no consideration, except, perhaps, that the patient or the patient's husband was very desirous of the mother's producing a child, should any portion of the organs be left. Cases of pyosalpinx of recent standing should be entirely excised. In over 10 per cent. of the author's cases in which conservative operation had been done, live children had been born to the mother. Old cases had been followed by extreme neurasthenia and other nervous manifestations of premature menopause.

Appendicitis from the Standpoint of the Gyneocologist.—Dr. H. P. Newman of Chicago read this paper. He said that diagnosis in general was not difficult in cases of appendicitis, but there came cases at times which required more than ordinary skill to determine whether or not the appendix or the tube was involved. Formerly we were content to call the severe cases of appendicitis either typhlitis or perytyphlitis, and the less severe cases were called congestion of the bowels, or gastric fever. Today this condition was more likely to be confounded with pelvic troubles. Peritonitis, from appendical troubles, was always fatal, while peritonitis from tubal disease was less likely to cause death; indeed, the majority of them recovered, as the contents of the tube were usually sterile. The abdomen should be examined most carefully when an operation was performed for any sort of pelvic disease. The appendix should always be looked into, in order that any diseased condition of the same might be discovered during an operation on the pelvic organs. The removal of the appendix depended entirely upon the judgment of the operator. If there were a catarrhal condition present, or if there were any adhesions with it to the adjoining organs, or if it contained concretions, the appendix should be removed. Any localized peritonitis might cause intestinal obstruction. All healthy appendices should be removed if they were in any way adherent to the pelvic organs. Pus tubes and infected cystic tumors should be removed early. The invaginating operation was the one of choice.

Dr. E. Reynolds of Boston said that he was familiar with such cases as the author mentioned, in which the symptoms were not justified by the examination. Action should be controlled by the degree of the symptoms. He thought that moderate tenderness on the right side, with flatus and mucus in the dejecta, assured the diagnosis of chronic condition of the appendages. The appendix was more freely removed than formerly, and in the future would be still more frequently removed.

Dr. E. Ricketts of Cincinnati said appendicitis was not easy to differentiate in all these cases. In cases in which the appendage was attached to the tube and ovary the attacks were not necessarily due to appendicitis.

Dr. Michinard of New Orleans said that appendicitis was only interesting to the gynecologist when the diagnosis lay between appendicitis and salpingitis, and that the operative side of the case of no moment to him. Surgical treatment depended on the diagnosis alone. In chronic appendicitis there was great intensity of the pain in the abdominal wall, whereas in salpingitis the pain lay in the right vaginal fornix, and the same was true of the tumor formation.

Dr. J. H. Carstens of Detroit said if appendicitis were present the uterus was movable it was rare to get pain over McBurney's point in salpingitis, the pain was lower in the latter disease.

Dr. J. Westley Bovee of Washington, D.C., said that no man could expect the appendix to be chased all over the body by McBurney's point. He made it a rule to remove the appendix when the patient's condition warranted it.

Dr. G. Betton Massey of Philadelphia thought that the condition in the author's cases might have been cured by medical treatment; when he had such cases he treated the colon. Dr. Newman, in closing the discussion, said that his purpose was to make the gynecologist more alert in his work, because of the bad results which had followed the leaving in diseased appendices in times gone by. The removal must be left to the best judgment of the surgeon.

Gastric Ulcer—Some Clinical Pathological and Surgical Phases of Gastric Ulcer.—Dr. A. H. Cordier of Kansas City read this paper. He said that if an ulcer existed in the stomach the latter should be put at rest. In all other organs and members in which disease existed the primary treatment was rest. Chronic ulcers were usually found along the lesser curvature and on the posterior wall of the stomach, and were usually oval Healing might produce constriction. Hemorrhages were frequently the cause of death. As the ulcer formed adhesions, the organ to which it was most likely to adhere, because of its relations, was the pancreas. Such a condition might lead to the diagnosis of cancer. Adhesions to the liver might produce dilatation of the stomach. Ulcers did not always perforate into blood vessels, the agglutination to the other organs was a wise provision on the part of nature to forestall any such possibility. The most frequent site of ulcers was found to be in the anterior wall, because these cases most often came to autopsy, while posterior ulcers might perforate and not cause death, because of their adhesions to the other organs. In young girls, during menstruation, pain, tenderness, and vomiting were more frequent. Vomiting was not always accompanied by nausea, and was without effort, occurring fifteen minutes after eating. When the ulcer was near the pylorus, the stomach was more likely to be dilated. Ten per cent. of all gastric cancers had their origin in benign ulcers. Medical treatment of these cases was satisfactory in about 50 per cent. of the cases, but it was most often difficult to get the patient to follow out the line of treatment set out for him. If medical treatment failed, excision was the most satisfactory procedure; personally, he believed the most satisfactory operation was gastroenterostomy. By this operation the mobility of the stomach was limited and the ulcer thus got a chance to heal by rest.

Dr. Carstens of Detroit said that cases of pelvic obstruction from any cause could be more satisfactorily operated upon and cured. He did not believe in the use of the Murphy button, but preferred the McGraw rubber ligature.

Dr. J. G. Clark of Philadelphia said there were two questions involved in such cases: First, how long should the case be treated medically, and, secondly, how and where to find the ulcer. If the ulcers were posterior we could easily find that out by an exploratory gastrostomy. Having located the ulcer, one should operate through the stomach wound and sew up the ulcer from within the stomach.

Dr. Cordier said, in conclusion, that it was not advisable to operate during an alarming hemorrhage. The thing to do was to operate by any method which would insure rapidity. His operation was done mainly that the stomach might be drained of the food which was put into it, and that this food might not be allowed to remain in the stomach and putrify.

GENERAL SESSION, SECOND DAY, MAY 6.

Oration on Medicine.—By Dr. J. M. Anders of Philadelphia (see page 726).

SECTION ON OBSTETRICS.

Infected Gall-bladder Contents, with or without Gall-stones.—Dr. Edwin Ricketts of Cincinnati read this paper. He said that gallstones must be considered a disease *per se*. A healthy gall-bladder should touch the neighboring organs and have tonicity. Cholecystostomy was the best operation until one was satisfied that there was free drainage through the gall duct. The gall-bladder could be infected without the involvement of the duct, which would be patent, and still the patient would die. Jaundice was a serious complication, because the bile was much more poisonous than urine. In infected gall-bladders it was well to make the incision over the gall-bladder, and to make an effort to shove the stone down through the duct.

Dr. S. H. Dunning of Indianapolis said that it was important to know when to operate, and how much should be done when infection was associated with stone.

Dr. Thompson of Scranton said he never found it to be necessary to open the duodenum to dislodge a stone in the common duct.

Dr. H. O. Marcy of Boston said the whole question was to know how and when to make a diagnosis.

Dr. Ricketts, in closing, said it was the emergency that bothered us. There was never that case of stone in the duct that the doctor should not have recognized it from symptoms, long before it was necessary for the surgeon to operate.

The Better Methods for the Repair of Perineal Structures.—Dr. H. O. Marcy of Boston read this paper. He reviewed the many methods which had been in vogue for some time past, and then gave the technic of an operation which he had been employing for some years past. The chief point about his operation was that most of the sutures were buried, and thus overcame some of the possibility of subsequent infection. The use of buried animal sutures was advocated by the doctor.

Dr. A. H. Goelet of New York said that the deep suture constricted the parts and shut off the circulation, and as a result failure often followed this method of operation.

Dr. R. H. Gibbons of Scranton said that Dr. Marcy's stitch was fully adequate; personally, he always did Emmet's operation.

Dr. Marcy said, in closing, that the transverse muscles and the levator were evidently the important points of the operation. The repair of cystocele by utilization of the anatomic attachments of the anterior vaginal wall.

Dr. E. Reynolds of Boston read this paper. He said that this condition should be treated as a hernia in any other place. At the conclusion of labor, the anterior wall of the vagina was distended, but its edges persisted where they were. The author's operation was especially excellent when there was a prolapse of the cervix. It freed the traction on the cervix in the median line. The vagina was freed from the cervix, which permitted the cervix to return to its proper position. Dr. Marcy thought that we should congratulate Dr. Reynolds because of this excellent new operation.

Dr. J. Wesley Bovee of Washington, D. C., thought that this operation would draw the uterus forward.

Dr. Reynolds, in closing, said that, curiously enough, there was a transverse narrowing of the vaginal wall and elongation of the anterior wall.

Lacerations of the Cervix: When Shall They Be Repaired.—Dr. D. H. Craig of Boston read this paper, and said that he had undertaken his investigations to learn: first, if plastic repair was curative; second, if the cervix was relacerated in subsequent labors; third, if plastic repairs would guard against subsequent cancer of the cervix. The doctor had followed his cases up most carefully for over two years, and thought that in no instance had any of these cases been followed by cancer of the cervix; that a larger majority of the cases had been cured of their ailments; that a greater proportion of those which had not been cured were benefited a great deal, and that none was worse than before the operation. He thought that the operation should be performed just as soon as the condition produced symptoms which gave any trouble or discomfort.

Dr. G. Betton Massey of Philadelphia had seen a great many failures, which were of two characters: first, failure to remove the nervous symptom; second, those due to lack of medical treatment before the operation.

Dr. Bacon of Chicago said that repair was important under all conditions when the tear extended up into the musculature of the uterus.

Dr. Craig, in closing, said that he believed it best to remove the diseased tissue with a knife, and not with scissors, which left behind some of the diseased tissue.

The Hygiene of Young Girls.—Dr. J. H. Carstens of Detroit read this paper, and remarked that the majority of pelvic diseases in young women, and those of an older age, were due to a lack of the proper training of the child at the time when she was entering in upon the genital of functions adult life. He believed that the mother of a child was usually responsible for the poor condition which resulted from improper teaching and coaching in the simplest laws of hygiene and cleanliness. He wished to impress upon the members of the association that it was their duty to teach the mothers how properly to instruct their daughters at the period when menstruation began.

Pelvic Disease in Young Girls.—Dr. F. Lawrence of Columbus, Ohio, read this paper. The important point in the treatment of pelvic disease in young girls was, he said, to make a proper examination of the patient and to know definitely what condition was to confront the doctor. Too much modesty had been the rule in this condition, and he thought it was time to call a halt. The treatment of the trouble itself differed in no way from the same conditions in the adult woman.

Dr. McMurtrie of St. Louis, in discussing this paper, remarked that there was much to be done in prohibiting others from doing things for these patients. Their treatment began and belonged with the family doctor.

Dr. G. Betton Massey said that the mal developments were due to the carelessness of the mother. That too much stress could not be laid upon the subject of proper clothing.

Dr. Cardtens, in closing, said that it was best to let the young girls alone: "Let us have less medicine, less speculum."

Dr. Lawrence, in closing the discussion on his paper, said that the gynecologist should never be hampered or prevented from making a proper examination.

Fixation of the Prolapsed Kidney.—Dr. A. H. Goilet of New York read this paper, and remarked that fixation of the prolapsed kidney was absolutely a surgical procedure. Belts and corsets were inadequate if the kidney has descended below the border of the ribs. When the colon became distended it dragged the kidney down. Belts were good before this descent had taken place, but afterward they might irritate the prolapsed kidney. The indications for operation were, first of all, when the kidney should have descended below the border of the ribs, and in which the patient was nervous or hysterical. He described a new operation whereby the kidney could be drawn up under the border of the ribs and held there until adhesion had taken place. In a great many of the cases he used gauze for drainage, but did not think that this was absolutely essential for the cure of the disease.

A Combined Clinical and Laboratory Study of the Effects of Peritoneal Saline Infusions in Abdominal Operation.—Dr. J. G. Clark of Philadelphia read this paper. From laboratory methods he had found that the introduction

of large quantities of salt-solution into the abdominal cavity after operations, lessened in a very marked degree the mortality in these cases. When bacteria had been injected into the abdominal cavity without salt-solution, death had resulted in every one of his experimental cases within twenty-four hours. He had used a bouillon culture of staphylococcus aureus.

Retroversion of the Uterus: A Clinical Study of the Symptoms, Complications, and Treatment.—Dr. L. H. Dunning of Indianapolis read this paper. In general, he said the chief difficulty in this condition was the fact that operators did not give their patients sufficient medical treatment before they resorted to operative methods. A further report on operations on the utero sacral and round ligaments for retroversion of the uterus.

Dr. J. Wesley Bovee of Washington, D. C., read this paper, in which he reported forty-one additional cases, which were complicated in many ways, but which had been operated upon by him with the Webster-Baldy operation.

Dr. G. Betton Massey said he preferred to treat these cases by electricity, provided there was no ovarian disease. He had treated them when there was ovarian complication by means of cataphoresis with mercury and electricity.

Dr. Carstens said that all operations upon retroversion might be good in some *selected* cases.

SECTION ON PRACTICE OF MEDICINE.

Weakness and Dilatation of the Heart Due to Chronic Nutritional Diseases.—Dr. G. W. McCaskey of Fort Wayne Ind., read this paper. He said that the various causes which acted upon the heart did so in the following ways: (1) A failure to supply sufficient nutritive pabulum to the heart muscles, because of a weakening of the complicated mechanism concerned in this accomplishment. (2) Through the chemical influence of retention products which were toxic in excess, and the absorption of foreign substances for the most part in the gastrointestinal tract. (3) Through the partial failure or perversion of the important phenomenon of innervation of the heart muscle. (4) The purely mechanic factor which was operative from the moment when the cardiac muscle was unable to make an effective ventricular contraction against the resistance offered in the arteries. Slighter grades of dilatation were frequent in chronic gastrointestinal diseases and in all the severer form of anæmia. The treatment consisted in the removal of the primary disease, improved nutrition, rest, diet, graduated exercise and, in the severer forms, cardiac tonics and saline carbonated baths. In conclusion, he emphasized the favorable prognosis of dilatation of the heart in most cases.

Limitation of Non-surgical Treatment in Intestinal Obstruction.—Dr. Joseph Rilus Eastman of Indianapolis, Ind., read this paper. After a brief consideration of the mechanical obstructions, functional closures, and the cases that were amenable to treatment by non-surgical methods, he took up briefly the consideration of the difficulties in distinguishing the mechanical from the reflex ileus. He cautioned strongly against the use of morphine which so masked the symptoms. He claimed that physicians did not promptly diagnose and advise operations in intestinal obstructions, and, as a rule, the surgeon was called in too late. The earlier and better operating lowered very much the mortality. As a rule the urgency of operation was not so great in obstructions of the large intestine as in closure of the small gut. In the former sedatives, hot stupes, taxis, and enemata might be justly employed for a longer time.

The Occurrence of Stronguloides Intestinalis in the United States.—Dr. M. L. Price of Baltimore read this paper. He presented an account of one of the rarer nematodes, at least rare in this climate and latitude, though occurring frequently in tropical and sub-tropical countries, the stronguloides intestinalis, a parasite endemic in Cochin-China, where it occurred in association with the diarrhœas peculiar to that country, and hence called by European physicians "Cochin diarrhœa."

Clinical Diagnosis of Intestinal Parasites with Blackboard Demonstrations.—Dr. Chas. W. Stiles of Washington, D. C., discussed the various methods of distinguishing infection with intestinal parasites, and particular stress was laid upon the diagnosis of hookworm disease.

Uncinariasis in the United States with Especial Reference to Its Occurrence in Texas.—Dr. Allen J. Smith of Galveston, Tex., read this paper. He made a brief statement of known distribution of the uncinariasis in the United States. He detailed eight cases met in the examinations of eighty-eight persons supposed to be healthy. He gave the gross and minute features of the parasite, with especial reference to the propriety of Stiles' new species uncinariasis Americana. He also made a comparison with the uncinariasis duodenalis and the unci iariasis stenocephala (dog), and the frequent occurrence of the latter in very similar localities.

Treatment of Uncinariasis.—Dr. Thos. A. Clayton of Washington, D. C., read this paper. He considered the means which he adopted to prevent infection with the hookworm, and the destruction of the parasites in those affected. The conclusions he drew from some experimental work done to determine whether or not the alcoholic solution of thymol could be safely used were as follows: (1) The alcoholic solution of thymol was dangerous to dogs even in small doses, chiefly because of its tendency to produce inflammation of the lungs by aspiration. (2) The alcoholic solution, even when rendered bland by the addition of oil, was dangerous in doses of more than 4 grams to dogs of sixteen or seventeen pounds, because of its irritative effect on the gastrointestinal mucous membrane. (3) In dry powder the drug may be given to dogs in large doses without serious results, no depression, no fall of temperature. (4) Gram doses, given hypodermically, cause only local inflammation. (5) There was probably no danger in giving 2 to 4 grams, followed by 1 to 2 tablespoonfuls of brandy, to a human adult, if followed in a few hours by a purgative, such as castor oil or magnesium sulphate. (6) It was probable that the alcoholic solution obtained in this way would be more effective against the parasites, as seemed proven by their much earlier appearance in the stools after the use of alcoholic solution.

Tropical Dysentery.—Dr. Chas. F. Mason, U. S. A., read this paper. His plan of treatment, as the result of experience gained in the Southern States, was to give 10 grains of epsom salts in half a glassful of water every hour until a movement was obtained free from blood and mucus. This was combined with irrigation of the lower bowel with warm normal salt-solution two or three times a day. So soon as the movements assumed an ordinary diarrhœal character, he gave astringents in large doses, such as bismuth subgallate, combined, perhaps, with a little Dover's powder, every three or four hours. The lower down in the bowel the lesions were seated the more important became the local treatment by irrigation. In convalescence great care was required in the management of the diet. In the subacute and chronic cases the treatment was somewhat different, but even here salines could be used with advantage in the beginning. The patient should be given an anæsthetic, the sphincter well dilated, and the rectum carefully examined with the speculum to detect ulcers, which should be scraped with a curette or touched with pure carbolic acid or lunar caustic. After this, the use of saline injections two or three times a day, with proper diet, often sufficed to effect a cure. Internally large doses of dermatol were useful in such cases.

A Contribution to the Study of the Summer Diarrhœas of Infancy.—Dr. J. H. Mason Knox of Baltimore, Md., read this paper. He summarized his conclusions as fol-

lows: (1) The diarrhœal disorders of a large series of children treated in the Thomas Wilson Sanitarium during the summer of 1902 was produced by a bacillus thought to be identical with the bacillus dysenteriæ shiga. (2) The cases in this series presented the clinical and patho logical features of the several forms of the summer diarrhœas of infancy. (3) There was good reason for the confidence that a proportion, and probably a large one, of the so-called summer diarrhœas of infancy were caused by the bacillus s iga. (4) A confirmation of the work of Duval and Bassett by establishing the etiology of this yearly epidemic among infants would make possible the use of more intellectual means to control and suppress it. (5) More success could be expected from prophylactic measures and from medicinal and serumtherapy than ever before.

Malarial Dysentery.—Dr. Wm. Britt Burns of Memphis, Tenn., read this paper. He discussed the possibility or even probability of there occurring a dysentery with the malarial parasite as a causative factor. He called attention to finding malarial parasites and pigment in the vessels of the intestinal mucosa and to the almost invariable amenability of these dysentery to quinine therapy.

The Clinical History and Pathology of Amœbic Dysentery.—Dr. H. F. Harris of Atlanta, Ga., read this paper. After considering the macroscopical appearance of the lesions, he related the sequence of events that occurred in the puppy after receiving an injection of material containing living amœbæ.

A Study of the Cases of Amœbic Dysentery Occurring at the Johns Hopkins Hospital.—Dr. T. B. Futcher of Baltimore, Md., read this paper and gave the following summary: (1) In nearly fourteen years 119 cases of amœbic infection had been admitted to the Johns Hopkins Hospiatl. Of these 118 were cases of amœbic dysentery or its complications, the remaining case being one of amœbic abscess on the floor of the mouth. (2) Of the 119 cases, 117 were admitted to the medical wards. During this time there were 15,817 medical admissions, the cases of amœbic dysentery consisting of 0.73 per cent. of the total. (3) Of the 118 cases of amœbic dysentery the infection in 82 was apparently contracted in Baltimore and in 13 in the State of Maryland outside of Baltimore, or a total of 95 cases contracted within the borders of Maryland. (4) The largest number of cases occurred in the third decade, 35 having developed between twenty-one and thirty years of age. The youngest was a child of two years and eight months and the oldest a man of seventy-one. (5) A point of practical interest was the comparatively large number of infections in children under ten years. Eleven cases or 9.4 per cent. occurred in the first decade, 6 of these developing in the first hemi-decade. (6) The disease was much more prevalent in males; the series was composed of 107 males and only 11 females. (7) There were 107 whites and 12 blacks, or a proportion of 9 to 1. The ratio of all admissions for all diseases in the two races being 7 to 1. (8) A secondary anæmia of moderate grade occurred. A striking feature was the polycythæmia in many cases. A moderate leucocytosis existed; that in cases with hepatic abscess being only a trifle higher than that in uncomplicated cases. (9) Hepatic abscess occurred in 24 or 20.3 per cent. of the cases. Eight of these ruptured into the lung producing an hepato-pulmonary abscess. In 15 of these cases that came to autopsy 9 showed a single large abscess in the right lobe and 6 presented multiple abscesses. (10) Perforation of the colon with peritonitis occurred in 3 cases. (11) Intestinal hemorrhage occurred in three cases. (12) Five of the cases were complicated by malaria and one by a strongyloides intestinalis infection and two by typhoid fever. (13) The agglutination blood tests indicated that the disease was not associated with dysentery due to bacillus dysenteriæ shiga. (14) A marked feature of the disease was its tendency to relapse, 19 patients being readmitted one or more times. (15) The mortality was high, 29 or 24.5 per cent. terminating fatally. (16) Quinine irrigations afforded the most satisfactory means of treatment.

The Treatment of Acute Dysentery.—Dr. John M. Anders of Philadelphia read this paper. He said that a proper regimen tended to render the course of the disease milder. The patient should have rest in bed, proper ventilation, proper diet, and attention should be paid to the manner of feeding, the aim being to minimize the intestinal contents and thus the amount of decomposable material that reaches the seat of the morbid changes. Properly carried out milk diet made the least intestinal putrefaction. Albumin water was highly serviceable. Ipecacuanha stood preëminent among special drugs, but it had no specific action. He advised the use of saline laxatives, particularly magnesium sulphate, which produced an eliminative effect and depleted the intestinal mucosa and inhibited undue peristalsis. This might be followed with aromatic sulphuric acid or sulphur with benefit. To render the intestinal contents acid sulphur or sulphuric acid was rational. To meet the pain irritability and undue peristalsis opium was indicated. Preparations of bismuth we e valuable, particularly in advanced stages, and might be advantageously combined with Dover's powder and antiseptics. He advised intestinal irrigations, but believed they were more suited and more efficacious in amœbic dysentery than in the acute bacillary form. In amœbic dysentery warm solutions of quinine were more or less efficacious.

Abdominal Pain in Pleurisy and Pneumonia.—Dr. James B. Herrick of Chicago read this paper and made reference to the pain occasionally seen in the abdomen in pleurisy and pneumonia, which he attempted to explain by the involvement of the lower intercostal nerves and the possible influence of the phrenic nerve. In cases of this abdominal reference to pain certain abdominal diseases, such as appendicitis, cholecystitis, etc., might be simulated. Diagnosis was largely a matter of careful physical examination.

Traumatic Pneumonia.—Dr. W. T English of Pittsburg, Pa., read this paper. He limited his discussion to concussion and contusion without penetrating wounds or fractures, speaking of the normal and abnormal peculiarities favoring or resisting extrinsic or intrinsic stress, with the citation of cases.

SECTION ON SURGERY.

Surgery of Gastric Ulcer.—Dr. Van Buren Knott of Iowa read this paper. He considered in detail the diagnosis, prognosis, and treatment of adhesions between the stomach and neighboring viscera resulting from gastric ulcer. Forty-two and one-half per cent. of all peptic ulcers gave adhesions of greater or less extent, owing to the involvement of the serous surfaces. Eighty per cent. of all adhesions formed between the liver, pancreas, and stomach, because of the frequency of ulceration in the pyloric region. The size of these adhesions varied from a mere thread to bands extensive as the broad ligaments of the pelvis. The symptoms were not as yet recognizable, because little work has been done on these lines, but, in general, they were those of gastric unrest. However, if the adhesions were severe, they might produce symptoms of grave danger to life, though they could scarcely be recognized clinically from those produced by cancer. Pain might be severe, due partly to the mechanical interference of the peristalsis wave and partly to the fact that irritation was produced in the stomach by the pockets resulting from traction. As guides to diagnosis, he mentioned the existence of a fixed point of tenderness, of pronounced pain while in the knee-chest position, of irregular gastric outline, when distended after Mayos' method. Diagnosis, however, was usually impossible except after exploration. The bands, if dense, would be treated with respect, because it

was very difficult to prevent their reformation after extensive tearing. It was better to leave these cases alone, and to sidetrack the stomach by a gastroenterostomy.

Pyloric Obstruction.—Dr. H. D. Niles of Salt Lake City, Utah, read this paper. He said that cancer, ulcer, or inflammatory adhesions produced 95 per cent. of all phloric obstructions. Great good could undoubtedly be done by pyloroplastic operations, if the internist would recognize that the treatment of these cases was entirely outside of his jurisdiction. Unfortunately, the reconstructive powers of the patient were so exhausted that the mortality of the removing operations was so nearly prohibitive that conservative surgery demanded the simpler and safer gastroenterostomy. He spoke of the pathology of the necrotic process, and believed that it was in the stomach, as elsewhere, modified by the presence of pepsin, by traction and occlusion of the blood vessels. In diagnosing these conditions, it was wise to suspect every case of hysteria combined with gastric irritability, to be a possible example of pyloric obstruction. The rational treatment after exclusion was surgical.

Stomach Surgery.—Dr. A. J. Ochsner of Chicago presented this paper. He said that in time the surgery of the stomach would be simply that of gastric ulcer. To-day we were treating the sequelæ and complications of this condition; namely, hemorrhage, perforation, peritonitis, and carcinoma. Mayo had taught us how to dispose of the vicious circle which but a few years ago was so aggravating as to lead to a multitude of ingenious devices directed toward its prevention. Of these, entero-enterostomy was by far the best known. To-day, however, we knew that all were happily useless. There was no occasion whatsoever for the existence of the cycle if only the most dependent portion of the stomach were chosen for the site of the anastomosis. He spoke very favorably of the results obtained from the McGraw elastic ligature, and said that he believed it to be the safest of all known methods. One of its great advantages was that lumen could be made as large as one chose, thus obviating the possibility of a closing of the opening after healing of the ulcer with subsequent reulceration, and a repetition of the symptoms. Gastrectomy must remain always a rare operation, but partial gastrectomy, the technic of which he gave in detail, would be used more and more as the opportunity for early operation becomes greater. H. De Mayo, in opening the discussion, said that surgery has a great problem before it in answering the question of how to treat gastric ulcer, so soon as we found a suitable method for this most frequent and dangerous complaint, the operations which were common to-day, would pass out of existence.

Dr. Rodman of Philadelphia said that we should all remember the importance of gastric ulceration; much work was necessary to determine the proper methods of treating the ulcer, which was a primary step in all gastric surgical complaints. He believed that the better method for treating gastric ulcer was partial gastrectomy, because, unlike the palliative operation of drainage, it removed what might later become the seat of a cancer, a hemorrhage, or a perforation. He was unable to agree with Dr. Mayo that all cases would be free from the vicious circle of vomiting simply by placing the anastomosis at the most dependent part; and believed that in occasionally a subsequent entero-anastomosis would be necessary.

Dr. A. J. Ochsner of Chicago hoped that the future would yield a larger percentage of permanent cures following partial gastrectomy for malignant growths. The chief point in his admirable technic was the closure of the severed ends both of duodenum and of stomach, and the subsequent junction of the remaining stomach bulb, by its most dependent part to the upper jejunum.

Circular Enterorrhaphy.—Dr. O. Beverly Campbell of St. Joseph, Mo., read this paper. He said that the enormous number of methods of making end-to-end anastomosis showed that the ideal technic was yet to be discovered. He described in detail, his own technic, which consisted in turning a cuff of the superficial layers of the gut back, removing the intervening mucous membrane, suturing the parts, covering the sutures with the cuff, and lastly suturing the serous surface of the cuff to that of the gut.

Intestinal Resection.—Dr. James H. Dunn of Minneapolis said that for the man who only occasionally did abdominal surgery it was necessary to have one or two good methods absolutely perfected. The Connell suture, because of its simplicity and strength, should in most cases be employed upon the great gut, whereas the Murphy button, which was by far the best of the many mechanical devices, found its best use in the region of the small intestine.

Dr. Walker of Detroit, in discussing these papers, said that the McGraw ligature had given very good results in his hands.

Dr. J. B. Murphy of Chicago believed that failure to obtain union was, in all cases, due to not recognizing that the juxtaposed serous surfaces were unhealthy.

Multiple Osteomyelitis.—Dr. John T. Bottomley of Boston read this paper. He cited the case of an adult male, aged forty-three years, who presented a remarkable series of streptococcic infections of nearly all of the bones of the extremities. The man when first observed was suffering from a pulmonary abscess, which unquestionably was the foundation supplying the repeated infections. Clinically, he said the streptococcus and staphylococcus types of bone disease did not materially differ, but the first was very rarely seen.

Osteomyelitis.—Dr. Edward H. Nichols of Boston presented this paper, which was based upon the fact that bone was reformed from the medulla or endosteum, as well as from the periosteum. He urged that the marrow which was usually scraped out should be left *in situ*. Inasmuch as the periosteum was usually separated from the shaft, he further advised its entire removal. There were three stages in which to operate: First, the acute suppurative, with septicæmia, calling for immediate operation; secondly, the subacute, requiring the necrotic shaft to be removed about the tenth week; thirdly, those chronic cases in which a dense involucrum had formed possessing no power of repair. The operation should be done the fifth month. If the endosteum were left, sequestrum formation would be prevented.

Dr. DeForest Willard of Philadelphia in opposing the discussion said that too much stress could not be laid upon the need of all practitioners learning to diagnose this disease. It was as fulminating as any case of appendicitis, and should be treated within the first forty-eight hours.

Dr. Stewart of Minnesota said that rheumatism was not the only thing with which it was confounded, typhoid fever might under certain conditions readily be mistaken for it

Dr J. B. Murphy of Chicago said that this could be no excuse for not diagnosing almost every case. The surgeon was of little use unless he operated upon the bone prior to the bursting through of the pus. The most important point in differentiating he believed to be pain on deep and continued pressure. In closing, Dr. Nichols said that he did not agree that the differentiation between acute rheumatism and osteomyelitis was easy, or even possible, because he had seen many children so overcome by the toxæmia as to be insensible to pain.

Treatment of Vascular Tumors by the Injection of Boiling Water.—Dr John A. Wyeth of New York presented this paper. He classified the three types of vascular tumors in their order of election for this form of treatment. He had found the introduction of steam and

boiling water into the tissues superior to that of alcohol or wax, and believed that this method could be advantageously used in the treatment of cervical adenitis, fistula and possibly fibroids. He distinctly stated that it was indicated only in those cases in which extirpation was impossible.

The Radical Cure of Umbilical Hernia.—Dr. W. J. Mayo of Rochester read this paper. He said that the results in thirty-five cases had been most gratifying, only one having relapsed. The fact that there was no mortality in these cases was in itself a great gain over the old operation.

Dr. A. J. Ochsner of Chicago, in opening the discussion, said that the old operation produced ten times the traumatism of that devised by Mayo, and that this operation rendered absolute cure as certain as Bassini's had in the case of inguinal hernia.

Dr. J. B. Murphy of Chicago had nothing but praise to offer for the technic. The mortality of the old operation was due to pulmonary œdema induced by pressure from constriction of the walls.

The Value of Enterostomy in Peritonitis.—Dr F. B. Lund of Boston was the author of this paper. He said in the milder cases of intestinal paresis, due to whatever cause, recourse should certainly be had to the usual methods of correcting the trouble. These failing, however, in a certain proportion of cases iliostotomy, done under cocaine, was occasionally a life-saving method. He reported a number of cases in which it had been used when the patient was moribund, and in which the success had been so great as to justify the conclusion that the symptoms were due more to mechanical pressure than to toxæmia. It had its objections. The fecal fistula might be permanent, and the excoriations of these were painful, but it was better to accept these minor inconveniences than run the chance of the patients perishing by pressure of the gas within him.

Dr. Martin B. Tinker of Baltimore in discussing the technic, said that it had been said that it had been used successfully a number of times at the Johns Hopkins Hospital, and that within the last three years they had not found it necessary to operate upon any fistulæ, as all of them had closed spontaneously.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending May 2, 1902.

	Cases.	Deaths.
Measles	286	20
Diphtheria and croup	367	45
Scarlet fever	359	30
Smallpox	..	..
Varicella	66	..
Tuberculosis	338	181
Typhoid fever	43	16
Cerebrospinal meningitis	.	..

Primary Cancer of Liver in a Girl Aged Twenty-one Years.—W. J. Thompson reports a case which is interesting from the facts of the patient's age, the absence of any family history, the painless character of the affection, and the lateness at which ascites, nodules, and jaundice appeared The disease lasted altogether about seven months, and at four months the liver was uniformly enlarged and smooth on the surface, and free from pain, even on pressure. Six weeks later ascites appeared, and a couple of weeks after this a slight jaundice, and slight nodules. The latter soon became well marked. Before death the liver extended as far down as the umbilicus, and when removed from the body weighed 197 ounces. The death, temperature remained normal until ten days before when it fluctuated very much, sometimes going as high as 103°.—*The Dublin Journal of Medical Science.*

London Traffic.—A royal commission has been appointed to inquire into the means of locomotion and transport in London, and to report: (1) As to the measures which it deems most effectual for the improvement of the same by the development and interconnection of the railways and tramways, on or below the surface, by increasing the facilities for other forms of mechanical locomotion by better provision for the organization and regulation of vehicular and pedestrian traffic or otherwise; and (2) as to the desirability of establishing some authority or tribunal to which all schemes of railway or tramway construction of a local character should be referred, and the powers which it would be advisable to confer upon such a body.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service during the week ending May 2, 1903:

SMALLPOX—UNITED STATES.

		Cases.	Deaths.
Alabama, Mobile	Apr. 18–25	6	..
California, Los Angeles	Apr. 4–11	7	..
San Francisco	Apr. 12–19	6	..
District of Columbia, Washington	Apr. 18–25	1	..
Georgia, Atlanta	Apr. 15–29	5	..
Illinois, Belleville	Apr. 18–25	1	..
Chicago	Apr. 18–25	17	..
Galesburg	Apr. 18–25	3	..
Indiana, Indianapolis	Apr. 18–25	1	..
Iowa, Dubuque	Apr. 18–25	1	..
Maine, Eastport	Apr. 22	3	..
Maryland, Baltimore	Apr. 18–25	1	..
Massachusetts, Cambridge	Apr. 18–25	1	..
Holyoke	Apr. 18–25	4	..
Lowell	Apr. 18–25	2	..
Michigan, Flint	Apr. 18–25	1	..
Grand Rapids	Apr. 18–25	2	..
Port Huron	Apr. 18–25	1	..
Missouri, St. Louis	Apr. 19–26	5	..
Nebraska, Omaha	Apr. 18–25	4	..
New Hampshire, Manchester	Apr. 18–25	5	..
Nashua	Apr. 18–25	3	..
New York, Buffalo	Apr. 18–25	4	..
Ohio, Cincinnati	Apr. 18–25	2	1
Dayton	Apr. 18–25	1	..
Hamilton	Apr. 18–25	1	..
Oregon	Apr. 22	250	..
Pennsylvania, Altoona	Apr. 18–25	2	..
Carbondale	Apr. 14–21	2	..
McKeesport	Mar. 28–Apr. 4	3	..
	Apr. 18–25	3	..
Philadelphia	Apr. 18–25	22	1
Pittsburg	Apr. 18–25	18	2
Reading	Apr. 13–25	4	..
Scranton	Apr. 18–25	6	..
South Carolina, Charleston	Apr. 18–25	2	2
Tennessee, Memphis	Apr. 18–25	1	..
Utah, Salt Lake City	Apr. 18–25	16	..
Washington, Tacoma	Apr. 13–25	2	..
Wisconsin, Milwaukee	Apr. 18–25	1	..

SMALLPOX—FOREIGN.

Belgium, Brussels	Apr. 4–11	..	6
Brazil, Rio de Janeiro	Mar. 29–Apr. 5	..	3
Canary Islands, Las Palmas	Mar. 21–Apr. 4	44	..
China, Hongkong	Mar. 7–14	4	1
Colombia, Barranquilla	Apr. 5–12	..	1
Cartagena	Apr. 5–12	..	1
France, Rheims	Apr. 5–12	..	1
Great Britain, Birmingham	Apr. 4–11	6	..
Bristol	Mar. 28–Apr. 11	6	3
Cardiff	Feb. 21–Mar. 28	22	1
Dundee	Mar. 28–Apr. 11	1	
Leeds	Apr. 4–11	7	1
Liverpool	Apr. 4–11	66	2
London	Apr. 4–11	5	..
Manchester	Apr. 4–11	11	1
Newcastle-on-Tyne	Mar. 21–Apr. 11	4	..
South Shields	Mar. 21–Apr. 11	8	..
India, Bombay	Mar. 24–31	..	100
Calcutta	Mar. 21–28	..	2
Mexico, City of Mexico	Apr. 5–12	14	6
Russia, Moscow	Mar. 27–Apr. 4	1	1
Odessa	Mar. 27–Apr. 4	2	2
St. Petersburg	Mar. 27–Apr. 4	33	4
Straits Settlements, Singapore	Mar. 7–14	..	1
Turkey, Alexandretta	Mar. 27–Apr. 4	3	..

SMALLPOX—INSULAR.

Phillippines, Manila	Mar. 7–21	0	..

YELLOW FEVER.

Brazil, Rio de Janeiro	Mar. 29–Apr. 5	..	33
Colombia, Panama	Apr. 15–22	2	1
Costa Rica, Limon	Apr. 17	..	1
Mexico, Vera Cruz	Apr. 11–25	10	4

CHOLERA—INSULAR.

Philippines, Provinces	Feb. 28–Mar. 14	326	225
Not previously reported		467	316

CHOLERA—FOREIGN.

India, Bombay	Mar. 24–31	..	1
Calcutta	Mar. 21–28	..	52

PLAGUE—INSULAR.

Hawaii, Honolulu	Apr. 15	..	1
Philippines, Manila	Mar. 7–21	24	17

PLAGUE—FOREIGN

China, Hongkong	Mar. 7–14	17	17
India, Bombay	Mar. 24–31	..	1,755
Calcutta	Mar. 21–28	..	816

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Original Articles.

URÆMIA AND ITS TREATMENT.*

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Correct physiology is always an essential prerequisite to correct pathology; for if we are to know what is abnormal, we must first know what is normal. But, unfortunately, it is this truth which makes it difficult to handle satisfactorily our present subject, for it happens that there are no important organs of the body about the mechanism of whose physiological functions there are so many undetermined questions as in the case of the kidneys.

To begin with, we meet with the strange paradox that the more you experimentally cut away of the substance of the kidneys the more they will excrete. According to Rose Bradford, if you remove two-thirds of both kidneys in dogs, the animals will live quite well, and actually pass more urine and more urea than they did before the operation; but if you remove three-fourths, they are sure to die after a while, apparently because of excessive polyuria and excessive excretion of urea by the remaining fourth, their muscular tissues seeming to break down rapidly and decompose into the elements which go to form urea.

It would seem from this that in the case of the kidneys a small part is greater than the whole.

In explanation of these results of experimental pathology, it has been suggested that in health the glomeruli of the kidneys let enough water pass through to drain off the whole liquid of the serum, but that, as the water trickles through the multitude of little trombones, called Henle's tubes, the fluid becomes concentrated by reabsorption in them. In support of this surmise, the marked polyuria accompanying cirrhosed kidneys, is ascribed to the extensive atrophy of the convoluted tubes diminishing the surface area for reabsorption in such wasted organs.

On the other hand, the breaking down of the proteid tissues throughout the body, with consequent excess of urea excretion when only a fourth part of kidney substance remains, is more difficult of explanation; and the only theory advanced is that the kidneys have an important function in the shape of an internal secretion, which controls and prevents undue waste of the nitrogenous tissues. Such an internal secretion would correspond to that of the islands of Langerhans in the pancreas, whose function is to prevent a saccharine diabetes, while their renal analogues prevent a urea diabetes. On this view, the kidneys both excrete urea, and limit its production. Again, one would suppose that the presence and relative proportions of the inorganic salts of the urine were simpler problems to investigate, than its urea, uric acid and other of its organic ingredients. Accordingly, scores of animals, have been sacrificed to explain why the chlorides disappear from the urine in pneumonia, in typhoid fever, and in other acute fevers. I have read expositions of four different theories based upon elaborate experimental researches to settle this question; but the conclusions of all four are contradictory to, and mutually excluding, the others. And yet the subject itself is one not only of physiological, but of practical interest. Do the kidneys simply filter the salts through, or is it by vital secretion of their cells, and should we, or should we not, give common salt in typhoid fever to compensate for the deficiency? One investigator says that we ought to give salt freely, 30 grams or more a day; another says, no; and another that it would make no difference either way. Meantime, the case is worse yet as regards the sulphates, and still more so with the phosphates.

If, therefore, physiology is here uncertain, then pathology must be uncertain, and derangements of the kidneys must present us with quite a list of riddles. Meantime, as scientific therapeutics should be based on correct pathology, and that in turn on correct physiology, it would seem as if our third superstructure must be still more insecure.

Nevertheless, *clinical* experience does furnish us with certain distinct indications of special conditions in kidney diseases which can be broadly distinguished from each other; and it is about some of those that I propose to speak.

Instances do occur of persons while in good health having the urine suddenly stopped from entering the bladder. This is by what is termed acute obstructive suppression, and the remarkable after-course of these patients, if not relieved, is illustrated by narrating a case which came under my own observation. I was requested by his employer to see, in consultation with his physician, a man who had not passed a drop of urine for eight days. I found the patient, a stout, healthy-looking, middle-aged German, sitting in his room as if nothing was the matter with him. He said that he felt quite comfortable, except that he was weak. The history which I elicited was that, thirteen years before, he had a severe attack of pain in his left flank which was followed by fever, confining him to bed for some weeks; after which he recovered, and remained well till, in the night, eight days ago, he had another attack of the same kind of pain come on in the right side, soon after which he could pass no water; and his physician found no urine in his bladder when he catheterized him. My examination of the patient elicited scarcely anything but negative signs. His temperature was normal, his pulse normal and not of high tension; he complained of no cerebral symptoms whatever, and had slept well nights; he had no bronchial or pulmonary symptoms of any kind; and nothing had gone wrong with his stomach or bowels, except entire loss of appetite, with some constipation. The only symptoms that I could discover were that his pupils were symmetrically contracted, and that there were slight twitchings in the muscles of the face and of the hands. On retiring to consult, I told his physician that his was undoubt-

*Address before the Medical Association of Greater New York, January 12, 1903.

edly a case originally of calculous obstruction of the left ureter, which ended in the destruction of the left kidney, in his attack thirteen years before; and that he had been getting along with one kidney ever since, till that had become shut off from the bladder by a similar plugging of its ureter; and that the only thing which would save him was to cut down on the ureter and free it of its obstruction. My colleague, however, could not understand why, if my diagnosis was correct, the man did not show any symptoms of uræmia. I replied, that he would die without probably any of the ordinary symptoms of uræmia; and so he did two days afterward, because the physician refused to have any operation attempted. I learned that the patient was conscious to the end, had neither convulsions nor coma; no dyspnœa, nor pulmonary œdema; no vomiting, nor intestinal symptoms; and not a sign of dropsy about him. His only symptoms were increasing weakness and a slight increase in muscular twitchings, until he died of pure asthenia.

Now, one important inference from such a clinical history is this: that the fatal poisoning in this man, and in similar cases, was *not* poisoning by what we know as uræmia. There is fully as much difference in the accompanying symptoms between the two conditions, as between poisoning by morphine and poisoning by strychnine. We must conclude, therefore, that the poison, or poisons, of uræmia must be different in kind and in composition from those which operate to destroy life when the secretions of the kidneys are suddenly and totally suppressed.

And so undoubtedly they are. But, what is more, a careful study of the great variety of symptoms of uræmia itself in different patients suggests the inference that there must be a corresponding variety of distinct poisons present in them, some of which it may be possible to recognize by their own special properties, just as we would recognize any of our drug poisons by their special properties.

A priori, we might expect this to be so, because as the poisons of uræmia originate presumably in the disintegration of tissues, so modern chemistry has demonstrated that different poisons may arise in the decomposition of the same tissues. Thus two distinct poisons have been isolated from nervous tissue, choline and neurine, and their presence has been detected in the cerebrospinal fluid drawn off during life in patients with degenerative nervous diseases. Of these two poisons, neurine is much the most virulent, and with different properties from those of choline.

So in uræmia I believe that we have, among others, one special poison which is quite common and very important in its relations to the course of renal diseases, but which can be distinguished by its own specific effects, and what is more for our present purpose can be treated accordingly. To illustrate this, I will give the following particulars of a case: In November, 1901, I was called by my friend, Dr. Alexander Travis of this city, to see a lady, sixty years of age, well-nourished and healthy-looking, who suddenly became dizzy and fell from her chair. She had not complained of any particular symptoms before, except some dyspnœa while walking against the wind, and occasional cramps in her legs. She did not lose consciousness in her fall, but felt as if she would faint away if she attempted any movement. She passed a very restless night, and when I saw her the next day, in consultation, she presented all the symptoms of acute dilatation of the heart. Merely changing her position in bed caused cyanosis and vertigo. The left ventricle was much dilated, the heart impulse could not be felt, at the apex the sounds were very indistinct, at the base the aortic second sound was accentuated. The radial artery felt very small, but smooth, with no signs of thickening or of atheroma. The pulse was irregular, but of very high tension. The urine was scanty, with a faint trace of albumin, and with granular and hyaline casts, but no red blood-cells. As the indications were to relieve the vascular tension and to stimulate the heart, every variety of vasodilators and of cardiac stimulants were successively tried for two months, during which I frequently saw her with Dr. Travis, and we faithfully used the nitrites, including the tetranitrate of erythrol, along with strychnine, caffeine, sparteine, strophanthus, and digitalin, besides sodium iodide, arsenic, and tincture of iron, but without avail. The patient continued being unable to have her head raised, while uræmic gastrointestinal symptoms became very troublesome, with alarming attacks of dyspnœa and syncope, mild delirium, pains in the head, and convulsive twitchings of the muscles of the face and extremities. She had a urinous odor about her, and the diarrhœic movements were very offensive. The pupils remained symmetrically contracted. The urine continued to be deficient in amount, and the daily output of urea, which was constantly estimated by Dr. Travis, sank down to 120 grains, or 8 grams.

At this stage of the case I advised an entire change of treatment, and recommended that she should be put on full doses of aconite, five drops of the tincture every three hours. The effect of this medication is given by Dr. Travis in a note to me, as follows:

"1903.—In a few days improvement in all her symptoms was perceptible; her digestion became better; mental and nervous symptoms disappeared; the arterial tension disappeared; the daily output urea arose from 120 grs. to 480 grs.; the character of the heart action improved; the apical impulse became perceptible, and slowly increased in force, and the pulse became regular and fuller. Within a week the patient sat up, supported by a bedrack, for ten minutes, without marked change in the pulse.

"The aconite was continued for six months in the same doses. The patient slowly improved and sat out of bed from six to eight hours daily, going out to drive, and taking other gentle exercise. Twice the dose of the aconite was reduced, but the return of high tension and diminution of the urea output to 200 grs. daily, with return of symptoms of cardiac weakness, caused the resumption of the original dosage.

"At the end of six months the aconite was discontinued and the nitrites were substituted for it for one month. Cardiac weakness and high tension developed again, and the urea fell to 150 grs. daily. Aconite was again substituted for the nitrites, and again the heart action and pulse improved, arterial tension lessened, and the urea increased to 450 grs. After four months more, the aconite was discontinued, as vasodilators seemed to be no longer indicated. The patient continues to lead a carefully regulated life, makes and receives visits, takes walks and drives, and has steadily improved in strength and appearance."

I have no doubt that my prescription of full doses of aconite to this patient, whose heart was so weak that it was dangerous to raise her head, would entitle me, in the estimation of many, to a front rank among the original homeopaths. But, my reasons were that in certain common states of renal derangement, I believe that a special poison is generated, perhaps in the kidney itself, which possesses very similar properties to those of the internal secretion of the adjoining glands, the suprarenal capsules. Suprarenal extract, or adrenalin, its active principle, acts as a very powerful and universal vasoconstrictor, and thus greatly raises the general arterial pressure. I believe that this one, among the uræmic poisons, does precisely the same thing; so that its properties are indistinguishable from those of adrenalin. It is not necessary to postulate that if so the daily amount generated

must be very great to account for the high-tension pulse of kidney disease for months together, because Schaffer and Oliver have shown that nothing is so extraordinary about adrenalin as the minuteness of the dose which will act on the whole vascular system, $\frac{1}{800}$th of a grain being sufficient to affect the pulse of a healthy man. If the supposed kidney poison is at all similar, its effect would be the same as a continued over-dosing with suprarenal extract, both arteries and arterioles throughout the body would so contract that the heart would labor against a universal obstruction, until after first enlarging, it might then suddenly dilate and fail.

In this connection, it should be borne in mind that the kidneys are so liberally supplied with both vasoconstrictors and vasodilators, that they might almost be termed erectile organs. Whoever has experimented with them by the employment of a kidney oncometer will have frequent occasion to note how rapidly they can increase, and then shrink in bulk by alterations in their circulation. In an experiment at which I assisted, the enclosed kidney swelled so rapidly that it burst the drum of tambour of the recorder. Now, one of the striking results of suprarenal extract injected intravenously, Schaffer reports, is a most extraordinary shrinkage of the kidney, a condition which could not fail seriously to impair its excretion of urea. In all such conditions in disease, the employment of vasodilators is indicated, and for that purpose the various nitrites have been much used with marked benefit, particularly in increasing the output of urea. But in my opinion the ideal vasodilator is aconite. Its effect is more pronounced and much more lasting than that of the nitrites, and in this patient's case this fact was repeatedly proven, for she took very large doses of nitroglycerin, and was also subjected to the most prolonged action of the nitrites, the tetranitrate of erythrol, with only temporary benefit; while she responded at once to the aconite, with an immediate increase of the elimination of urea from 8 gms. daily to over 32 gms.; and, as noted, whenever the aconite was omitted the urea directly fell in amount. In her case, I regarded the extreme heart weakness to be directly due to cardiac exhaustion from excessive arterial ischæmia, and that by relief from that obstruction, the heart would gain much more from the rest secured from easier blood flow than it would lose by the local depression of the aconite on itself; and the event proved that my surmise was correct. The supervention of arterial contraction with consequent high-tension pulse is such an early clinical symptom in renal disorders that we must assume the presence of some such functional agent or poison to account for it. But if this agent should continue to operate for any length of time, it is equally clear that it must lead to serious organic changes in the blood vessels themselves. The fact is well-known that arterial atheromatous degeneration always affects those parts which are the sites of the greatest intravascular strain, hence any agent which persistently raises the blood-pressure must sooner or later give rise to extensive textural alterations in the vascular coats. I would ascribe, therefore, the arteriocapillary sclerosis of long-standing kidney diseases to high tension first, rather than high tension to the sclerosis. After the resulting chronic endarteritis has led to extensive obliteration of arterioles, we then have, of course, a further mechanical cause of increased tension; but this is the secondary and not the primary cause of the intravascular pressure; and it becomes, therefore, an indication of the highest practical importance to use vasodilators from the earliest stages of kidney disorders for the prophylaxis of some of the worst effects of those derangements upon the heart and upon the blood vessels.

Believing, as I do, that we have in aconite our most serviceable and safest drug for this purpose, I would recommend its systematic use as long as the pulse remains both tense and frequent, for the purpose of lessening the strain on the heart, for checking the progress of vascular disease, and for increasing the failing excretion of urea. In its employment, we should be guided by the effect produced upon the tension and the frequency of the pulse.

On the other hand, we cannot expect much from aconite, nor from any functional vasodilators for that matter, in conditions where widespread chronic endarteritis has already caused extensive obliteration of the smaller arteries. Here the pulse tension, as already remarked, is due to permanent closure of a great number of the peripheral vessels, and neither aconite, nor any similar agent, can dilate vessels which have practically ceased to exist. In cases of senile hearts, therefore, aconite should be given with discrimination. Even in them, however, should the pulse be not only of high tension but also rapid, aconite may be advantageously given till the pulse falls to normal frequency, and then intermitted, for I have seen it do much good in old people who, from their quickened pulse, appeared to have some acute exacerbation of chronic renal trouble.

In puerperal eclampsia we have a remarkable illustration of such a poison being rapidly formed and giving rise to extreme high tension. But in addition to that we have the most dangerous addition of another element, which is rapid and powerful action of the heart itself. Schaffer's experiments with intravenous injection of suprarenal extract supply a striking parallelism to this condition, for he found that if, after injecting the suprarenal extract, the vagi were cut or paralyzed with atropia, the heart then acted very violently and forced such an increased amount of blood into the contracted arteries that an enormous rise in blood-pressure followed. Excessive intracranial vascular tension then gives rise to a fatal status epilepticus unless promptly relieved. It would seem, therefore, that in puerperal eclampsia an analogous paralysis of the vagus occurs, either by over-stimulation by an excessive generation of the vasoconstrictor poison, or else by the conjoint action of some other poison resembling atropia. It is conceivable, however, that the increased heart action may be due to such a stimulation of the accelerator nerves of the heart by the original vasoconstrictor poison that the inhibition of the vagi is wholly overcome.

Clinically, the best and speediest vasodilator which we can use to relieve such a condition is free venesection, but if that be objected to, then veratrum viride should be given in very large doses, given according to the effect on the tension of the pulse and limited by no other consideration. Aconite is much too slow for such an emergency, and, besides, aconite does not have the specific effect of veratrum on the great splanchnic blood vessels. Our object is to quiet the heart and relax the arteries by bleeding the patient, as has been expressed, into her own abdominal veins, which, when fully relaxed, can hold all the blood of the body.

A number of theories have been advanced to explain the intoxication in puerperal eclampsia, among them, that it is caused by deficiency of the secretion of the thyroid gland, as it is claimed that the thyroid is enlarged in pregnancy by increased functional activity, the thyroid secretion being supposed to neutralize the poison in the blood, and it is stated that puerperal convulsions occur mostly in women who do not show this thyroid hypertrophy.

I do not incline much to this view, because precisely the same kind of convulsions, with just the same accompanying vascular symptoms, occur from acute alcoholism in men.

I was called in consultation by the late Prof. M. A. Pallen, to a man who, after drinking an enormous quantity of brandy, was taken with convulsions, in which he continued with coma for ten hours before my arrival. I found him deeply cyanosed, and with not only a rapid pulse of extreme tension, but with the most violent action of the heart. As my colleague thought we might be blamed by the friends if the man was bled and then should die, I recommended that twenty drops of the tincture of veratrum viride should be given every twenty minutes till the pulse tension gave way. Two drachms were therefore given in all, in four hours and a half, when the convulsions ceased and the patient recovered.

Widespread degeneration of visceral cells is also adduced as a sign of some special toxin in puerperal eclampsia, but this, I think, can be explained as a definite effect of arterial ischæmia, which I will allude to presently.

There are some instances of deficient elimination of urea when I would not think of prescribing aconite, and as such cases are by no means uncommon, and are apt to be very puzzling to the practitioner on account of the great variety of their nervous symptoms. I beg leave briefly to refer to them. These patients do not seem to have any organic disorders of the kidneys, and are often passed by life-insurance companies without question, but they come to us with a clinical story which is anything but clear to us, as the following short summary of the symptoms of two men, both of whom came to my office in the same week, well illustrates:

J. H. H., aged twenty-nine, merchant, had always enjoyed good health until nine months ago, when he began to have a feeling of weariness below the knees, with cramps and numbness about the calves. These paræsthesiæ lasted about a month. Then followed sensations of "drawing" in his legs, when he could not keep his feet still, these "spasms" coming on mostly after meals. He then had insomnia, became nervous and hypochondriacal, and was often dizzy on rising in the mornings. This in turn was followed by drowsiness, in which he would drop asleep in his office, and once he slept uninterruptedly from 3 P.M. to 1 P.M. the next day. His hands became so weak that he had difficulty in writing. He would also have attacks of much gastric distress, which would last a week and then pass away.

The second case was Captain J. A. H., aged thirty-seven, U. S. Army, but retired and now a mining engineer. Was on duty in Cuba, where he contracted malaria fever, followed by chronic dysentery. This subsided, but left him for two years subject to chronic diarrhœa, to attacks of irregular chills with fever, and persistent articular inflammations, like rheumatism. He went to Ecuador to superintend mining operations there, but there he suffered from an attack of delirium, in which he was comatose for two weeks. Ever since he suffers from a violent neuralgia over the left eye, radiating to the occiput, which, from its persistence, makes him distracted. No malarial organisms could be found in his blood.

Now, I think it is a safe rule, when we have a whole series of anomalous and contradictory nervous symptoms in a patient, which cannot be reduced into conformity to any definite disease, that we must then suspect a toxæmia of some kind, most likely either of renal or intestinal origin. I directed both of these patients to collect the urine for twenty-four hours, and then have a specimen of it examined for the purpose of estimating their daily output of urea. They both assured me that within the year they had taken out life policies, each in a different but leading company in this city, and their kidneys then were pronounced all right; but I found that the first one of them, whose daily output of urea should be at least 24 grams, passed only 13 grams, and the other barely 15 grams.

In both these male patients the pulse was both slow and of low tension; and just such cases are common among women, when their trouble is most certainly taken for hysteria. True, purely functional renal inadequacy, or at least inadequacy of elimination of urea, not due to organic kidney disease, is, I believe, very common, and, in my opinion, is generally dependent upon gastrointestinal derangements, and should be treated accordingly.

Thus far we have been considering symptoms of uræmia due mainly to functional derangements of the kidney, though in cases of persistent high tension the functional leads to organic disease sooner or later. The treatment of uræmia due to organic derangements of the kidney is such an extensive subject that I can only allude to some of its chief features.

First, as to acute nephritis, of which scarlatinal nephritis is the representative type, we meet as usual with some anomalies in the matter of causation. Clinically, it bears no consistent relationship with the severity of the scarlet fever itself. One of the severest cases which I have had to treat, and who distinctly desquamated three times during the course of his illness, had all sorts of intercurrent complications, except one, and that was that he never had any appreciable trouble with his kidneys. On the other hand, some of the worst cases of nephritis which I have met in consultation had their scarlatina so mildly that we had to hunt up for the proof of its connection with the case. I doubt also if any very strict precautions against exposure, etc., during the illness are of much avail in preventing the nephritis. Daily oiling of the skin with lime-water liniment and oil of cinnamon may have some value, and I always recommend it; but it is just as likely to occur in children who have shown very little desquamation as in those whose skin has been so inflamed as to cause it to be renewed all over. The best prophylactic, in my opinion, not only against nephritis, but against the disease running a bad course generally, is to begin at once at the first onset with a laxative dose of calomel, and repeat it every night till the tongue desquamates. Whenever diarrhœa also occurs, calomel stops it at once. But as the days pass we are to look out for the first danger signal from the kidneys, and almost invariably that first signal is not the appearance of albumin, or of blood corpuscles under the microscope, but a diminution in the quantity of urine, and a fall in the specific gravity.

With nephritis developed and advancing, we should energetically have recourse to the most certain of all diuretics in conditions threatening suppression, and that is the rectal douche, with normal saline at 115° F. Action of the bowels always causes a flow of urine in health, owing to the nervous association between these two adjacent viscera; and this association stands us in excellent stead whenever the kidneys are failing to secrete from any cause. I would place more reliance upon this one than upon any other single measure in scarlatinal suppression. At least two gallons of the hot saline should be allowed to run in and out at a time, the best instrument for which purpose that I know of being Kemp's rectal irrigator. I have

seen also most excellent results from hypodermoclysis of from two to four ounces of normal saline in the flank in these cases, and in the hemorrhagic nephritis of diphtheria. We need hardly despair of even the most seemingly desperate case of scarlatinal suppression.

In one patient, a boy of eleven years of age, who had suppression for six days, convulsions and coma supervened so deeply that a well-known physician who was called in from a neighboring house during my absence, pronounced the boy dead. When I arrived, I had recourse to a procedure recommended by Dr. Brown Séquard, and had tablespoons dipped in hot water till the spoons scalded the skin when applied to spots over the kidneys on the anterior wall of the abdomen. About the sixth application the boy opened his eyes, whereupon a high rectal irrigation produced a movement of the bowels and a flow of urine, which continued afterward, and the patient recovered.

Before an audience like this I need not speak of the main indications for the management of a case of chronic interstitial nephritis, and I only wish to refer to some special points connected with the subject.

It is not uncommon for persons to be suddenly taken with uræmic convulsions as the first announcement to anybody that they have Bright's disease. Post mortem we find that they had long been carrying diseased kidneys with them, with only moderate accompanying symptoms, which they had accredited to biliousness, etc. Others, on the contrary, have long been known to have kidney disease, but they have got along fairly well for many months, or even attended to business, and then, suddenly, serious symptoms develop, which soon carry them off.

I believe that in the great majority of such patients a new element has entered into the case, the recognition of which we owe to recent advances in pathology, and that new element is a septic invasion of the kidneys by bacteria, of which the commonest form is the colon bacillus. Dr. Flexner has been one of the foremost investigators who have demonstrated the rôle which terminal infections play in the final issue by death of many chronic diseases, particularly diseases of the heart and of the kidneys, so as to lead to the saying that a man does not die from his disease, but from his bacteria.

In chronic interstitial nephritis, the process seems to be this: A patient with cirrhosed kidneys, who has had polyuria for months, begins to pass much less urine, or perhaps very little. He is then beginning with virtually the same conditions as a case of commencing scarlatinal nephritis. Soon after he has a convulsion, and becomes comatose, or he has an attack in the night of uræmic asthma with œdema of the lungs and pleural effusion, or an attack of vomiting and diarrhœa. Often thereafter the kidneys stop secreting altogether, and death follows. At the autopsy the kidneys are found to be acutely inflamed, stuffed with microorganisms of various kinds, but most frequently with the colon bacillus.

There is nothing that I dread so as an attack of so-called cholera morbus in an elderly person. We should at once turn our attention to the kidneys to find out what their condition is. Something also of this kind undoubtedly occurs in those cases which heretofore have been regarded as simply an acute exacerbation of the original chronic malady. I think that I have repeatedly warded off the worst results from threatening symptoms, such as fever, mental clouding, Cheyne-Stokes' breathing, vomiting and the like, in these patients with cirrhosed kidneys, by prompt mercurial cathartics, followed every two or three hours by 10 grains of urotropin, combined with 10 grains of sodium benzoate. In my experience, urotropin never causes untoward symptoms, if sodium benzoate is given along with it Of course, hot saline rectal irrigation also should be used, as in a case of scarlatinal suppression. At least against the presence of the colon bacillus in the kidneys, urotropin is as specific as with the bacillus typhosus.

Our prognosis in all cases of chronic interstitial nephritis must always be uncertain, because we can never be sure how much working kidney substance they have left. Thus, for some three years I continuously watched an elderly gentleman, aged sixty-five, who during that time had pretty nearly everything that occurs in chronic uræmia by turns. His urine was always pale and of low specific gravity; he was nearly blinded by retinal hemorrhages; he had frequent attacks of transient aphasia or paraphasia, and local paralysis; also frequent uræmic asthma, with œdema of the lungs, and pleural effusion; once a severe attack of hæmoptysis, and Cheyne-Stokes' breathing for nights together. After three years of such a clinical history, his urine suddenly began to improve so much that I doubted if the specimen once sent was not that of some other member of the family, as it was quite normal in color, specific gravity, and freedom from albumin and casts. He continued so much better for three months that I did not see him so often, until one day I was summoned to see him in violent convulsions, from which he passed into terminal coma. I then learned that, contrary to advice, he had been eating beef heartily three times a day, as he was very fond of it and had always been a great meat-eater.

This leads me to say a word about the question of diet in this form of kidney disease especially. We properly exclude a full meat diet, when the excreting powers of the kidneys are impaired; but it is well to remember some physiological facts which relate to this subject. In health, after every meal, particularly after a hearty meat meal, the kidneys at once begin to excrete an increased quantity of urea, more than they will do in the same length of time some hours afterward. A balance is thus maintained against a too rapid increase of proteids in the circulation on the intake of food. If the kidneys from pre-existing disease are unable to respond quickly to this after-meal duty, dangerous accumulation may occur, and doubtless this may account for the attacks of apoplexy, which are often recorded after Thanksgiving or Christmas dinners. But what I particularly wish to refer to is the apparent difference in proteid metabolism between the day and the night hours. We have a whole series of affections marked chiefly by nervous disturbances, which are evidently due to various toxæmics, and all characterized by being worse in the early morning hours. Many cases of melancholia, of migraine, and all cases of Graves' disease, show this peculiarity. In Graves' disease the twenty-eight symptoms, aside from the goiter and exophthalmos, which I have found characteristic of this singular malady, are, without exception, worse in the mornings. I have records in my notes of no less than eight who could not write or sew in the morning, but could do so in the evening. In all such cases of melancholia, migraine, or in Graves's disease, I enjoin entire abstinence from red meats, especially beef, and most of all at night. Likewise the first attacks of gout and of peptic asthma are always after midnight. I have repeatedly noticed that many patients can take beef at breakfast or at lunch, but taking it at evening dinner will give them very troubled

sleep. All these particulars should be borne in mind when we aim to regulate a man's life who comes to us with a high-tension pulse and rigid arteries. Every one of such patients imposes a special responsibility on us, for what ought we try more to do than to save a fellow-man from awakening some morning with the terrible calamity of a hemiplegia upon him, when it would have been better for many such patients afterward had that night's sleep been their last.

The chemistry of these night generated poisons is yet to be worked out, but there can be no doubt that they have much to do with the changes in the alimentary canal, connected with the nitrogenous elements of food, particularly the red meats, and every person with cirrhosed kidneys should be enjoined like an asthmatic not to eat heartily after mid-day.

For the rest, I may say that the greatest remedy for autoinfection and the best prophylactic against the manifold dangers of chronic intestinal nephritis, is life in the open air. Such a case needs a milder climate in winter, just as much as any bronchitic or phthisical patient. Intestinal antiseptics are of the greatest value, and, as to special medicinal remedies, I have great faith in the employment of $\frac{1}{3}\frac{1}{4}$ gr. hydrarg, bichlorid t. i. d. for one week out of three weeks, and of small doses, not more than 5 grains, of sodium iodide t. i. d., taken for prolonged periods.

Finally, I will conclude by reference to some points connected with chronic parenchymatous nephritis. I think that it is unfortunate that two such different affections, as chronic intestinal nephritis and chronic parenchymatous nephritis, should go by the one name of chronic Bright's disease. It is quite true that the pathological anatomist cannot find a hard and fast line separating these two kidney affections. Cases of interstitial nephritis present parenchymatous changes, and cases of parenchymatous nephritis present interstitial changes. But there are no hard and fast lines in pathology, any more than in nature. But, all the same, the typical, shrunken cirrhosed kidney is as different a thing in reality as it is in appearance from the large white kidney of chronic parenchymatous nephritis, and in all their main clinical aspects, and hence, in their etiology and pathology as well, these two diseases differ and contrast with one another from the beginning and all the way through, so that they do not come together except in the terminal symptoms of uræmia.

Chronic interstitial nephritis is most commonly a disease of past middle life, and is associated with the general nutritive changes of advancing years. Parenchymatous nephritis attacks the young oftener than the aged, and is not infrequent among children. In kidney cirrhosis, albuminuria is usually insignificant in amount, repeatedly is absent, and at no time is of much import as such. In parenchymatous nephritis, albuminuria is steadily present and abundant. But above all, with interstitial nephritis, the patient is never waterlogged, unless from consecutive heart disease. In parenchymatous nephritis, from the beginning there is a tendency to a general leakage of water into the tissues, so that it appears first in the face instead of the feet, and the cause for which is so far wholly unexplained. As to the mechanism of dropsy in general, I need only refer to the three contradictory theories of Cohnheim, of Ludwig, and of Haidehain, to show how far we are from certainty on this subject. Cohnheim saw an analogy between dropsy and inflammatory exudates. Ludwig inclines to the view of intravascular pressure; while Haidenhain advocates its source as a secretion of cells. All of these theories are wholly inapplicable in the case of renal dropsy; and as an eminent pathologist, who had been an assistant of Haidenhain in his laboratory, remarked to me, we are still wholly in the dark as regards the cause of the œdema of Bright's disease.

Now, place two advanced patients of chronic interstitial and of chronic parenchymatous nephritis side by side, and can one doubt that the systemic poisoning in the one is quite different in kind from that in the other? The one, a young universally swollen, white-bodied, glassy-skinned, and thoroughly anæmic subject; the other, a thin wrinkled personage, who looks like anybody else at his age, so that you are not on the track of his trouble till you have heard a full clinical history and then can make a thorough examination.

It is, however, when, at autopsies, we take the kidneys in our hands that we learn how different the problems of treatment are in each case. The capsule of the tough, cirrhosed kidney has become almost an integral part of the shrunken organ, it so dips into and adheres to the kidney substance that we have to tear away bits of this to strip it off. The capsule of the large white kidney is stripped off the soft organ as readily as an orange rind. But it is within the white kidney that we find why most of our therapeutic measures are so inefficacious. The glomeruli are pressed upon by masses of the round cells, which fairly stuff Bowman's capsules, and the tubules are choked by every kind of débris. Now, it would seem that if we only had the double circulation of the lung, all this ruinous accumulation might be got rid of. We have interstitial pneumonia, if the lung exudates are not removed, just as we have interstitial nephritis also in the kidney if it remains clogged with inflammatory exudates; but interstitial pneumonia is rare, because in the lungs we have the double currents of the pulmonary artery and of the bronchial arteries, and between them the immense exudates of a croupous pneumonia are got rid of, usually before the stuffed air cells are damaged. In the kidneys, on the other hand, we have the one renal artery, which answers to the pulmonary artery in the lungs, and nothing more. To expect that the kidney capsule will allow enough blood vessels to enter through it to help absorption, would be even less likely than to expect help from the blood vessels of the pleura to assist in the removal of the inflammatory exudates in the air cells.

We seem, in this condition, to have an obstacle which wears the aspect of a mechanical obstruction quite insuperable to our ordinary medical remedial measures. The attempt to increase the outflow of watery urine by diuretics against the dropsy oftener fails than succeeds. We may temporarily succeed, by trying one diuretic after another, but the cause of the dropsy remains, and the œdema returns just the same as ever. All we can do then is to ask skin and bowels to do extra work vicariously for the kidneys; but in the majority of instances we make no real headway. Some patients with chronic kidney disease, with dropsy and persistent albuminuria, recover; but whether they do so on account of our therapeutics, or whether they recover spontaneously, we cannot tell.

When confronted by such difficult conditions as these, physicians ought readily to advise with the surgeon whether he can do anything. It was, therefore, with great interest that I read the paper by Dr. George M. Edebohls of this city, published in the MEDICAL RECORD a year ago, about operations on the kidney for the express purpose of curing

Bright's disease itself, and not merely for local purposes, such as to relieve intracapsular tension, as was done by Reginald Harrison years ago. The narration of Dr. Edebohls' successful cases would, for me, have had only the interest of simple empirical facts, the estimate of the value of which awaited further confirmation by himself and by others in other examples of the disease, but for one statement which seemed to illustrate a principle. That statement was that in the circumjacent adhesions about the kidneys where he had performed the operation of nephropexy, he found that enlarged arterial twigs had developed leading into the kidneys, and that by going further and stripping off the capsule from the kidney, and replacing it in its bed, new vessels would be formed, thus bringing a new supply of arterial blood to the organ in addition to its renal artery supply. I can understand that by this surgical procedure we may artificially add another absorbing blood current to the embarrassed organ, and I can only hope that further experience will confirm this anticipation. I can well see that this operation may also be of service on the same principle in some cases of interstitial nephritis.

I might add a word, in closing, on the subject of albuminuria. I need not say that there have been many theories propounded about the genesis of albuminuria, but to my mind one of the best contributions of experimental medicine to this subject was the observation of Overbach, which has been amply confirmed by other experimenters, that simple clamping of the renal artery in dogs for forty minutes was followed by albuminuria for twenty days. This would seem to imply that even a temporary shutting off of arterial blood from the renal cells so damages them that they do not soon recover their normal integrity. It would seem, therefore, possible that inflammatory cellular accumulation around the glomeruli of the kidney might interfere with their supply of arterial blood by compression, to much the same degree as clamping the renal artery would. All conditions, in fact, which cause such a mechanical effect would also cause albuminuria, whether of an inflammatory nature or not, as we find in amyloid kidney. Amyloid material is neither the product of inflammation, nor even of cell degeneration, for it is essentially an intracellular infiltration of a foreign substance, which, by its mechanical pressure, causes persistent albuminuria, the same as in either an acute or in a chronic parenchymatous nephritis.

Albuminuria was once considered synonymous with Bright's disease, but it is only a symptom the significance of which greatly varies. I have a patient who has been continuously under my observation for twenty-two years, and whose urine is never free from a notable quantity of albumin, but who remains the picture of health, and who likewise asserts that he is quite well.

In the management of a case of general renal dropsy, with abundant albuminuria, I may add that I have repeatedly noticed the kidneys start up, as it were, and carry off the water when milk and a fluid diet were given up, and solid food, including even meat, given instead, with a restriction of liquids. The effects of such a change in regimen, however, should be watched carefully.

As to diaphoresis, the subcutaneous infiltration makes the skin tense and glossy, and thus closes the sweat ducts, whose opening on the surface is at an angle. A thorough oiling of the skin, therefore, before using our diaphoretic measures makes them much more effective.

23 East Forty-seventh Street.

A STUDY OF THE RECTUM, WITH REFERENCE TO THE CAUSATIVE FACTORS OF OBSTIPATION (WITH DEMONSTRATIONS.)*

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In taking up the study of the rectum, I am well aware of the fact that it is a subject less thought of, and less talked of by the general practitioner, than almost any other subject of equal importance. In fact, the rectum, to the average practitioner, is a sort of "Darkest Africa," or unexplored continent.

To a builder, in constructing a house or institution, one of the most important questions is that of proper drainage and sanitation. The most wonderful structure that has ever been in existence is the human body. While it is true that we are not builders, yet upon us, as medical men, devolves the responsibility of the proper care of this structure. Just as much as the success of the builder depends upon the healthful and habitable condition of his structure, so too do the health, welfare, and happiness of man depend upon the proper care of his body.

The question of proper elimination, or drainage of the human system, is, perhaps, only next in importance to that of its nutrition. Anything, therefore, which interferes with a proper elimination of waste products from the human body is something which demands our prompt and early attention.

In taking up the study of the rectum, I realize full well that a great deal that I may have to say at this time must be taken for granted, but I shall endeavor to demonstrate that my assertions are based on absolute fact. The most difficult questions in the vast realms of surgery and medicine are those in which reflex disturbances are involved.

One of the most prolific courses of reflex disturbances is the alimentary tract, and particularly that part of the alimentary tract which is confined within the limits of the rectum. We all know, or we all should know, that numerous diseases referred symptomatically to the genital tract, the digestive tract and other more remote parts of the body, are due largely to disease, the pathological origin of which is in the rectum. Cases of sciatic pain, incontinence and retention, as well as cases of herpes, and even nasal symptoms, have been remedied by the removal of the causes which were found in the rectum.

It is only within recent years, within the last decade or two, that the largest strides have been made in the study of rectal diseases and their remedies; and, to men who are yet in their prime, as practitioners, is due to a large extent our present knowledge of advanced rectal therapeutics—Martin of Cleveland, Otis of Boston, and Pennington of Chicago are among those men who have recently contributed to our knowledge in this quarter.

Now, what is meant by the term obstipation? Obstipation, to my mind, is best described as difficult defecation, due to mechanical obstruction; which obstruction resides in the rectal wall, or in some organ which impinges upon the rectal wall. Obstipation, in contradistinction to constipation, it will be seen, is a purely mechanical condition. Constipation, however, is a condition which is usually caused by dietetic error, or some closely

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allied condition, or to atony of the muscular coats of the intestine, thereby weakening its propelling power. Obstipation, we have found, by observance of a large number of cases, is at the foundation of a great many different diseases. Any abnormal condition which is due to defective elimination may be caused by obstipation. For instance, uric-acid conditions, intestinal indigestion, with accompanying gaseous disturbances, palpitation, sciatica, acne, furunculosis, and other skin affections, as well as numerous other single reflex symptoms, have been traced directly to obstructed elimination.

These conditions have been relieved by the relief of the obstructed condition of the rectum. One who has devoted some considerable time to the study of the rectum is often astonished by the therapeutic "groping in the dark" which has been indulged in by seemingly conscientious and faithful practitioners of medicine. I have known cases upon cases of individuals who, suffering from organic obstruction, have been dosed with cathartic after cathartic, and enema after enema, and never in the whole course of the patient's trouble has a rectal examination ever been suggested. In a great many cases in which a rectal examination has been made, that examination has usually consisted of the mere insertion of the forefinger into the rectum, or, perhaps, also, the insertion of an ordinary dilating speculum in the lithotomy position or perhaps with the patient leaning over a chair or table. This was called in almost every case a "thorough rectal examination."

Now, before any man can conscientiously treat any condition of the rectum, no matter how simple, it is his bounden duty to the patient and to himself, as a careful practitioner, to make a thorough examination of the rectum. I maintain that a thorough examination of the rectum cannot be made without special instruments and without the patient assuming a special posture. A very fair examination can be made without any instrument; that is, with the patient in the knee-chest position and the insertion of both index-fingers, well lubricated and back to back. By slowly separating the fingers the rectum can be inflated and a fair knowledge of its condition obtained. But a thorough examination requires, as I have said before, special instruments and special care. The technique of a thorough rectal examination is as follows:

The patient should be placed in the Sims' position on an ordinary surgical table or chair. He should be raised to the knee-chest position, with his buttocks well protruding. He may be turned so that he rests upon one shoulder or the other, for comfort's sake. First, a complete ocular examination of the external parts should be made; the anus should be well inspected for fissures, external hemorrhoids, or fistulæ. The ischiorectal space should be both examined ocularly and palpated. Then a digital examination of the rectum should be made with the carefully annointed finger. A vaginal examination in the case of the female should be included in this position, for often the impinging retroverted uterus, or prolapsed ovary, may be the cause of the entire difficulty.

After having carefully done this, a rectal speculum should be inserted. When the obturator is removed, the atmospheric air rushing through the speculum into the rectum will inflate the rectum with a sharp hissing noise. I say the rectal speculum should be inserted. In reality, if the speculum is pressed against the anus, slightly downward, toward the umbilicus, and the patient asked to bear down, the anus will climb down over the speculum, and it will enter the rectum painlessly. I might say that if the patient is neurasthenic, or the anus painful, the injection of a few drops of a one per-cent. solution of cocaine will render the insertion of the speculum painless. The speculum should be first entered to its fullest length; then, by means of reflected light from the head-mirror, or, better, by means of a small electric headlight, ocular inspection of the rectum may be made.

If the rectum seems to be terminated at the end of the speculum, this apparent obstruction is probably due to the presence of a rectal valve. Now, by proper manipulation of the speculum, the edge of the valve will be brought into view, and beyond this will be seen a cavity. At the end of this cavity we may meet with another obstruction, and again moving the instrument to one side or the other, a new field will come into view. There may be two or three, or even four, such fields. These fields are known as rectal chambers, called from without inward, first, second, third, etc., rectal chambers. These chambers get their numerical name from the valves, behind which they are situated.

After we have satisfied ourselves as to the condition of the valves and chambers, noted whether or not the valves are enlarged, thickened, inelastic, or not; also, whether mucus is clinging to the valve edges, and also whether there is a polyp or ulceration in any of the rectal chambers, or not; in fact, after complete ocular inspection of the rectum with the speculum, thus deeply inserted, we may gradually withdraw it.

We must note the new fields as the side-walls come together over the opening of the speculum, observing whether or not the rectal wall is congested or ulcerated, or whether hemorrhoidal conditions exist. I might say that a very good view of the sigmoid flexure can be obtained by means of this inflation. The question of the ready inflation or not of the rectum is a point of some diagnostic significance. The appearance of the valves is well illustrated (diagrammatically, of course) by the accompanying chart.

Now that we have acquired a fair conception of the technique of a proper rectal examination, we might, with profit, discuss the various conditions which cause obstipation and which are diagnosed by means of such an examination.

Obstipation, which, you will remember, is an organic obstruction, is caused occasionally in elderly men by enlargement of the prostate gland. The diagnosis of this condition can be made by digital examination alone and needs no further comment. In women, particularly those who have borne children, or who have an enlarged womb or pathological enlargement of the other pelvic organs, who are suffering from rectocele or from adhesions of the rectum to the womb or other organs, may suffer from obstipation, due to these conditions. These conditions may also, in a large measure, be diagnosed after a vaginal and rectovaginal examination, without the need of rectal inflation.

But, by far, the vast majority of cases of obstipation is caused by the enlargement of one or more of the rectal valves. There formerly was a great deal of discussion and question as to the existence of the rectal valve. Some men, and quite recently, have declared that these so-called valves were nothing more than folds or rugæ. But, I have yet to find one of these skeptic individuals who was of the same opinion after a proper rectal examination. In fact, their statements of the non-existence of the valves were based wholly upon ancient textbook knowledge and not upon the results of modern investigation. The proper way to convince anyone of the existence of anything is to demonstrate such

an existence. Therefore, in order to explain more fully the rectal valve and its affections it is almost imperative to do so by means of actual demonstration upon the patient. In the absence of a patient or subject, by a little stretch of the imagination, my chart may help us out.

To come back to the condition which most continually is the cause of obstructed defecation, the enlarged rectal valve.

If a patient comes into your office and complains of the following train of symptoms, or some of the following symptoms, you may be justified in asking that patient to submit to a rectal examination before a correct diagnosis can be reached:

First, of course, inability to defecate properly or comfortably. The patient will tell you that he has a desire to go to stool, but strain as he will, he can pass nothing, or perhaps a few small, hard, apparently broken-off pieces, or a long, ribbon-shaped stool, accompanied, or not, with mucus. He will also tell you that this condition has existed for a long time; that cathartics have lost their effect; that he is continually suffering from abdominal distension; that he does not get relief from the ordinary defecation; that his rectum feels hot and burning, and "constantly overloaded and stuffed," as he expresses it. The ribbon-shaped stool I consider as almost pathognomonic. The patient may go from two days to a week without stool, unless aided by artificial means. There may be tenderness in the lower abdominal region. A mass can often be felt in the region of the sigmoid flexure. I have had several patients who have come to me with a diagnosis of stricture of the rectum, made by passing the rectal sound, and from the presence of ribbon-shaped stools. Proper rectal examination, however, showed them all to be cases of obstipation due to hard, fibrous, enlarged rectal valves, section of which gave complete relief.

After the relation of symptoms, such as this, rectal examination will show, in nine cases out of ten, one or more enlarged rectal valves.

The symptoms of straining, with the inability to accomplish anything, is explained by the fact that the enlarged rectal valves, overlapping, impinge one upon another during the bearing-down movement and absolutely obstruct the passage of the fæces. Perhaps if the two rectal valves do not completely appose, a narrow, elliptical opening may be left, through which the ribbon-like stool is molded. If the propulsive effort is intermittent we have a broken-off stool. The symptom of abdominal distension is due to the gases retained behind the fecal mass in the large intestine, which, in its turn, is retained behind the valves. The general symptoms are those of intestinal autointoxication and the other diseases due to defective elimination.

I might say that, in my opinion, the enlargement of the valve, in the first place, is due to a condition of congestion, which is caused by straining to remove the stool, which is composed of improper food elements or improperly digested food. The constant hyperæmia is conducive to an overgrowth of tissue in the rectum, as well as in other parts of the body.

Now, what shall we do for our patients who are suffering from obstipation? Advise proper diet? Advise exercise, massage, the drinking of large quantities of water, out-door life?

Yes, these are all good suggestions to our patients; but all of these will not remove a mechanical obstruction. If the obstruction is due to enlarged prostate and the case is operable, operate. If not, our patient is, indeed, in a sad plight. Most of the conditions in the female pelvis are amenable to surgical relief. Tamponing in some few cases will bring the needed relief. My experience, however, with tampons has been grievously disappointing in these cases. In some cases, in which the rectal valve is slightly enlarged, massage, by means of a probe covered with cotton at the tip, will, if practised daily, bring about a gratifying result; but, in a large number of cases, the enlargement has gone on so far that, when the case comes to us for treatment, operative relief is the only treatment left.

The enlarged rectal valve, which is the offending member in these cases, can be safely incised through the speculum by means of special instruments which I have devised, and which I herewith exhibit.

We may use general anæsthesia, local anæsthesia,

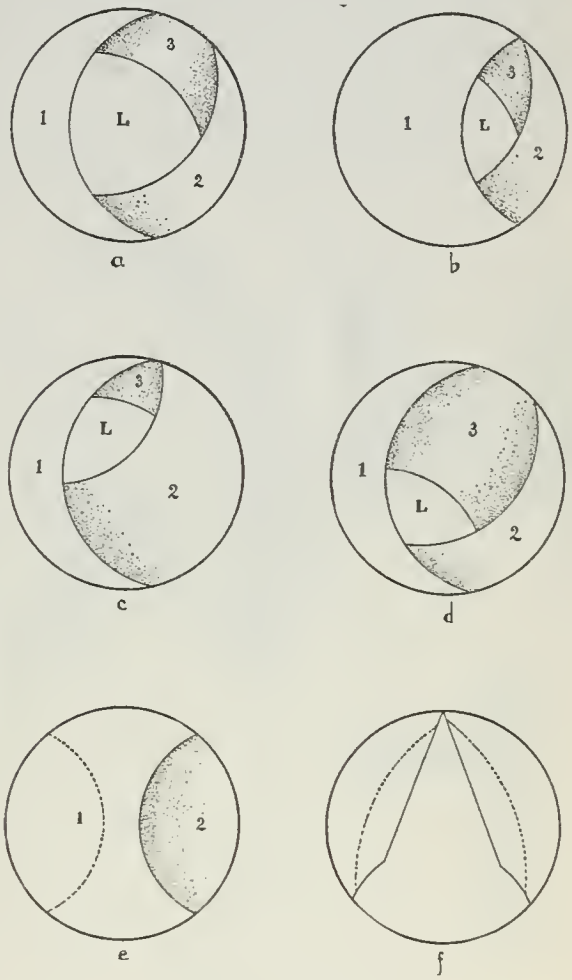

FIGURE 1 (Diagrammatic).

(a) Proctoscopic view of first, second, and third rectal valves (normal).
(b) Proctoscopic view of enlarged first valve, second and third normal.
(c) Proctoscopic view of enlarged second valve, first and third normal.
(d) Proctoscopic view of enlarged third valve, first and second normal.
(e) Proctoscopic view of enlarged first and second valves overlapping, dotted line representing concealed edge of second valve.
(f) V-shaped incision for section of enlarged valve, dotted lines showing line of retraction of cut edges after incision.
(L) Lumen of rectum.
(1) First rectal valve.
(2) Second rectal valve.
(3) Third rectal valve.

or operate without anæsthetics at all, for it may not be generally known that the upper rectum is not supplied with sensory nerves, and I frequently operate without an analgesic agent of any kind.

The technique of the operation is simple after one has made a study of the subject: and, robbed of its details, it is as follows:

A V-shaped incision down to the base of the

offending valve is made with the angular rectal scissors. The cut edges are then engaged between the jaws of my valvotribe, and are crushed to such an extent that hemorrhage is stopped. We next proceed to the higher valves until all the diseased ones are treated with in like manner. I used formerly to employ this hook-shaped needle, armed with a catgut suture, with which I tied off the valves before cutting them. The suture was retained in place by means of perforated shot. I devised a valvotribe to do away with the stitching, and it has been eminently successful, greatly shortening the length of the operation. The rectum is then packed with sterile gauze through which a rubber tube for the passage of gas is inserted.

The patient is usually required to remain in bed from three days to a week. At the end of twenty-four hours the gauze packing, with the tube, is removed. The patient is allowed to remain on liquid diet for forty-eight hours longer, and is then allowed gradually to resume regular solid food.

I have found that in from one to two weeks the patient has fully recovered, a natural bowel movement coming on unassisted within forty-eight hours

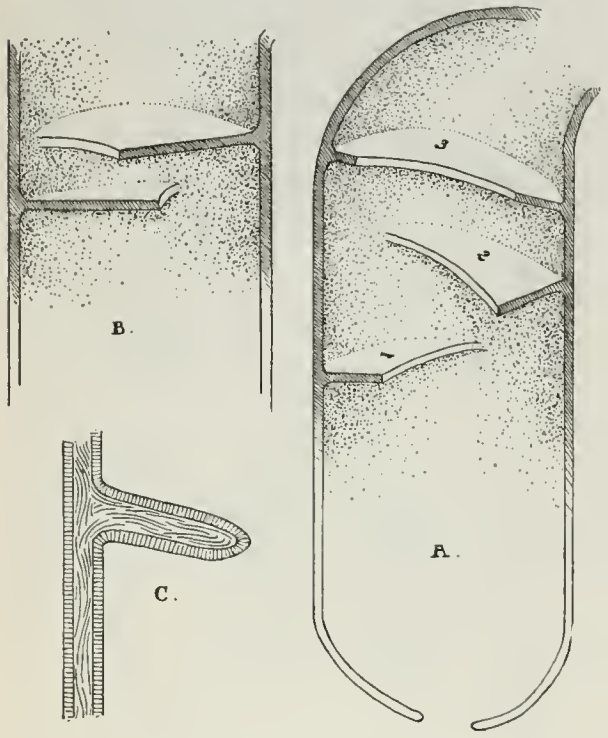

FIGURE 2 (Semi-diagrammatic).

(*A*) Longitudinal section of normal rectum, showing normal size and relation of rectal valves to each other.

(*B*) Longitudinal section of rectum, showing enlarged first and second rectal valves overlapping (the enlarged valves are very much more thickened than the diagram would indicate).

(*C*) Cross section of rectal valve (enlarged), showing muscular structure.

of the operation, and the patient seldom requiring any cathartic assistance afterward. I have had some cases in which this condition had existed for from fifteen to twenty years and natural bowel movements have resumed immediately after the operation.

In the relief of this condition and the providing of proper drainage for the human economy, I believe that we, who have explored the heretofore unknown and seemingly unapproachable fastnesses of the human rectum, have accomplished a considerable deal toward the happy existence of the human race.

420 WOODWARD AVENUE.

IS THE GALL-BLADDER AS USELESS AS IT IS DANGEROUS?

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SOME seven or eight years ago, while engaged in a study of the alimentary canal and its appendages, from the point of view of any possible relations between their history and their disease tendencies, my attention was attracted by the singular position occupied by the gall-bladder. The points which especially attracted my attention were the familiar ones of its small size, thick and inelastic wall, disadvantageous mechanical position, and marked tendency to disease in our own species.

When I came to consider its relation in other mammals, and in the animal kingdom generally, its position became still more puzzling. Although dating from a very early period in our probable ancestral tree, being well-developed in the amphibians and in most fishes, even in as primitive a form as the lamprey, it never at any time in the course of this series shows trace of more definite function than is now possessed by it. Furthermore, when we come to compare its size and presence in the different species and families of animals, we are instantly struck by the singular fact that it is one of the most inconstant appendages of the alimentary canal. Roughly speaking, it may be said to be present in the majority both of classes and of species in any given class; but at the same time its disappearance will occur in species not merely of the same class or family, but even of the same genus, without any apparent ascertainable reason. For instance, among some of the best known animals; it is *absent* in the horse, present in the cow and the sheep; it is present in the goat, *absent* in the deer. Among birds, it is present in the hawk and owl, *absent* in the dove family. And so it might be followed through a long series of contrasts, in animals, in many instances closely related, and in other instances, living upon almost identical foods, in which the gall-bladder may be either present or absent, without any apparent rhyme or reason. The only rule that could be laid down at all is that it is generally present in carnivora, whether birds or mammals, and that its variations chiefly occur among the herbivora; but even this is not without exceptions.

My post-mortem studies in the zoological gardens of our eastern seaboard still more strongly aroused my suspicions as to the vital necessity of this structure, and when I obtained access to the large amounts of material in the gardens of London, Berlin, and Leipzig, my suspicion began to arise to the dignity of a theory, that the gall-bladder was practically a functionless organ, and probably vestigial.

This, of course, was purely from a morphological point of view, although the facts even then known as to its decided liability to morbid changes had their weight in strengthening my suspicion, but two other contributions from the practical and clinical sides of the problem, finally crystallized my suspicion into an opinion. These were, first, the remarkably constant relation which has been found by Naunyn, Welch, and others to exist between the formation of gallstones and bacterial invasion of the gall-bladder, and last, the striking and brilliant paper of Roswell Park, which appeared a few months ago in *American Medicine*, entitled "Why Not Treat the Gall-bladder As We Do the Appendix?" His position is one which I think can be cordially endorsed from a comparative and morphological point of view, so far as our knowledge goes. The two organs appear to me to be

in almost absolutely parallel and identical case —the gall-bladder has the slight advantage of appearing to have some trace of function at present, which the appendix lacks utterly. On the other hand, the appendix has the advantage of a past history of distinct functional usefulness, while the gall-bladder seems to be almost destitute of such a pedigree.

The chief objection to regarding the gall-bladder as vestigial resides, to my mind, in this last fact, that we have no certain evidence of its ever having had a function whose value was in any way compensatory for the dangers to which it exposed its possessor. Wherever its diseases are susceptible of accurate study, its tendency to the formation of gallstones seems to be about the most striking part which it plays in the drama of vital activities. Indeed, in our own species, I think we would be comparatively safe in saying that the principal secretions of the gall-bladder are mucus and gallstones.

I am aware that these views will appear to be decidedly iconoclastic, and perhaps insufficiently based, but they are advanced simply tentatively, and for the purpose of eliciting what can be said upon the side of the present usefulness or value of this interesting little organ.

First of all, what can be said as to the present function of the gall-bladder? Our knowledge of it may be very briefly stated: that it lies as a lateral sac or side-channel upon the main bile duct; that it has, like all other parts of the intestine from which it is derived, a mucous and muscular coat, and that this mucous coat is thrown into an elaborate series of spiral folds. Our first impression as to its function would, of course, be that it was intended as a sort of storage bulb for any excess of secreted bile, or for its retention during periods of hepatic activity when the bile was not needed in the intestine; and this is, indeed, the theory usually laid down in the textbooks on physiology. A second glance at the organ, and that of the briefest will, however, reveal at once the serious, and to my mind, fatal defect in this explanation of usefulness, and that is the ridiculously inadequate capacity of the pouch. Its utmost capacity is from an ounce to an ounce and a half—possibly, under great distension, three or four ounces; and the amount of bile secreted in the twenty-four hours is estimated at not less than three pints, and by some investigators as high as five, or even six, pints.

In other words, our alleged *reservoir* can contain only from one-thirtieth to one-twentieth of the secretion which it is supposed to store up; or, to put it differently, if the secretion of bile be supposed to be evenly continuous through the twenty-four hours, its capacity is barely adequate for about thirty-five minutes' flow of the fluid! And even the fact that the secretion of the bile is not continuous, but probably synchronous with intestinal digestion—at least in its most rapid formation—in no way relieves the difficulty, inasmuch as it cuts down the time of possible delay, diminishing the power of the gall-bladder by just so much as the rapidity of the secretion is accelerated. When the bile is in full secretion, it would probably not be too much to say that the gall-bladder would be able to delay its flow barely ten or fifteen minutes!

The next explanation, or alleged function, which is usually attributed to it is that it in some way acts as a sort of regulator of the tension of the bile-flow. But this, we fear, will be found to be almost equally groundless. In the first place, of course, no bile whatever can enter the gall-bladder unless the circular fibers about the ampulla of Vater are contracted, or in some way the bile is prevented from entering the intestine, so that as long as the bile is flowing freely into the intestine, the gall-bladder can exercise no influence whatever upon the pressure. Supposing, however, that before the flow of bile into the intestine begins this constriction has taken place, and the gall-bladder has been fully charged with bile. Even now it is difficult to imagine what influence of any importance it can exercise upon the tension of the flow, for we have, first of all, the fact that the gall-bladder has to act in opposition to gravity, its fundus being by far the lowest part of it; in the second place, that it is more or less sharply curved upon itself by the abnormal curvature which the erect position of our species has given to the under surface of the liver; third, that its mouth is obstructed by an exceedingly elaborate and prominent series of folds in the mucous membrane, the so-called valve of Heister; last, and most damaging of all, its muscular coat is so comparatively thin, the attachment of its external coat to the under surface of the liver so universal, and there is such a marked admixture of inelastic, white fibrous tissue in the muscular coat itself, that its propulsive power must be exceedingly slight. Indeed, I think it would not be too much to say that if the gall-bladder succeeds in moving the bile, with which it is passively charged, with sufficient rapidity and frequency to keep it from actually stagnating, it is doing about as much as can be expected of it.

Last of all, we have the statement that the thick, swollen mucous coat of the gall-bladder has the power of adding to, or in some way modifying the composition of, the bile which is contained in it. Careful analyses, however, of the bile which has been taken from the gall-bladder, as compared with that which is passing along the common duct above the entrance of the cystic, shows that the principal changes are a marked increase in the specific gravity of the bile, due, in the first place, to a simple loss of water, and in the second, to the addition of a considerable amount of viscid mucus. The loss of water, although it has concentrated to some extent the bile salts, has in no way increased their efficiency or digestive value, and the mucus is apparently utterly inert and of no known value to the function of the secretion which it dilutes. Indeed, its principal action would appear to be that of clogging the already easily-obstructed mouth of the organ which secretes it.

It might also be said in passing that our theory of the value of the gall-bladder has suffered an even greater shock than any of the arguments alluded to above, in the serious doubt which has been cast in recent years upon the value of the bile as a secretion. Although this is not the place for its discussion, I have no hesitation in confessing that, in my opinion, the bile is chiefly excretory, and represents mainly waste products secreted by the liver in the course of its destruction of the toxins and ptomains brought to it by the portal blood; that another considerable moiety of the bile is made up from the destruction of the red blood-cells in all the tissues of the body, as the brilliant researches of Croftan have shown, the resulting pigments being picked out of the blood by the liver, as the urea is picked out by the kidneys; and that the free flow or obstruction of the bile is chiefly of importance as an index of how completely the liver is performing its other and infinitely more important function as a toxin-destroyer. So that, from this point of view, the gall-bladder is a small and

sluggish side-pouch upon the course of an excretory duct.

These serious doubts as to the functional value of the gall-bladder are, I believe, strongly supported from the side of clinical experience. First of all, we have the striking fact of the high disease-liability of the organ. This nowadays has come to constitute in itself a strong presupposition of comparative absence of function and consequent lack of vitality. To take its most striking disturbance, alone, that of the formation of gallstones, the results of our dissecting-room and post-mortem room autopsies show gallstones to be present in from 5 to 7 per cent. of all males, and in from 12 to 20 per cent. of females. Many of these, of course, were entirely unrecognized during life, but since we internalists have been familiar with these anatomical findings, while in addition our surgical brethren have called our attention so strongly and vigorously to the importance of gallstones, it is not, I think, too much to say that we are coming to regard the gall-bladder as a possible source of intestinal or gastric disturbance in a very considerable percentage of our cases, particularly of the motor disturbances of the stomach. Certainly in every case of digestive disturbances of long standing, especially if accompanied by pain or disordered gastric or intestinal motility, we examine with great care in two regions, first, that of the gall-bladder, and, second, that of the appendix.

When we come to consider the causation of the formation of these secretions, their occurrence becomes even more significant. Consisting, as they do, of one of the constituents of the bile which has been precipitated, it was supposed at first that nothing more was required than a certain amount of stagnation and mucoid thickening of the bile. Investigation and careful experiments upon animals (Gilbert, Fournier), however, showed that their formation did not occur even where these conditions were artificially produced nor always even upon the introduction of some small particle of foreign body to serve as a nucleus; but that wherever and whenever certain bacteria were introduced into the gall-bladder, the formation of the calculi was almost certain to follow. At the same time, bacteriological study (Bouchard, Terrier, Bloch) of freshly removed gallstones showed in almost every instance the presence of one or more species of bacteria, often those normally inhabiting the intestinal tract. In other words, the gall-bladder is purely passive in the formation of its principal pathologic product, and often seems to serve as a suitable breeding ground for certain groups of bacteria which have reached it from the intestine.

Its next most common disease liability, but one which is assuming greater importance, and found to occur with greater frequency every day, is that of acute inflammation of its mucous coat. Again we have precisely similar causation—an invasion of this dilated and stagnant pouch by some form of pathogenic bacteria from the intestinal tract. Here we have a striking parallelism between its behavior and that of the appendix. In both cases it is not even necessary that the bacteria should be pathogenic forms—the ordinary bacterial flora of the intestine are sufficient, particularly the *Bacillus coli communis*. All that is apparently necessary in both cases is that this usually non-pathogenic form should succeed in finding its way into a stagnant part of the intestinal canal, where the free return of its products to the general intestinal circulation is cut off, and it will rapidly begin to assume pathogenic properties. Supplied with an abundance of nutrient material, warmth and moisture, and to a considerable extent protected from the action of the phagocytes, it rapidly sets up a fulminant type of inflammation, in both the appendix and the gall-bladder.

It may be nothing more than coincidence, but I cannot help noting that just as something like 90 per cent. of all the perforations in typhoid fever are within 14 or 15 inches of the ileocæcal valve—in other words, where the sepsis from within could be aided by infection from without the gut, by contact with the tip of an inflamed appendix—so in the stomach 70 per cent. of all forms of ulceration will be found within three or four inches of the pylorus, in the region over which infection could be readily diffused from an inflamed and leaking gall-bladder. The readiness with which a cholecystitis will be set up in the course of an attack of typhoid fever, of pneumonia, of septicæmia, or even of acute coryza with intestinal symptoms, points to the readiness with which the gall-bladder may become the site of lodgment of pathogenic germs. I have recently seen, in consultation, within the past few weeks, a case of typhoid fever which was ushered in by profound jaundice and marked tenderness and swelling in the region of the gall-bladder.

Cushing reports that 30 per cent. of the patients operated upon for gallstones at the Johns Hopkins Hospital had suffered from typhoid fever, while Ochsner finds that from 35 to 50 per cent. of his recent gallstone cases have had appendicitis.

The light which can be derived from the origin and ancestry of the gall-bladder shows little of positive value. It is derived, both ancestrally and embryologically, from one of the several pouches from the post-gastric region of the archenteron, which give rise, first of all, to the lobes of the liver, and afterward to the divisions of the pancreas. All that can be said of it is that it appears to be one of these multiple pouches from the alimentary tract which has neither developed its secreting tissue into the large functional masses of the lobes of the liver, nor as yet completely shriveled and disappeared,, as is the case with several of these smaller primary pouches.

It has this much title to recognition as of some vital importance—it appears at a very early period in the development of the liver, almost at the bottom of the vertebral tree, in some of the lower fishes, and that in fishes, amphibia, and reptiles it is very considerably larger in proportion to the bulk of the body than it is in the higher classes—the birds and the mammals. In the frog, for instance, its capacity might be roughly stated as something like five times as great in proportion to the body bulk. But this, again, is associated with an almost equally large proportion on the part of the liver. So that, relative to the flow of bile, it would be difficult to say whether its capacity were any greater or not.

From the beginning, however, it displays very decided irregularities in both size and appearance. It is never present in more than the majority of forms in any given class, and this inconstancy appears, if anything, to increase as we go upward in the scale. In general, it may be said to be relatively larger and more constantly present in carnivora than in herbivora, both among birds and in mammals, but whether this is anything more than a feature of the usually more primitive type of carnivorous alimentary organization is a question. Certain it is that in both herbivorous and omniverous animals and birds the connection between its variations is not one of diet or habit. For instance,

in birds it is present in the whole series of the birds of prey, but variable in the ducks and other fish-eating birds; it is absent in the dove family, but present in both the domestic fowl and the turkey. One of the many curious bits of anatomical lore which have been embalmed for us, like the fly in amber, in Shakespeare's magnificent phrase, refers to this very fact. Hamlet, in one of his famous passages, alluding to the fact that the fires of his vengeance were not fierce enough promptly to wreak upon the murderer of his father the retribution which he so richly deserved, complains:

> "But I am *pigeon-livered*,
> And lack gall to make oppression bitter."

The gall-bladder was universally absent in the gentle dove, present in the ferocious hawk, and our wise ancestors, reasoning with child-like fidelity to their own style of logic, regarded the presence of the gall as the cause of the ferocity of temper. It has passed into a metaphor of similar significance, in the language of the street at the present time. If Hamlet were to appear in the vaudeville of the present day and say that he "lacked gall," his meaning would be grasped even by the gamins in the gallery, without the slightest difficulty.

Among the animals its irregulatities are even more striking and destitute of apparent cause. As already stated, it is absent in the herbivorous horse and ass, but present and well-developed in the equally herbivorous cow and sheep. And even in the much more closely related and identical, as far as food and every arrangement of the digestive tract is concerned, goat and deer families, it is present in the one, absent in the other. And its presence in the prong-horned antelope of our western plains is regarded as one of the characters assigning that animal to the goat rather than to the deer family. It is present in the domestic hog, and in the wild boar of Europe, but absent in the peccary of South America. In one species, the giraffe, it reaches such a pitch of inconstancy, that it is sometimes present and sometimes absent.

Certainly with such a record of inconstancy as this, it can hardly be asserted that the gall-bladder exercises any very vital or important function. In fact, the general tendency of such knowledge as we possess of its behavior would incline us toward the tentative opinion, that it is one of several intestinal pouches, out of which the liver and pancreas were originally formed, which has, for some reason, dilated more or less mechanically into a reservoir, instead of disappearing entirely, as did several of the other primary diverticula.

Last of all come our surgical brethren with positive and incontestible proof of our hitherto largely speculative position, that whatever may be the function of the gall-bladder in our own species, it is one that can be completely dispensed with, without serious or even appreciable injury to the individual.

Their approach to this position has been a gradual one. For many years, after an operation for the removal of gallstones, if for any reason it was not thought advisable to stitch up the gall-bladder and return it to the abdominal cavity, it was considered necessary to secure it to the abdominal wall, and form a biliary fistula. This, however, after discharging for a longer or shorter period, to the intense discomfort of the patient, was usually found to close; and where it was possible to make post-mortem examination later, it was found to have resulted in the practical atrophy and disappearance of the gall-bladder. Hence, it was timidly attempted to remove a considerable part of the structure, and to stitch down the remainder in such a way that it would probably shrivel and disappear. Later it became the habit of some of our bolder and more progressive surgeons to remove the sac completely, and finally Roswell Park, with that practical genius and keen eye for the next step in advance, which has made his enviable reputation in surgery, holds that it should be removed whenever found to be diseased, and treated as a supernumerary organ which is a source of constant danger—in short, just like the appendix. His position can, I think, be strongly supported from a comparative point of view, and I believe that the clinical evidence, from the internalist's standpoint, is almost equally strongly in its favor.

To sum up, the gall-bladder is a nearly functionless organ, inadequate in size to act as a reservoir of any value for the bile, inadequate in muscular power, and in mechanical position, to exercise any important effect upon the pressure of the bile-flow, entirely absent in many species without interfering with the processes of digestion or the vital functions in any way, capable of removal from a species in which it is normally present without noticeable injury, and chiefly notable as a settling basin for the formation of gallstones, a suitable harbor for the multiplication of pathogenic bacteria, or for the assumption of pathogenic properties by non-pathogenic forms. In short, it seems a source of danger at least double any possible usefulness which it may possess.

OCULAR SYMPTOMATOLOGY IN DIAGNOSIS

By HENRY B. HOLLEN, Ph.G., M.D.,
NEW YORK.

Since the institution of ophthalmoscopy the eye has become more and more a point of vantage in diagnosis. More than any other single organ it presents the indicative features of pathological conditions, not only of its own structures but of general disease. It is owing to the variety of its component tissues and its immediate and intimate relation to cerebrospinal centers that it becomes an invaluable field for the diagnostician. Ophthalmoscopic examination offers a means of differentiation between functional and organic disease, and in consequence is of especial service in neurological disorders. It is incomprehensible, in view of these facts, that so little attention is paid to ocular symptoms. A disregard of the eye is an offense not less pardonable in a physician than a failure to feel the pulse. Such disregard in every case characterizes the diagnosis as incomplete and unmethodical. A large number of ludicrous mistakes and oversights might be avoided and many a serious case taken early in hand were eye examination more universally made a routine procedure. Ocular disturbances are very often the first manifestations of important lesions. For instance, I have seen cases of tabes in which the eye symptoms appeared a number of years before the advent of other signs. There are instances recorded in which they were present from twelve to twenty years preceding other lesions.

It is safe to say that the vast majority of practising physicians do not make use of the ophthalmoscope, and moreover are utterly unacquainted with the conditions which it reveals. The knowledge of its principles and the riches of its interpretations seems to be in the hands of the few. Why such indifference should prevail it is difficult to say, unless it be a certain lack of confidence many possess on mistaken suppositions of intricacies which it involves. Of course, it must be said that the greatest of errors may be made in its use. A careful study of the normal fundus, and, latterly, com-

parisons with a number of pathological cases is essential to one who otherwise might be in the dark as to the appearance of the physiological cupped disc. The majority will not acquire the technical accuracy of Marcus Gunn, and, on the other hand, it might invoke detriment to the extent of overshadowing other legitimate means of diagnosis. For example, total reliance on eye findings to the exclusion of urine analysis in a probable case of granular nephritis is a procedure to be condemned.

Aside from instrumental examination, mere unaided inspection of the eyes presents many important points. The lids, first observed, will in many cases impart much information. They may be swollen, as in acute nephritis, gout, or cyst. Ptosis would suggest gummata, tabes, paralysis of the third nerve or tuberculous meningitis. On the contrary, lagophthalmos would be indicative of exophthalmic goiter, facial paralysis, or the local condition of orbital tumor. In the former, of course, the signs of Stellwag and Graefe would be of value. Dislocation would next be noticed, and, if present, might bring to mind, in case the lids appear darkened, hepatic colic or lowered nerve tone. Following the lids, inspection of the conjunctiva would be in order. Its discoloration in hepatic cirrhosis and active hepatitis is well known, but its pearly color in anæmia and chlorosis might have been forgotten. In exophthalmic goiter and ophthalmoplegia externa the eyeballs are fixed, and when nystagmus, or oscillation of the globes occurs, disseminated sclerosis, multiple neuritis, or progressive muscular atrophy may be causative factors. It is also often found in children associated with imperfect vision. Protrusion of the eyeballs, which condition is usually associated with exophthalmic goiter, is indicative here as elsewhere, of exaggerated vascular tension. Diminished vitality, well exemplified in most cases of phthisis, presents sunken eyes. Inflammations of the coverings are usually local conditions, but very often are related to diabetes or paralysis of the fifth nerve. In syphilis keratitis is present in 70 per cent. of all cases, and iritis occurs in 60 per cent.

The condition of the pupils is important, whether equal, contracted, or dilated. Broadly speaking, the small pupil is found in early stages of all acute inflammations of the brain and its membranes. On meeting with a case of contracted pupils three conditions are to be thought of, viz., drug myosis (eserine), opium habituation, and tabes. Unilateral contraction and dilatation are comparatively rare, the former occurring in aortic aneurysm, cataract and basilar tumor, and the latter, chiefly in adhesions of previous attacks of iritis in syphilis. The Argyll-Robertson pupil is an early characteristic of locomotor ataxia, and may be associated with double vision and inability to distinguish between different colors. I have found the arcus senilis in several cases under fifty-five years of age. Sachs has put forth the statement that immobility of the pupil is very characteristic of syphilitic cerebrospinal disease, and that when persistently present in hemiplegia indicates specific endarteritis.

It was Rampoldi who asserted that unequal, recurrent, transitory, papillary dilatation was an almost constant sign in tuberculosis, and Destree claims that 97 per cent. of his pthisical patients developed this sign. Oncoming mental derangement has been found by many observers to be indicated by an alternating unilateral mydriasis. Hippus, a peculiar rhythmical contraction and dilatation of the pupil, is a valuable sign, in that it may point to disseminated sclerosis, well-defined epilepsy or early acute meningitis. In differentiating these three conditions, other symptoms must, of course, be taken into consideration.

Ocular ophthalmoplegia is frequently met with. Extraocular paralyses may be nuclear in origin, when they occur usually in connection with ophthalmoplegia interna, in which the ciliary muscle, the dilator pupillæ and sphincter pupillæ are affected. Palsies are most often traceable to chronic inflammatory processes, syphilitic or tuberculous. The lesion may be anywhere along the nerve trunks, and when distally located it may be due to some orbital condition, such as cellulitis, tumor, or fracture. It is often that the eye symptoms in diabetes are those which lead the patient to consult the physician. Besides premature presbyopias, cataracts, unaccounted for mydriasis or cycloplegia, sudden and persistent amblyopia, transient paralyses of ocular extrinsics and also of the pupillary sphincters occur in glycosuric autointoxication. The relation of the uric-acid diathesis and neuræsthenia to ocular palsies in some cases would well be borne in mind. In thrombosis of the cavernous sinus there occurs paralysis of the extrinsic muscles of one side, accompanied with swelling of the corresponding eyelid, exophthalmos, contracted pupil, followed by a dilated pupil and anæsthesia of the skin of the eyelid and temple.

When subjective symptoms are present, they call attention to certain lines of investigation. Hysterical patients have amblyopia and defective color vision; in some instance, the latter consisting of a regular, concentric contraction of the visual field (homonymous hemidyschromatopsia). Limitation of the color field is found occasionally in traumatic neuroses. An irregular contraction, affecting certain colors—first, green and red; lastly, yellow and blue—is characteristic of tabetic dyschromatopsia. In migraine, while the eye symptoms occur in only 50 per cent. of the cases, they are the earliest manifestations. Asthenopia and spectral appearances, teichopsia, may be present. These spectral figures begin with a bright spot, its center fading and its edge expanding and becoming jagged, assuming a castellated form. Within the ring white spots, in rapid movement, may appear. In mild cases these disturbances are confined to mere flashes of light.

The usual symptoms, premonitory in eclampsia, are not to be forgotten, in connection with the headache and epigastric pain. In epilepsy the special sense auræ are only rarely met with. The visual aura consisting of moving balls or flashes of light, sometimes colored. In neuræsthenia, with the asthenopia, there may occur the peculiar phenomena termed muscæ volitantes.

Focal diagnosis is yet in its infancy. So far as it relates to visual symptomatology it is interesting, and a few comments might be made in passing. The anatomical decussation of optic fibers may lead to some confusion, but if the anatomy be kept in mind it is not difficult to see what portions of the chiasma are affected in various conditions, viz., unilateral nasal hemianopsia, bi-temporal hemianopsia, etc. When hemianopsia is associated with hemiplegia and hemianæsthesia the posterior limb of the internal capsule is affected. The combination of right-sided hemianopsia with word-blindness or word-deafness will place the lesion in areas which have been pretty well defined. When the occipital lobe is affected and the visual fibers of the optic tract cut off, a condition of homonymous hemianopsia occurs. "The hemioptic pupillary reaction consists in contraction of the pupil when a ray of light is thrown upon the seeing halves of the retina, while no such reaction occurs when the light is

turned upon the blind halves. It characterizes a lesion of the optic tract."

Ophthalmoscopic examination presents the following conditions as of primary importance in diagnosis: (1) Engorgement of retinal vessels; (2) optic neuritis; (3) retinal hemorrhage; (4) choroidal tubercles; (5) optic atrophy. The first condition exhibits the general vascular state, and a congested fundus, although it might refer only to a local disturbance, hypermetropia, for instance, indicates increased vascular tension. An anæmic appearance signifies the opposite condition. Optic neuritis may be divided into three classes, papillitis (so-called choked disc), retrobulbar neuritis, and simple retinitis. A large percentage of all cases of papillitis is due to cranial tumor, probably about four-fifths. Toxic blood states, as present in lead poisoning and glycosuria, and also in anæmia, chlorosis, and meningitis are causative factors. The ophthalmoscopic findings, in brief, consist in a swelling of stroma and a fulness and tortuosity of the veins. The retina is veiled by a bluish-gray serous deposit. The optic nerve is swollen and projects. The disc margin is indistinct and hemorrhagic spots are present on the retina. Later, the optic nerve takes on a woolly appearance. Glistening white spots encircle the macula lutea or radiate from the center. Retrobulbar neuritis is found in tobacco amblyopia, and a central scotoma exists between the macula and optic nerve. There is discoloration of the disc and usually a spot of atrophy at the outer and lower border.

The neuroretinitis of general toxic conditions occurs in the albuminuria of granular contracted kidney, which is the common condition. The albuminuria of pregnancy must not be forgotten. It is also found in glycosuria. In albuminuric-retinitis the inflamed, red nerve is present, with small arteries, which are accompanied by "silver wire" lines. The veins, where they are crossed, are indented, distally being full and engorged, and proximally, narrowed. Woolly patches are found in stellate groups near the macula lutea or spread in a characteristic fan-like manner. In diabetes the optic nerve does not appear so inflamed and the patches are irregularly arranged. The patches are due to sclerosis and fatty degeneration of the retinal tissue, the peculiar patterns being due to the anatomical arrangement of the stroma.

Arteriosclerotic states are evidenced by tortuosity and irregular bulging of the arteries, with pressure on the veins. Haab considers important, as a diagnostic sign of syphilis, the decrease of retinal arteries with opacities of the walls appearing as fine disseminated scales upon the arteries. It is claimed that other vessel degenerations rarely show this.

Tubercles upon the choroid are, of course, diagnostic of tuberculous meningitis. They may occur singly as a yellow or whitish patch or in groups of several. Their margins, in contradistinction to the atrophic patches of syphilis, are irregular and void of pigment.

Optic atrophy may be primary or secondary. When primary the disc is pale, somewhat bluish-gray in appearance. The vessels are small and apertures in the lamina cribrosa are distinctly visible. Such a condition points to tabes or, in some cases, to general paralysis of the insane. The traumatic factor is to be remembered. Secondary atrophy succeeds neuritis. Here the edge of the disc is irregular, the "silver wire" lines run along the vessels, and the physiological cup is filled in. The possibility of atrophy, disseminated sclerosis, and toxic amblyopia is to be borne in mind.

Summing up the foregoing, I have endeavored to show the inadequacy of diagnostic methods which omit systematic ocular examination, and have entered a plea for a more universal use of the ophthalmoscope. I have outlined the steps in unaided inspection of the eye. Subjective symptomatology has been touched upon. Lastly, the valuable ophthalmoscopic findings have been pointed out in this, an attempt to uplift the veil of possibility overlying an important field in diagnosis.

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HYDROCEPHALUS COMPLICATING LABOR.

By G. W. SQUIRES, M.D.,

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In the fifty-two numbers of the Medical Record of the year 1901, I fail to find an article on the above subject. This has appeared strange to me when almost all known phases of the medical and surgical art is touched upon specifically during a year's publication of the journal. I have also been surprised in looking up the medical literature on this subject to find not a great deal said in even recent publications. An experience with four cases leads me to report the following:

Mrs. D., German, aged twenty-eight years, mother of one living child, was taken with labor November 20, 1902, at 5 o'clock A.M. The previous labor having been long and tedious, there was not thought to be any hurry to summon a doctor. After two hours' labor the mother, believing her child about to be delivered, sent husband for a neighbor, a woman of age and some experience as a midwife. A messenger was also dispatched for the physician who confined the woman with her previous baby. The midwife discovered on examination the child delivered feet first to the neck, and hastily grasping the feet, made traction, hoping to save the child from smothering, but was unable to deliver the head with a pull of all her strength. The family were by this time greatly alarmed, and the doctor not coming, sent hurriedly for me. The other physician was in the house when I arrived. He informed me it was a breech case. He tried to deliver the child by podalic traction. I, in the meantime, anæsthetized the patient by chloroform. The womb being so large, I remarked there must be another baby, but noticing a spina bifida, changed my mind and diagnosed a case of hydrocephalus. The attempt was now made to put on the forceps, but not even one blade could be applied, the head so filled the pelvis. Wearied with failure to apply forceps, the medical attendant returned to traction. Taking hold of the feet with the left hand, with the right applied to the nape of the neck he made very forcible traction. I noticed the neck of the child so attenuated that I expected every second to see the body separate from the head. Suddenly there was a deluge of water accompanied by a gurgling sound, when the doctor almost fell backward with the delivered child in his hands. The placenta was delivered in two minutes, unaccompanied with hemorrhage; there was no perineal rent or lesion of any kind; the mother, within ten days, moved twenty miles away to another village, apparently fully convalescent. On examination of the child, it was found to have had an enormously dilated head that must have contained a gallon of water. There was a great rent of the scalp and membranes parallel with the sagital suture through which the water had escaped before the head was delivered.

SYPHILIS TRANSMITTED BY DENTAL FORCEPS.

By S. S. CARTWRIGHT, M.D.,
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The article by Dr. Farroni, entitled "Syphilis in the Barber Shop," reminds me of a case in which this disease was apparently transmitted by dental forceps. In September, 1897, a young lady called at my office with inflammation of the eyes. It was in the evening; I diagnosed iritis and prescribed atropine instillations and requested her to call the next morning, which she did. I gave her a very careful examination then, and found an eruption on the skin, hair falling out, etc. The history she gave was as follows: While visiting in New York City she had two teeth in the lower jaw extracted by a dentist. This was followed in a few days by swelling, sore throat, and enlargement of the glands of the neck, especially on the side whence the teeth were extracted. There was no question in my mind but that it was a case of syphilis, and the disease commenced in the mouth from the forceps used in extracting the teeth. Treatment by mercury and iodide was successful.

FATAL CASE OF POISONING BY CHLORATE OF POTASSIUM.

By A. R. ELLIS, M.D.,
ROXBURY, N. Y.

Mrs. D. took, on November 9, 1902, about one ounce of chlorate of potassium, which was left for a gargle, supposing it to be rochelle salts. The chlorate and the salts lay on the same shelf wrapped in packages that closely resembled each other. She put the chlorate of potassium in a cup and swallowed it in about half a glass of water. After two hours she began vomiting and purging, when she discovered her mistake. After three days renal symptoms began to manifest themselves, the urine was almost suppressed, and what little was passed was almost black.

Simple diuretics, together with applications of digitalis to the back and about the regions of kidneys and bladder were of no avail. She continued vomiting, the heart grew weaker and the urine remained almost suppressed until November 17, when death relieved her suffering.

General Septic Infection of Nasal Origin.—A. Logan Turner says that the possibility of general septic infection arising from an intranasal lesion may very naturally be overlooked. So insignificant indeed may be the nasal lesion that the patient remains unaware of it, and his physician's attention may possibly be directed to it only accidentally. The author reports three cases, in one of which pulmonary tuberculosis was suspected, in another malaria, and in a third typhoid fever. Some nasal trouble was found in each case, and when this was cured the symptoms disappeared. An intranasal examination should be made in septic conditions of doubtful origin. It is possible, too, that the regular use of the thermometer might reveal more frequently the occurrence of general symptoms in septic conditions of the nasal cavities.—*The Edinburgh Medical Journal.*

Laceration of the Spleen, Laparotomy, Plugging of the Splenic Wounds with Iodoform Gauze; Recovery.—The patient of R. A. Stirling was a boy of fifteen years who was thrown from a horse that placed his foot on the boy's belly. When seen several hours after the boy complained of hypogastric pain and general abdominal tenderness. There was a dulness in both flanks. The abdomen was opened and considerable blood found. Searching for the source revealed a large rent on the posterior border and diaphragmatic surface of the spleen. The wound in the spleen was firmly plugged with iodoform gauze, the end of which was brought out at the upper angle of the abdominal wound. The latter was sutured in the usual way. Two days after the operation the gauze was removed under light anæsthesia, some blood-stained fluid coming away. Recovery was subsequently uneventful, although there was some suppuration at the upper angle of the wound where the gauze had been inserted.—*Intercolonial Medical Journal.*

Gastric Digestion in Jaundice.—S. S. Zimuitsky concludes: (1) That in jaundice, as in all cases of retention of bile in the organism, the gastric function is affected, an hypersecretion being established. This overwork brings about a peculiar condition of the secretory gastric cell—its asthenia. (2) The gastric secretory activity is alike both in acute and in chronic jaundice, *e. g.* when the latter appears in connection with hypertrophic cirrhosis of the liver, provided that no changes in the activity of the secretory gastric cells had occurred previous to the appearance of the jaundice. (3) In chronic jaundice, *e. g.* when it appears in connection with hypertrophic cirrhosis of the liver, there are stages of transition in the activity of the secretory gastric cell from hypersecretion to hyposecretion, the latter sometimes very pronounced. These phenomena are the results of the same condition of the secretory gastric cell, its asthenia appearing only in different degrees and periods. (4) The diminution of the acid secretion of the secretory gastric cells during certain stages of hypertrophic cirrhosis of the liver with jaundice, while the peptic secretion remains the same would tend to prove that the peptic secretory activity of the stomach is of a stronger and more resisting character than its acid secretory activity.—*Russkii Vrotch.*

Neuro-mimesis of Knee Simulating Tuberculous Disease.—Marmaduke Shield reports a case in a woman twenty-six years old. The patient used crutches. Her right lower limb was done up in a Thomas's splint, which had been worn about two years, and the knee was puffy and swollen. Acute pain had been said to follow a local injury. There was, however, no local heat or any obvious thickening of the synovial membrane, yet a diagnosis of tuberculous knee was made. This diagnosis was given up later, when it was realized that the "pulpy" feeling of the synovial membrane was missing. After the splint was removed, and the limb lightly massaged, the swelling, which had been caused by the bandages, disappeared. The adhesions were then broken down under an anæsthetic, both in ankle and knee, and massage continued. Patient now bends knee nearly to right angle, and has commenced to walk.—*The Clinical Journal.*

A Case of Multiple Fibromata Confined to the Internal Plantar Nerve.—Wm. J. Taylor and Wm. G. Spiller report the case of a woman who, for seven years, had suffered from pain and soreness in the sole of the left foot and inner side of the ankle. An operation was performed, and thirteen small tumors were removed from along the line of the distribution of the internal plantar nerve. They varied in size from that of a hickory nut down to a very small pea. Two years later two tumors were removed, one at the instep and one at the ball of the great toe. Seven years afterward six tumors of the same general character were removed from the same region. They were found to be pseudoneuromata. In another ten years five small tumors were removed, and one the size of a walnut was found to be attached to the internal plantar nerve at several joints by rather long bands, apparently of nerve tissue. About five inches of the nerve were removed, the wound healed, and for the first time in fourteen years the patient was free from pain. Since that time she has been perfectly well.—*The Journal of Nervous and Mental Disease.*

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PROFESSIONAL SERVICES TO EACH OTHER.

RALPH WALDO EMERSON, in his masterly essay on compensation, makes his earnest and thoughtful reader understand that nothing good in the world is to be obtained without its equivalent drawback of pay for services received. The loan of fortune means the pound of flesh for the creditor. When the desired result is obtained it is always a question between the game and the candle. The contemplation of relative conditions evens up all things in a very general, if not always a very satisfactory, way.

It would be strange, indeed, if the law did not apply to the medical man in his efforts to succeed along the different lines of his arduous labors. Often enough the bread he seeks comes to him in plenty when his teeth are gone and his taste has palled. Even the so-called pleasure of the work for the work's sake makes him conscious of the sweat on the brow and the tug at the bit. Where much is required much must be given. The man who is struggling for a reputation with its accompanying emoluments must pay for it as he goes along. It is impliedly granted that he owes something to his fellows as well as himself, and not infrequently he discovers that his own claims are not by any means foremost. Thus it happens that the man who is bent on obtaining extra skill in different directions of human endeavor must always consider those who are ready to use him. It is the compliment of being asked to do the thing that balances the obligation of having it done. We wish to apply these remarks to the good and the bad side of those time-honored reciprocal professional attention that apply to sick doctors and their families.

It has often been said, and with some show of truth, that the professional courtesies in question have become so much strained that the poor, sick physician, or his equally helpless wife, is generally worse off for willing continuous and systematic treatment than most free patients who come under the doctor's care.

There are many reasons why the physician is incompetent to attend to himself when sick or to any of his family in like condition. It has consequently been a time-honored custom, glorious in its graciousness to help him in his time of need. The reciprocation of such services has been the obligation of true friendship, and the willing helpfulness of a brother doctor was even more blessed to give than to receive.

While we must acknowledge that the same laudable spirit still exists to give us support and comfort in our most trying hours, we must at the same time admit that it is in danger of dying out in consequence of the abuses which the fashions of the day make possible. The trouble seems to be that most of the time of the general consultants and specialists is taken up with many medical brethren who have no direct claim on their friendly aid save that of belonging to the same profession, and who have no means of exchanging services of equivalent value. It goes without saying that these gentlemen are very much imposed upon in many ways, and feel, by virtue of their position, that they are doing more than their share of purely friendly professional service.

Each applicant may believe he has a claim on the special skill of his brother worker, but he apparently forgets that he is only one of a crowd which is proportionate to the fame of the man who is supposed to receive all with becoming courtesy and responsive concern. These are certainly matters to think about in view of striking a reasonable balance for both sides of the equation. The exactions of time and service appear to be based on technical grounds, rather than on purely friendly obligations. We can hardly blame such as are imposed upon in this respect for now and then believing that the extra burdens imposed are oftentimes heavy ones and somewhat grievous to be borne. In some respects it must be admitted that we have outgrown our ancient privileges. Instead of distributing them, as formerly, among personal friends, who are always glad to serve us, we are concentrating the work on a comparatively few, who are bearing more than their share. From a purely business point of view it would seem only equitable and right that some equivalent should be given for time consumed. This may sound a trifle heretical, but the reasonable adoption of such a principle would very effectually remedy a growing evil. It is not difficult to see—by every one who views the subject with absolute impartiality—that it would be much better to make some pecuniary standard for professional services to each other than to trust to present methods. Personal friendship in this matter is one thing, but mere professional etiquette is quite another thing. The etiquette is sentimental and the fee, however small, is practical. Besides there is an equivalent of some sort to balance properly the implied rights of each party in the transaction. It is a grave question whether we shall not sooner or later come to this common-sense method of equitable adjustment of material obligations. Then at least the sick doctor or the doctor's wife need not hesitate to think whether or not it may be proper to make a choice of a particular attendant, and need not fear to place himself or herself under obligation in so doing.

THE ABSURD ARGUMENTS IN FAVOR OF SUBSTITUTION IN MEDICINES.

THE attitude of the retail druggist in opposition to the Bostwick bill against substitution, as disclosed at the hearing before Governor Odell, was the subject of discussion at a stated meeting of the Society of Medical Jurisprudence on Wednesday evening. As appears in the report of the proceedings made to the society, the druggists were represented by a body formidable in number and

in behalf of the various associations. Objections were strenuously and insistently urged upon the Governor by many speakers that the enactment of this bill would prevent the pharmacist from consulting his own convenience in dispensing one make or brand which he might have, in place of a specified other product which he might not have in stock. The great hardship of this Bostwick bill, in view of the large number of manufacturing chemists making officinal products all alike, of the same formula, etc., was enlarged upon, the druggists claiming the right to exercise their own discretion and convenience; the convenience of the patient in such exigencies was equally sacrificed. Again, a patient departing for the country, or for any reason requiring a larger quantity of medicine than that ordered in the physician's prescription, could not be accommodated without the commission of a misdemeanor; nor could the patient be protected from the mistakes and incapacities (much enlarged upon) of the physician to write proper prescriptions, for the reason that this bill would prohibit the druggist from exercising his discretion in the premises. It would even prohibit him from adding an excipient in making a pill or suppository.

This claim of the druggist to an inherent right to consider his own convenience must certainly be regarded as a startling, not to say astounding, proposition. There could be no more false nor misleading statement than this—that the pharmacopœia products are of a uniform quality. Every physician knows that the personal equation counts here to a very large and important degree, as it does in everything else. The most ordinary, simple galenical preparations differ in even obvious physical characteristics as produced by different pharmacists, but the doctor is accustomed to dealing with, and adapting his practice to, these conditions. He does not, as a rule, specify largely, carelessly or indifferently, or to any ordinary extent,the source from which ordinary officinal agents must be dispensed; he does very properly and necessarily, and to the best interests of pharmacy, medicine, and his patients, specify particular products which are well-known to be of recognized and proved standard of excellence and uniformity, and for reasons and under conditions in which he is, and must be the sole judge and authority. There are some officinal preparations which it is devoutly to be wished could be made by manufacturing chemists; let us take so simple a thing as an infusion of digitalis; has not the convenience of the druggist caused this to be made from a fluid extract and hot water? Character, ability, enterprise, and skill find as beneficent a field in competition in articles of pharmaceutical standard as in other products of commerce. A special preparation of ergot, opium, or ether is none the less such because the pharmacopœia defines a standard of formula or quality.

The druggist will concede, we believe, that even the doctor knows that the written injunction "fiat pil" conveys the direction that the druggist shall use the excipient or vehicle necessary by officinal requirements or by technical practice; yet these timorous druggists expressed great concern lest they should commit a misdemeanor in doing so.

Similarly specious is the assumption that in dealing with erroneous prescriptions the druggist is restrained or interfered with or prohibited in any way from the exercise of his professional vigilance and discretion, both as regards the doctor and the patient. The druggist must always stand in these respects in precisely the same position as he does now. It is absurd, as claimed in behalf of the druggist, that in calling attention to error he would incur the mortal enmity of a physician; ordinary discretion and tact, dictated by professional comity, are necessarily to be expected, and must impress alike favorably both the patient and the physician.

Whilst it might be conceded that there are druggists whose "convenience" might not be divorced from the highest considerations for the patient's welfare, the physician cannot for a moment recognize or submit to the stand taken by the druggists as ground for requesting the Governor to withhold his signature from the Bostwick bill—the stand taken by them in these matters. It was the generally expressed feeling at the meeting of the Society of Medical Jurisprudence that the attitude of the druggists was neither judicious, convincing, nor sincere, and we emphatically concur in this opinoin; also in the confidence expressed that the Governor would approve this bill brought about in the public interests by the flagrance of malpractice in pharmacy.

If anything were wanting to convince the Governor of the gravity of the situation in the public interests, it would be the very illuminating disclosures made before him of the facts that the present laws *do not deter* substitution, and that the Bostwick bill is found at fault only in that it makes no loophole for this offense, and is well designed to discourage its practice. That it imposes no restraint nor penalty nor hindrance upon the druggist in the exercise of every proper function and right, must be the opinion of all candid people conversant with the subject. There is no ground upon which the druggist should enjoy immunity from the common obligations which obtain in ordinary commercial dealings; whilst, on the contrary, it is very evident that he is under obligations peculiarly imposed and inherent in the very nature of his calling.

The Bostwick bill will be welcomed as a measure wholly in the right direction, and the Governor has an opportunity to confer a great public service in giving it his approval.

The Pathology of Acute Rheumatoid Arthritis.

The grouping under one heading the diseased conditions now called arthritis deformans, osteoarthritis, and rheumatoid arthritis is believed by many writers to be erroneous, and it is thought that these terms include two or more separate diseases. Dr. W. Hale White, physician to Guy's Hospital, writes in the reports of that institution, Vol. 52, on two cases of acute rheumatoid arthritis which have recently been under his care, and the differences which he observed on the one hand between this acute condition and rheumatic fever, and on the other hand between the same and other forms of the disease comprehended under the three terms, arthritis deformans, osteoarthritis, and rheumatoid arthritis. Dr. A. E. Garrod and Dr. G. A. Bannatyne wrote respectively in the *British Medical Journal*, Vol. 2, 1901, and in the *Practitioner*, May, 1900, on the subject, stating that they were much

struck by the differences between the acute cases and other patients said to be suffering from rheumatoid arthritis. Dr. Bannatyne was the first to insist that the acute form of rheumatoid arthritis was a separate disease, and Dr. Garrod, in opening the discussion on "Chronic Diseases of Joints Commonly Included in the Terms Chronic Rheumatism, Osteo-arthritis, and Rheumatic Gout," at the meeting of the British Medical Association in 1901, said, speaking of the acute form, "Our knowledge of the morbid anatomy of this disease is very scanty. It has so little fatal tendency in its earlier stages that opportunities for examining such joints post-mortem are very rare. In our London hospitals such opportunities are practically wanting, and I believe that we could have no more valuable contribution to this discussion than a careful description of the post-mortem appearances of an early stage of this kind of rheumatoid arthritis." Dr. W. Hale White has been able to supply the needed description, and has published an account of a post-mortem on a patient who had the disease, which further proved to his satisfaction that acute rheumatoid arthritis is a separate disease..

The malady, as demonstrated by the post-mortem, is essentially one of the synovial membrane and the soft tissues around the joint, the very slight change in the cartilage and bone being apparently secondary to that of the synovial membrane. "Probably," says Dr. White, "the disease is of microbic origin; a diplococcus was found in my case and other observers have found microorganisms, but the specific micro-organism has not yet been certainly isolated. The pathological changes shown by the post-mortem consisted of a chronic inflammation of the synovial membrane, together with a thickening of the tissues outside the joint. The pitting of the cartilage was slight and secondary to the changes in the synovial membrane. The cartilage itself was healthy, and the affection of the bone was slight and due to perforation of the cartilage by the thickened synovial membrane. There were no bony or cartilaginous growths.

A description is also given by Dr. White of the clinical features of another patient under his care suffering from acute rheumatoid arthritis, who is still alive. Radiographs were taken of the case which died, and of the one living, from a consideration of which the writer suggests that the exceptional transparency of bone observed may some day be found to be one of the distinctions of acute rheumatoid arthritis from other diseases having a similar name.

Observations upon Leprosy Occurring in Japan, Iceland, and Norway.

Dr. Judson Daland of Philadelphia read a paper on the above subject before the Philadelphia County Medical Society, January 14, 1903. It appears that all the islands of Japan, with the exception of Yezo, are infected with leprosy, The official report states that there are 10,000 cases of leprosy in Japan but Baelz believes that there are from 30,000 to 50,000, while Souton estimates the number at 23,660. The disease is considered to be contagious by both the inhabitants and the physicians, and precautions are taken to prevent close personal contact between lepers and the general population. Dr. Baelz of Tokyo, utilizing the fact that perspiration does not occur in the area of the skin involved in leprosy, has devised an ingenious method of outlining the parts affected by rubbing aniline over the suspected area and then injecting pilocarpine. The sweat thus produced dissolves the aniline and stains and outlines the area of normal skin, while abnormal skin remains unstained. He takes the view that leprosy is contagious in but a slight degree, and despite his wide experience, has never observed a single instance of transmission of the disease. He further believes that certain cases recover spontaneously and that others are favorably influenced by rubbing the diseased area of the skin with pumice-stone until blood appears, and then applying a 20-per-cent. salicylic acid lanolin-vaselin ointment. In addition ½-gram capsules of oleum gynocardia are to be taken thrice daily after meals. Every fourth day an additional capsule is to be given until ten capsules are taken thrice daily. This treatment should be continued for not less than one year.

Iceland, with a population of 70,000, contains, it is believed, 200 lepers. The inhabitants maintain that leprosy is non-contagious. Statistics show that heredity plays an etiological rôle, that the tuberculous variety is the most common, and that more females are afflicted than in India, where the proportion is but one female to four males. Dr. Daland is not in accord with the popular opinion entertained in Iceland that the disease is slowly diminishing, for the reason that it is impossible to obtain accurate information regarding the number of cases existing in Iceland, not only in the past, but also in the present.

Norway is the only European country in which leprosy is endemic, but owing—the writer thinks—to the enforcement of segregation, the disease is rapidly disappearing. The Norwegian physicians are uncertain as to the contagiousness of leprosy, although the majority, including Hansen, hold that such is the case. In Norway both sexes suffer about equally from leprosy. In 1882 107 cases were reported cured during twenty-five years. Hansen is of the opinion that the bacillus may enter the body through wounds in the skin, and that infected clothing may spread the disease. Arning of Hamburg and Ehler of Iceland hold similar views.

The Prevalence of Bilharziosis in Egypt.

Mr. Frank Milton, Professor of Clinical Surgery at the Government School of Medicine and Surgery, and surgeon to the Kasr-el-aim hospital at Cairo, writes, in the *Lancet* of March 28, on this disease. "Bilharziosis," he says, "develps in two distinct ways. It may cause the destruction of the mucous membrane of the part which it attacks by the formation of a new fibrous tissue replacing the glandular elements of the part, this being the atrophic form, or it may cause great overgrowth of the normal elements of the part attacked with the formation of polypi and similar outgrowths, this constituting the hypertrophic form; or these two forms may be combined to bring about a variety partaking of the characteristics of the two, with the formation of an enormous mass of tissue *sui generis*, which may be called bilharzia tissue. The malady is extremely prevalent in Egypt, and was discussed fully at the recent medical congress held at Cairo. According to Mr. Milton, all ages are liable to be attacked by the disease, the records showing three cases of children aged four years with bilharziosis of the bladder, and nineteen patients over sixty years of age. By far the largest number are between the ages of fifteen and forty-five years. The vast majority of cases occur among males. As regards race, a very marked difference is found. Of 925 patients which came under Mr. Milton's observation at the Cairo hospital, 908, or nearly 98 per cent., were Egyptians, the remainder being made up of six Berberines, six Copts, and only five Soudanese. The small number of Copts and Berberines may be accounted for by

these being essentially indoor or town races, but the markedly small number of Soudanese can hardly thus be accounted for; it must be remembered that a large number of these blacks have passed the greater part of their lives in Egypt and under the same conditions as the native Egyptians. Nearly all the sufferers from the disease were of the peasant class. The most common form of the disease as seen at the hospital, is bilharziosis of the bladder, of which there were 599 cases, or 64 per cent. of the whole number treated; the next most frequent form was what is almost the same form of the disease, viz., vesical calculus, of which there were 134 cases; after this, urinary fistulæ, 113 cases; and then bilharziosis of the rectum and general bilharziosis, 53 cases.

Malaria and Agriculture.

An excellent contribution to the above subject is made by Prof. Glenn W. Herrick of the Agricultural College, Miss., in the April number of the *Popular Science Monthly*. The public at large have hitherto failed to appreciate at its full significance the immense influence which malaria exerts upon agriculture. In Italy, for instance, Celli shows that the mean mortality statistics give about 15,000 deaths yearly from malaria. He further says that, "calculating from the number of deaths the number of patients, we arrive approximately at about two million cases a year."

"The loss of labor and of production, and the expenses entailed in dealing with this disease consequently amount to several million of francs." About five million acres of land uncultivated, or improperly cultivated, which represents an enormous loss. One railway company spends on account of malaria one million fifty thousand francs ($200,000) a year. He sums up by saying: "One can positively assert that malaria annually costs Italy incalculable treasure."

Professor Herrick points out that malaria affects agriculture injuriously, in unfitting men for long or energetic hours of labor. The disease saps their vitality so thoroughly, that they are unable to do efficient work, and consequently in those districts in which malaria is rife, the soil is not cultivated properly, and its inhabitants do not contribute their just quota as wealth producers.

So far as the Southern States of this country are concerned, the following figures taken from the last census will give a fairly good idea of the evil wrought by malaria. Number of deaths for year ending May 31, 1900:

	Total	Consumption	Heart Disease	Pneumonia	Typhoid	Dysentery	Malaria
Louisiana	20,955	2,016	1,149	1,045	1,077	385	1,030
Mississippi	20,251	2,129	876	2,168	1,370	380	983
Alabama	25,609	2,666	1,111	2,450	1,713	864	1,005
Georgia	26,941	2,651	1,350	2,598	1,585	781	1,011
S. Carolina	17,166	2,133	843	1,324	970	578	479

Taking, therefore, Celli's basis of estimate, it will be found that in the five States mentioned there were, approximately, 635,000 cases of malaria in the year ending May 31, 1900. From the foregoing facts and deductions the writer draws the conclusion that malaria is responsible for more sickness among the white population of the South than any disease to which it is now subject.

Professor Herrick gives as a striking example of a concrete effect of malaria upon agriculture, the Delta of the Mississippi, one of the most fertile regions of the world. The land magnificently adapted for producing grain, vegetables, cotton, and fruit in almost unlimited quantities is comparatively unsettled and a drug in the market on account of the prevalence of malaria. Malaria is the chief bane of tropical or semi-tropical countries, and, according to Nanson, causes more deaths and more disposition to death by inducing cachetic states, predisposing to other affections than all the other parasites affecting mankind together..

Professor Herrick will have done yeoman service for his country if his article should give use to energetic efforts to stamp out malaria in the Southern States. The way has been indicated by Ross, Nanson, and the Italian investigators, and at the present time in Italy and in various parts of the British Tropical Empire, a strenuous crusade is being undertaken against the malaria-bearing mosquito. Surely, then, the United States, with its wonderful resources of wealth and brains, should not be backward in endeavoring to stamp out the disease within its own borders, but should rather be in the van in demonstrating that it is possible to rid mankind of one of the greatest menaces to health and obstacles to material progress.

News of the Week.

Prof. Hermann Tillman of Leipzig University is on a brief visit to America for recreation and has been the recipient of many professional courtesies during his short sojourn in this city. He is the guest of Prof. Carl Beck, who tendered him a complimentary dinner immediately after his arrival on Friday, May 8. Among the guests were Drs. W. T. Bull, R. Abbe, George R. Fowler, W. B. Coley, C. A. Von Ramdohr, and C. Pfister. Prof. Tillman visited the New York Hospital and the St. Mark's Hospital the day following, and afterward attended a lecture at the Post-Graduate Hospital, given by Professor Beck, and gave a brief address.

On Sunday evening he was given a dinner by Prof. W. T. Bull at the University Club, at which were present Drs. L. A. Stimson, Carl Beck, A. G. Gerster, George F. Shrady, B. Farquar Curtis, C. A. Von Ramdohr, C. Pfister, Willy Meyer, F. H. Markoe, and John B. Walker. At the reception which followed, there were present: Drs. Maurice H. Richardson (of Boston), Robert Abbe, Mr. Moynihan (of Leeds, England), Drs. Frederick S. Dennis, J. A. Blake, George E. Brewer, Howard Lillienthal, John Rogers, Jr., William B. Coley, F. Kammerer, Walton Martin, E. H. Pool, Carlton Flint, Lucius W. Hotchkiss, E. Eliot, Jr., R. G. Wiener, Charles N. Dowd, Bern B. Gallaudet, Milton Foote, Arthur L. Fisk, J. Hilton Waterman, S. E. Sprague, Wisner R. Townsend, Royal Whitman, Duff Bullard, M. P. Denton, Joseph Wiener, Jr., B. T. Tilton, and Percy R. Tunure.

On Monday Professor Tillman visited the Roosevelt Hospital and then left for Washington, D. C., to attend the Congress of the American Physicians.

Barber's Bill Vetoed.—Governor Odell has decided not to sign Senator McEwan's bill providing for the licensing of barbers and the inspection of shops. The Governor regards the bill as too drastic, and as not meeting the situation which it was designed to meet. He is of the opinion that to compel the licensing of every apprentice and to make the new men subject to sanitary restrictions, without including all barbers and shops, would not effect the desired object. If any are to be examined, all should be examined.

Several Bills Relating to Medicine Signed.—Governor Odell signed, on May 11, a number of bills, among which were some dealing with medical matters. These were as follows: Mr. Roger's bill appropriating $570,000 for repairs and improvements to the State insane hospitals.

Mr. Hughes's bill appropriating $50,000 for the

purchase of a site for a new State hospital for the insane in the northeastern part of the State north of Rensselaer County.

Mr. Hammond's bill appropriating $3,700 for improvements to the Syracuse Institution for Feebleminded Children.

Mr. Graeff's bill appropriating $115,000 for the construction of the State Consumptive Hospital at Ray Brook, Essex County.

Mr. Sherry's bill making it a misdemeanor to distribute samples of drugs or patent medic nes in such a way that children may get at them.

Mr. Wainwright's bill authorizing New Rochelle to appropriate $2,500 annually to the New Rochelle Hospital.

Senator Ambler's "Pure Food Bill," prohibiting the adulteration of food, confectionery, and condiments.

Bequests to Hospitals.—By the will of the late Hiram Brooke of Philadelphia bequests were made to hospitals as follows: Pennsylvania Hospital, German Hospital, Hahnemann Hospital, Jefferson Hospital, Episcopal Hospital, Bethany Dispensary, each $2,000; St. Joseph's Hospital, Insane Department of the Pennsylvania Hospital, Jewish Hospital, each $1,000; St .Timothy's Hospital; Home for Consumptives at Chestnut Hill, Philadelphia Dispensary, each $500.

New Rules for Dealing with Garbage.—Commissioner Woodbury has drawn up new rules, with regard to the separation of garbage. Department employees have visited every building in the city where garbage is collected, and have distributed cards bearing these rules. According to the new rules, refuse will be divided into three classes, as follows: matter put into garbage receptacles, matter put into ash receptacles, and matter put into rubbish bundles. The new rules are explicit and will be strictly enforced. Another rule also will be enforced forbidding the use of leaky receptacles for putting out garbage coming under the first head, and a second rule forbidding any kind of refuse matter from being thrown into the street. The new rules are said to be the forerunners of an ultimate plan making the city's garbage yield the greatest commercial return, as an actual asset of the department having charge of the collection. Dr. Woodbury will, indeed, have deserved well of the community if he can thoroughly reorganize the system of garbage collection in this city. The manner in which the work is done at present is faulty and slipshod in the extreme, and would not be tolerated in any large European city.

Smallpox at Manila.—It is reported from Manila, that smallpox has broken out among the men of the Second Infantry aboard the transport *Sheridan*. The vessel will be quarantined for five days. It is said that the health officers will reimpose the quarantine regulations of 1902, owing to the fear of a slight increase in the spread of cholera.

Set-back for Temperance.—Temperance would certainly appear to be losing ground in this country. In the past three months of 1903, Vermont, which has staunchly upheld prohibition since 1852, has backslidden; New Hampshire, a prohibition State for forty-seven years, has decided to abandon this principle. North Dakota, which adopted prohibition as a part of its Constitution, will, it is said, through the next Bismarck Legislature, submit an amendment to abolish it entirely. In Kansas the cause of prohibition languishes.

United States Delegates for the Red Cross Geneva Convention.—The delegates chosen to represent the American branch of the Red Cross organization, at the International Red Cross Convention, to be held in Geneva next September, are: F. B. Loomis, First Assistant-Secretary of State; General G. B. Davis, Judge Advocate-General of the Army, and Commander Nathan Sargent, U.S.N. Miss Clara Barton has not been selected as a delegate, which is believed by some to be intended by President Roosevelt as a mark of his displeasure. The three chosen ones are said to be in sympathy with the Washington malcontents, who advocate a thorough reorganization of the Red Cross Society in this country. The forthcoming convention in Geneva will deal with some very important matters relating to the work of the Red Cross Society. It will, for instance, be proposed in the amendments to provide for a careful examination of bodies on the field prior to their inhumation or incineration, to obviate the chances of men being buried alive after a battle. It will also be proposed that a clause shall be added to the international treaty, providing that every officer or soldier shall bear upon his person a mark rendering it easily possible to establish his identity. The suggestion, too, has been put forward that field hospitals and other temporary establishments, following troops on the field of battle to receive the sick and wounded, shall be considered neutral under all circumstances, and that if they fall into the hands of the enemy it shall be a duty to return them to their army when they are no longer required for the care of the sick. The question will also be discussed as to whether there is substantial reason for retaining as the sole distinctive sign a red cross on a white field, or whether it would be proper to allow exceptions in the case of non-Christian countries, such as Turkey, which has substituted a red crescent for the red cross.

Situation Decided upon for the Camp for Consumptives.—The President of the New York Board of Health has decided to place the tuberculosis camp on North Brother Island. The opposition encountered up the State in the attempt to secure a site has been so great that it was found necessary to abandon the plan.

Newsboys' Homes.—At the first session of the conference of the National Congress of Mothers, held in Detroit on May 6, Mrs. Florence Kelley of New York read the report of the Committee on Child Labor. She said the State of Pennsylvania—in particular the cities of Philadelphia and Scranton—is the worst in the Union in regard to employing children in the night. In her report on the employment of children in the streets, such as the newsboys and bootblacks of the large cities, Mrs. Kelley said these young ones received little or no assistance from the newsboys' and bootblacks' homes. These institutions, she declared, devoted much time to looking after the transient foreign element, and the newsboys, bootblacks, and telegraph messengers found relief only in the juvenile courts and the Catholic protectorates.

Smallpox on Board a Vessel in the Bay.—The British bark *Baldwin* arrived at New York on May 8. Two of her crew had smallpox on the voyage, and she was detained at quarantine for disinfection. The first case was contracted at Port Spain, Trinidad, and another case developed later.

Utilizing City Refuse.—Dr. Woodbury, the Street Cleaning Commissioner, is undertaking an experiment with the view of making use of, as well as getting rid of, the city refuse. The Commissioner has started an incinerating plant, for the purpose of destroying refuse and of developing motive power. The experiments are being carried on in a dismantled old school-house at North Moore and Varick

streets. The tests—which have been made under unfavorable circumstances as regards plant—have so far proved that every half a cubic yard of waste burned is capable of evaporating thirty-two pounds, equal to the production of one-horse power. The absence of garbage and the completeness of the combustion prevent unpleasant odors. Dr. Woodbury intends either to sell the rubbish as fuel or to convert it into heat. Shoreditch, a district in the East end of London, was the first place in which a like experiment was tried, and it has been a fair success. The city of Bradford, in England, is lighted by means of electricity obtained by burning refuse.

Illinois Convict Labor Law.—The Illinois Convict labor bill, which passed both branches of the General Assembly without any opposition, becomes effective on July 1, 1904. It abolishes contract labor, and provides for the employment of convicts not to exceed eight hours a day in the manufacture of articles used by the State. It is to all intents and purposes a duplicate of the measure recommended by the National Industrial Commission.

Strike of Smallpox Guards.—At Landsford, Pa., a most remarkable strike has occurred. The guards at some houses which are in quarantine, on account of smallpox, went on strike, because the Board of Health refused to increase their wages from $2.50 to $3.00 per day. The guards deserted their post. When the Board of Health heard of the state of affairs, a meeting was called, and it was resolved to capitulate without arbitration. The guards received the increase demanded.

Death from Typhoid Fever at Stanford University.—Foster Ely Brackett, a son of Dr. John E. Brackett, retired army surgeon, now living in Washington, died of typhoid fever at Stanford University on May 10.

Charter Refused Christian Scientists.—The Supreme Court of the State of Pennsylvania has just rendered a decision upholding the refusal of the lower court to grant a charter to the First Church of Christ, Scientist, as injurious to the community.

College of Physicians of Philadelphia.—At a stated meeting, held May 7, Drs. David L. Edsall and Ralph S. Lavenson presented a communication entitled "Concerning the Nature of Chronic Progressive Polyarthritis." They reported the results of observations upon a number of cases in which injections of tuberculin had been made with a view to determining whether the joint-lesions were, as had been suggested, tuberculous in character. In a number of cases there was elevation of temperature, and, in one case especially, also swelling of several joints. In this case acid-fast bacilli, conforming morphologically with tubercle-bacilli, were discovered in an emulsion of glands excised from the neck, although the results of inoculation of guinea-pigs were negative. Dr. S. Weir Mitchell read a paper entitled "The Relation of Headache to Storm Conditions." He referred to previous observations showing the relation between traumatic neuralgia and also migrainous neuralgia and storm conditions, and he reported the case of a man who had kept for seven years a careful record of the attacks of migraine from which he suffered. When the attacks were charted month for month a distinct correspondence was noted between the number of attacks of headache and the prevalence of storm conditions.

Insanitary Washington.—The insanitary conditions which prevail in many portions of Washington, is the subject of a forcible article which appeared in the *New York Tribune* Illustrated Supplement on May 3. The capital of the United States is rightfully regarded, in many respects, as one of the most beautiful cities in the world, and it comes therefore as somewhat of a shock to hear that a large number of its inhabitants exist under more disgusting and disgraceful conditions than are present in the slums of Whitechapel, London, or in the tenement district of New York. That such is the case is vouched for, however, by experienced and reliable observers, and these assertions are borne out by the statistics of health of Washington. The health report for 1901 shows that out of every thousand colored children born 457 died in the first year. In other words, nearly every other colored baby falls a victim to the insanitary conditions within twelve months after birth. For white children the rate is very different, the figures for the same period showing a mortality of 187 to the thousand among white babies in the first year. Now the figures of the alley population have direct bearing on this death rate. The total alley population, according to the last report of the Metropolitan Police Department of the district, was 18,978, of whom only 2,150 were white persons. Alleys then play a significant part in the health history of the national capital. The alleys, however, are not the only parts of Washington which breed disease, and the whole matter is well and fully discussed in the article referred to.

Christian Scientists Lose.—It was decided, in the Supreme Court on May 4, that the "First Church of Christ, Scientist," is not deserving of a charter in Pennsylvania. Justice Potter, who delivered the opinion, upholds the late Judge Arnold and ex-Judge Dimner Beeber, the referee to whom the application for a charter had been referred.

The Fluorescence of Quinine and Other Remedies in the Cure of Malarial Fever.—In our issue of April 18, in referring to an article by Dr. A. F. A. King, Washington, D. C., on "Quinine and Malaria," an error was perpetrated. Dr. King was made to infer that the parasite of malaria scarcely ever develops except in darkness, whereas the idea upon which he founds his theory of the fluorescence of quinine, being the cause of its destructive action upon the malarial parasite, is based upon the view that the parasite does not sporulate in the dark. In the near future Dr. King's theory will be treated at some length in our pages.

Miss Gillette Reappointed.—Governor Odell has reappointed Miss Grace Gillette, the present Secretary of the Board of Visitation of Manhattan State hospitals.

Absent-treatment Healers in Court.—A suit was brought a short time ago by the American School of Magnetic Healing of Nevada, Mo., against C. M. Bishop and the *St. Louis Christian Advance*, for libels published in that paper. In the article to which objection was made the "healers" were referred to as charlatans. The plaintiffs claimed $20,000 damages, but the Court awarded them $750. The case was then carried to the Missouri Supreme Court, which reversed this decision and gave judgment for the newspaper editor. In its opinion the Court said, that while the contest between the different schools of medicine must of necessity go on, it must go on within limits of reason, but when supernatural powers were claimed, even if proved by witnesses who had benefited, "we are not required to believe it." The School of Magnetic Healing has appealed to the Supreme Court.

Leprosy and Fish.—Mr. Jonathan Hutchinson, F.R.S., has returned to England after a lengthy

investigation in India into the causes of leprosy, Mr. Hutchinson has been known for years as the foremost exponent of the hypothesis that the chief origin of leprosy is the consumption of fish. He visited, while in the far East, Colombo, Madras, Lahore, Calcutta, and Bombay, at which places he held public meetings and discussions. Mr. Hutchinson also went to the leper asylums at Colombo, Madras, Calcutta, Purula, Asousal, Agra, Tarutaran Jullundur, and Bombay. The evidence collected was not by any means convincing in favor of the fish-eating theory of the causation of leprosy. In Madras and Calcutta all the lepers with but one exception denied ever having eaten fish, while at Purula, of the 500 inmates of its asylum, all had been habitual fish eaters.

The prevalence of the disease in India is no greater than in Norway. In Ceylon, where scarcely any fish are eaten, the incidence of leprosy is less than two per 10,000. In Mimcoy, where fish is the main article of diet, the percentage is 150 in 10,000. In Bombay Asylum, which contains 400 patients, all were fish eaters.

College of Physicians of Philadelphia—Section on General Medicine.—At a stated meeting, held April 13, Dr. Augustus A. Eshner exhibited a case of cyanosis of the extremities. The patient was a man, seventy-two years old, who presented cyanosis of hands, feet, and nose, greater on the left side, with greatly diminished pulsation in the left radial artery and absence of pulsation in the dorsal artery of the left foot. The heart was arrhythmic at times, and there were signs of chronic bronchitis. The accessible vessels were soft, and there was no evidence of obliterative arteritis. The cyanosis was thought to be due to vasomotor atonicity and to represent the paretic type of vasomotor ataxia. Dr. David Riesman exhibited a case of cervical rib. The patient was a middle-aged woman presenting symptoms of pulmonary tuberculosis, but in whom there was found, on palpation and radiographic examination, a rudimentary cervical rib on the left side and a much more fully developed cervical rib on the right side. Dr. J. M. Anders reported two cases of typhoid fever, one complicated by perforation and the other with hemorrhage simulating perforation. In the first case the condition was discovered only on post-mortem examination, and consisted in an exceedingly small perforation, together with the lesions of peritonitis. In the second case operation was performed and no perforation found, but hemorrhage was at this time suspected. Dr. J. C. Wilson reported a case of sarcoma cutis, of tissue. The patient was a young woman in whom the condition developed in the sequence of injury to a mole that had long been present on the forehead. The case was remarkable for the large number of secondary growths and the rapidity with which they formed. Dr. D. Riesman made some remarks on palpation. He has found that in the teaching of students and in practical experience excellent results were obtained in practising palpation by applying the ulnar border of the hand in the intercostal spaces in the same way as the finger is applied in the practice of percussion. Dr. Alfred Stengel presented a communication entitled "Syphilis of the Lung Simulating Phthisis." He pointed out how syphilis might involve the lungs in the form of gummata, of interstitial connective-tissue hyperplasia, of parenchymatous changes, or of ulceration and destruction, and he reported a case in which he had found on post-mortem examination the lesions of gumma of the lungs, and another in which improvement quite to the point of recovery had taken place under antisyphilitic medication.

Segregation of the Insane.—On Saturday morning, May 9, the National Conference of Charities and Corrections, being held at Atlanta, Ga., discussed the subject of "Colonies for the Segregation of Defectives." A committee report was submitted by Alexander Johnson of Fort Wayne, Ind., and a general discussion upon matters relating to the segregation of the feeble .

Obituary Notes.—Dr. Robert N. Hartman, professor of analytical chemistry in the Colorado State School of Mines at Golden, was suffocated in the gas-generating room on May 8. Professor Hartman was born at Ghent, N. Y., in 1872. He was graduated from Chambersburg Academy in 1887; from Pennsylvania College in 1891, and from Johns Hopkins in 1894. He came to Golden in 1899.

Dr. Rufus Ogden Mason died at his home, 348 West Fifty-eighth street, on May 11, aged seventy-two years. The deceased physician was born in Sullivan, N. H., and was graduated from Dartmouth College in 1854, with the degree of A.M., and from the College of Physicians and Surgeons in New York in 1859. He served as an Acting Assistant Surgeon during the Civil War. Dr. Mason was an author and a somewhat voluminous writer, some of his books are: "Sketches and Impressions, Musical, Theatrical and Social, Including a Sketch of the Philharmonic Society of New York," 1887; "Telepathy and Subliminal Self," 1897; "Hypnotism and Suggestion in Therapeutics," 1901.

Dr. Dwight S. Chamberlain, President of the Lyons National Bank, died of pneumonia at Lyons, N. Y., aged sixty-five years. During the Civil War he was a surgeon in the Ninth Heavy Artillery and was afterward in charge of the Soldiers' Hospital of Syracuse.

Dr. Archibald Taylor of New York City died at Somerville, N. J., on May 12, of pulmonary tuberculosis, aged forty-two years.

Dr. Samuel G. Dearborn of Nashua, N. H., died on May 8, of septicæmia, aged seventy-six years. He was born at Northfield, N. H., and was descended from an old colonial family, remarkable for the number of its physicians.

Dr. William Johnstone, a well-known physician of Washington, and formerly of Birmingham, England, died at Washington, on May 7, aged fifty years.

Dr. Edward Martin has been appointed by Mayor Weaver Director of the Department of Public Health and Charities recently established in the city of Philadelphia, with a salary of $10,000 yearly.

Dr. John J. Healy died at Philadelphia on May 7, in his fifty-fourth year. He was graduated from the medical department of the University of Pennsylvania in 1875.

Washington Franklin Anderson, for forty-six years a practitioner of medicine and surgery in Salt Lake City, Utah, died at his home in that city April 21, 1903. He was born in Williamsburg, Va., January 6, 1823, graduated from the University of Maryland in 1844, and for three years prior to graduation attended the clinics of the Baltimore Alms House Hospital, where he made original investigations into the pathology of remittent and typhoid fevers, his work being greatly facilitated by the large amount of clinical and pathological material of that institution. He established himself in general practice in Yorktown, Va., where he remained two years, and in 1849, attracted by the gold excitement in California, he removed to the Pacific Coast and practised his profession in Yolo County, California, for five

years. In 1857 he came to Salt Lake City, where he had been actively engaged in the practice of medicine and surgery up to the date of his death. He performed probably the first operations of lithotomy and ovariotomy in the then Territory of Utah. From 1857 to 1867 Dr. Anderson served as surgeon of the Utah Militia; was a member of the Utah Legislature in 1860 and 1861, and in 1876 helped to organize, and was elected the first president of, the Salt Lake Medical Society. In Dr. Anderson was seen that rare type of physician and gentleman which we usually associate with the physician of the "old school." He always had the highest regard for his profession, which his long term of service never diminished, and the uniform courtesy, gentleness, and sympathy which he invariably showed to the sick, endeared him to the hearts of all, as his ready efficiency and broad experience at the bedside commanded for him the confidence of all.

Francesco Colzi.—There appears in the *Lancet*, April 25, an account of the sad death of Francesco Colzi, one of the greatest surgeons in Italy. The Italian correspondent of the *Lancet* at Florence sends the description of the closing scene, which is both interesting and somewhat curious. A part of this is as follows: "Francesco Colzi, after a heroic struggle of ten days' duration, succumbed on April 4 to the terrible gunshot wound received in circumstances already made known to the readers of the *Lancet*. For some seventy-two hours the skilful medication of the fractured arm and lacerated axilla seemed to justify the abstention from amputation—the course approved by the eminent consultant, Professor Bassini of Padua. Bulletins were issued night and morning to meet the solicitude of the sympathizing public, from the King and Court of the quirinal downward, and the tenor of these, while not sanguine, could not be called discouraging. But by March 30, when gangrenous points began to declare themselves, the thought of saving the arm had to give way to that of saving life itself, and after a long consultation, held before Professor Bassini could arrive from Padua, it was decided to perform the amputation which Professor Colzi had counselled from the first, At the professor's own request the operator was his old friend and favorite pupil and clinical assistant, Dr. Stori, who proceeded with great skill to remove the arm just above the level of the fracture. The operation, which was performed without anæsthesia was an admirable specimen of the surgeon's art, and the subsequent medication seemed to give fresh assurance that the precious life might be preserved. The prognosis was further reinforced by the indomitable pluck, not to say vivacity of the patient himself, who, contemplating his lost arm, said: "E dopo? che farò per occupare il tempo? Anderò a studiare chimica nel gabinetto del Professore Piccini" (And then, What shall I do to employ the time? I'll go and study chemistry in Professor Piccini's laboratory). Tetanus, however, quickly set in, and Professor Colzi lasted but a short time after the operation.

Professor Colzi was born at Mousummano in Tuscany in 1855, received his education at the University of Pisa and at the Instituto di Studi Superiori at Florence, and graduated with great distinction in 1877. In 1879 he became Assistant in Surgery at the Hospital of the Santa Maria Nuova, and from 1883 to 1886 filled the post of assistant dissector in the Cabinet of Pathological Anatomy. He finally succeeded Dr. Corradi as professor of surgery in the Florentine School.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HOSPITAL AMALGAMATION—KING'S FUND—ARMY ADVISORY BOARD—DESTRUCTION OF NETLEY SCHOOL—ABANDONMENT OF ANTI-TYPHOID INVESTIGATIONS—CANCER AND NERVE AREAS—U. S. PROFESSORIATE—TRYPANOSOMIATIS—MAJOR DANIEL'S EXPEDITION ON LEPROSY, ETC.—SIR HENRY NORBURY—RECENT DEATHS.

London, May 2, 1903.

Hospital distribution still occupies public attention. Amalgamation has received a decided impetus, for the Council of the King's Fund made a definite offer to the orthopedic hospitals to join their forces. There are three of them. The Royal, the unsavory history of which you know; the National, which is above reproach in any point, and the City, a much less important institution. The offer of the Fund was to the three, but the last named seems to have stood out to maintain its local position in the city. It was founded about 1850 or 1851 by the late Mr. Chance, who was greatly respected not only as a surgeon, but as a ripe scholar, and especially a Hebraist. He took great interest in the institution, which for many years depended on his work. Since his death it has made little progress. The offer of the King's Fund has now been made to the two West End hospitals and practically accepted by their managers. The Royal, which, as I told you, so lately sold its splendid site for what many consider an inadequate price, is to join the National, which has been lately enlarged, and the United institution is to receive from the King's Fund £7,500 toward the building and a subsidy of £1,500 toward maintenance.

It seems quite possible that this action of the Fund may prove a step toward its obtaining more control over our hospitals than the mere distribution of its income confers. If so, it remains to be seen whether the change will be beneficial. There are many difficulties to be encountered in any attempt of the kind—some of which I formerly indicated to you—but perhaps they may not prove insuperable. Certainly there are other special hospitals which might well be amalgamated, and as the King's Fund possesses the power of the purse as well as great social influence, it may be able to accomplish the task.

In connection with this subject a significant article has appeared by the Secretary of the King's Fund, Mr. J. G. Craggs, discussing the municipalization of hospitals in the event of complete failure of our present system. Comparing the cost of the Asylums Board's hospitals he argues that to throw all the burden on the rates would about double the amount spent upon them. Exception may be taken to his estimate, for he is comparing things which differ in many respects, but no one can doubt that the cost would be enormously increased, and another rate as high as that for education would prove intolerable. Perhaps, however, Mr. Craggs only raises this bogey to frighten the public into more liberal subscriptions; for not yet, I think, is London prepared to write ichabod where hitherto the inscription has been "supported by voluntary contributions."

The numerous changes that are being carried out in the Army Medical service are provoking very diverse criticisms. The rage that possesses the war minister for reorganization lays him open to opposition from various points of view, and he is being reminded that alterations are not always improvements. The institution of an "advisory board" was favorably received by the press, but those behind the scenes were doubtful whether it would prove useful. Many of the doubts have proved to be well founded and the board has at present failed to satisfy any one.

It was quite a shock to many when the school at Netley was abolished by, at is were, a stroke of the pen, though there were not wanting many others who expected much from the transfer to London. Nevertheless regret was felt in most quarters, even where the advisability of removal was admitted. The researches carried out at Netley were of the highest order, and the instruction given in the school and the hospital can scarcely be replaced even in London. But the board decided the matter, and instead of the four months' scientific training in the Netley School and clinical work in the Netley Hospital, which all medical officers obtained on entering the army, two months at the Embankment Laboratories and two at Aldershot for military training have been substituted. This certainly seems a strange way to improve the medical officers' education, and looks like the advice of the civilians on the board, considering how long the military men maintained that doctors were not soldiers. Quite lately it has been urged in *Nature* that the civilian element of the Advisory Board is "out of touch with and out of sympathy with the prog-

ress of medical research." I rather think it is not the civilian element alone which deserves this condemnation. The whole of the Medical Advisory Board of the War Office is to blame. Its want of appreciation of the value of research is aptly exemplified in a precipitate abandonment of anti-typhoid inoculation in face of the experience of the South-African war, which has once more read the terrible lesson that typhoid fever is more destructive to armies in the field than all other dangers. One would have supposed that, at least, Professor Wright's services would have been retained to complete the researches which have proved so important in this field, but it appears that the Advisory Board failed to secure them if it did not purposely make his position untenable. I am not prepared to say that Professor Wright's anti-typhoid vaccine is as efficacious as he thinks, or as many hope, but I suggest that a full explanation should be given of why the promising fruits of this and other researches at Netley should thus be flung away.

A possible relationship between carcinoma and nerve or trophic areas was the subject of a communication to the Pathological Society on the 7th inst. by Mr. G. Lenthal Cheatle, C.B. He thinks that a considerable proportion of cases indicate such a relationship. Consequently the extent of those areas should be considered in marking out incisions when removal of cancer is contemplated; but he would not detract from the importance attached to the lympathic pathways of distribution; he would merely add another factor. Further, he thinks the nerve influence in the area may directly or indirectly determine the incidence of cancer within such areas. He showed a number of lantern slides of rodent ulcer and cancer more or less limited to the area of supply of certain nerves and called attention to the central connection between the fifth cranial, the glossopharyngeal and pneumogastric nerves. He thought the cases showed nerve areas so distinctly mapped out that the point could not be overlooked. The areas occupied could not be solely determined by developmental or anatomical conditions, but were perhaps due to some direct or indirect nervous or trophic influence.

Some persons maintain that we have too many medical schools in London. In comparison with America, we have but few. Some statistics quoted here from the journal of your association have rather surprised me. It is said that there are 156 medical colleges in the United States. That accounts for the numerous persons on your side who have the title of professor. The number of teachers in the 156 colleges is given as 6,776; the number of students as 27,501, of whom 5,002 graduated in the year 1901–2. It would thus appear that each teacher only had four students and qualified 0.738 of a graduate in the academic year. Truly American students do not lack instructors.

A report has been received from the expedition of the Liverpool Tropical School, which seems to show that success is likely to attend the investigation on trypanosoma. A house has been inoculated, and a species of fly which had fed on it was infected.

Major C. Daniels of the U. S. Army is in London organizing an expedition to New Guinea and the Solomon Islands for the study of leprosy and cancer. Dr. Seligmann, pathologist of St. Thomas's hospital, will accompany this expedition, for the cost of which the Major is, I hear, responsible.

The term of office of Sir Henry Norbury, K.C.B., as Director-General of the Medical Department of the Navy is to be extended.

Deputy Surgeon-General J. F. Shekleton, F.R.C.S.I., who died on the 15th inst., aged eighty-three years, joined the Indian Medical Service in 1845. He served through the Punjab campaign, 1848–9, and received the medal and two clasps. Later he was employed as chief assayer at the Calcutta mint. After his retirement he settled at Clifton, and for several years devoted much time and energy to the management of the Bristol Royal Infirmary.

The death is announced of Brigade-Surgeon R. T. Lyons (retired) of angina pectoris, in his sixty-eighth year. He joined the service in 1860 and took part in several expeditions, was in the Afghan war, 1878–9, and in Egypt 1885 (Suakin). He received medals and other distinctions.

Dr. Edward Adamson, J. P., of Rye died suddenly on the 18th ult. He was taken ill at church and on his way home fell down. He died soon afterward.

On the Surgical Treatment of Localized Spasmodic Affections, Spasmodic Torticollis, etc.—A. Chipault declares that in spasmodic torticollis and in spasmodic adductions of the thighs, there is indication to interrupt all communication between the contracted muscles and the nervous centers. This manipulation is possible, even easy and without danger, from the operative point of view. It has proved its superiority over other therapeutic methods, especially in complete nerve resections and tendon sections. The effect obtained is not immediate, but progressive.—*La Médecine Moderne*, April 22, 1903.

TREASURY DEPARTMENT — BUREAU OF PUBLIC HEALTH AND MARINE HOSPITAL SERVICE.

WASHINGTON, April 30, 1903.

A BOARD of officers will be convened to meet at the Bureau of Public Health and Marine Hospital Service, 3 B Street, S. E., Washington, D. C., Monday, June, 15, 1903, for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health and Marine Hospital Service of the United States.

Candidates must be between twenty-two and thirty years of age, graduates of a reputable medical college, and must furnish at least two testimonials from responsible persons as to their professional and moral character.

The following is the usual order of the examinations: (1) physical; (2) oral; (3) written; (4) clinical.

In addition to the physical examination, candidates are required to certify that they believed themselves free from any ailment which would disqualify for service in any climate.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination of the various branches of medicine, surgery, and hygiene.

The oral examination includes subjects of preliminary education, history, literature, and natural sciences.

The clinical examination is conducted at a hospital, and when practicable, candidates are required to perform surgical operations on a cadaver.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur.

Upon appointment the young officers are, as a rule, first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco.

After five years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon.

Promotion to the grade of surgeon is made according to seniority, and after due examination, as vacancies occur in that grade. Assistant surgeons receive $1,600; passed assistant surgeons, $2,000; and surgeons, $2,500 a year. When quarters are not provided, commutation at the rate of $30, $40, and $50 a month, according to grade, is allowed.

All grades above that of assistant surgeon receive longevity pay, 10 per cent., in addition to the regular salary for every five years' service up to 40 per cent. after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses.

For further information, or for invitation to appear before the board of examiners, address

WALTER WYMAN, M.D.,
Surgeon-General, Public Health and Marine Hospital Service, Washington, D. C.

Ureteroscopical Diagnosis and Treatment of Chronic Ureteritis.—Georges Luys believes that ureteroscopy ought to be considered as a method giving infinitely better results than any other method of investigation of the ureter. By it, polyps, vegetations, and papillomatous growths in the ureteral mucosa can be recognized; stenoses, characterized by hard infiltration of the mucosa, which hinders the walls of the canal from coming together, lesions of Littre's glands, lesions of the valvular folds. Ureteroscopical treatment consists in the destruction with fine points of the galvano-cautery of the foci, which keep up indefinitely chronic ureteritis.—*La Presse Médicale*, April 22, 1903.

Cutaneous Pigmentations of Genital Origin in the Woman.—Paul Dalché and Ch. Fouquet present this very interesting paper and cite various illustrative cases. One of these was a patient aged fifty-seven years who was afflicted with black pigmentation. Until the age of fifty-three years, she had always enjoyed good health. But at that time she began to grow thin, losing her appetite and becoming weak and languid. There was no organic lesion discoverable to explain her condition. There were two striking phenomena in her illness. One was the frequent outbreak of pustules which, without cessation, developed on the fingers and sometimes on the body; the other was a general discoloration, more pronounced, on the hands fingers and thighs. Although she was very careful in her personal hygiene, she noticed that her linen became quickly soiled. Her hands, principally at the finger-tips, were visibly black, not uniformly, but in places. In vain she washed them twenty times a day—the pigment reappeared. Menstruation had ceased one or two years before. This affection was rebellious to treatment.—*La Gynécologie*, February, 1903.

Progress of Medical Science.

The Boston Medical and Surgical Journal, May 7, 1903.

X-Light in Anthropometrical Signalment.—William Rollins says that any procedure which makes the measurement of criminals more exact must be valuable. Such a one is that of making *x*-light photographs of the bones. He estimates that this method at least doubles the accuracy with which measures of the hand can be taken, and by enabling other measures of the feet, besides the length to be taken; it allows at least four times as many persons to be identified as at present, though the real number will be found to be much greater. In cases of bodies burned or decomposed before they are discovered, the method would have some advantages over any that has been proposed. In other cases when only some of the parts of the body are found, as for example, a hand or a foot, the method alone might lead to identification. The author has designed and constructed apparatus for conducting these *x*-light photographic anthropometric signalments.

Brachial Paralysis, Post Narcotic.—F. J. Cotton and S. W. Allen conclude from a case which they report that paralysis of all or part of the muscles supplied by the brachial plexus with some sensory involvement, is not very uncommon after narcosis, though rarely mentioned. Its cause is not toxic but mechanical. It occurs only when the arms are long held above the head or lie in abduction—never if they lie flexed on the chest. The mechanism is a pressure on the nerve roots, probably between the clavicle and the muscles over the transverse processes of the cervical vetebræ, or from stretching over the head of the humerus in abduction. The trouble is essentially functional without known lesions. The lost function returns *in part* very early. Total recovery is often long delayed, but apparently is to be counted on. In view of the risk of paralysis, the arms of a patient under ether should always, when possible, be flexed with the hands on the chest. If other positions are unavoidable, they should not be continued long without change.

New York Medical Journal, May 9, 1903.

Report of a Case of Pulsating Empyema Necessitatis, with Three Strongly Pulsating Tumors.—F. P. Henry gives a detailed account of the case which was seen over twenty years ago. Meagre notes were then published in a volume of society transactions not accessible to the general reader. The patient was a woman of thirty years. On the left side of her chest were three strongly pulsating tumors; one in the mammary region, of about the size of half a large orange; a second, much smaller and of conical shape in the left anterolateral region, *i. e.* in the eighth intercostal space in a line with the anterior axillary border, and a third, the largest of the three, in the left posteroinferior region, its long diameter, about four inches, corresponding with that of the vertebral column. The large anterior tumor contained air and fluid; the two others only fluid. The case was operated on and was known to be alive and well one year thereafter. The subsequent history is unknown. Henry adds references of fifteen additional cases of pulsating pleurisy to the sixty-eight tabulated by J. C. Wilson in 1893.

Astigmatism Cured by Corneal Trauma.—The patient of P. Fridenberg was a physician who was struck in the eye by a small piece of wood known to small boys as a "cat." The detailed ophthalmological condition before and after the injury are stated. The author considers the mechanism of the cure to be exactly that which produces astigmatism after cataract extraction, viz., the flattening of the corneal curve from scar contraction. As the corneal section is usually upward or downward, the vertical meridian is affected, becomes flattened, requires a convex cylinder, axis horizontal, to increase its refraction; we have astigmatism against the rule. This decreases within the first month or two after operation, by which time an irreducible minimum is found, the amount of which depends upon the extent, position, and manner of healing of the corneal section. In the case reported there was no actual section, merely a superficial —although extensive—incision of the cornea. The astigmatism was corresponding y slight, and, by a most peculiar chance just sufficient to neutralize a preexisting inequality of curvature.

Journal of the American Medical Association, May 9, 1902.

Diagnostic Value of Blood-pressure Determinations in the Diagnosis of Typhoid Perforations.—G. W. Crile states that the highest systolic pressure in uncomplicated cases and with normal arteries, as measured by a Riva-Rocci sphygmomanometer in 115 cases of typhoid, was 138 mm. mercury; the lowest, 74 mm.; the mean in the first week was 115; the second, 106; the third, 102; the fourth, 96; the fifth, 98. In twenty cases of acute peritonitis, recorded by the same observer with the same instrument in otherwise similar cases, the highest systolic pressure was 208 mm. mercury; the lowest, 156; the mean, 166 mm. The mean pressure of all the typhoid was 104 mm. He then states his personal experience to the effect that in five cases diagnosticated as typhoid perforation in which blood-pressure determinations were made, four were verified either by operation or autopsy. The fifth case, a typical one, was not operated on. Brief notes are given of the five cases, but results of operation are not stated.

Philadelphia Medical Journal, May 9, 1903.

Novelties in the Physical Treatment of Skin Diseases.—L. Freund says that diseases like lupus, epithelioma, favus, and sycosis, which were formerly considered almost incurable, have been healed by new radio-therapeutic methods in an incredibly short time, without pain, and without causing patients the discomfort of bandages, dressings, or long sojourn in bed, necessitated by some of the earlier methods of treatment. Dermatologists have also taken precedence in the other branches of physical therapy, as shown by the wonderful results of the water-bed, the Ehrmann cataphoresis, electrolysis, the therapeutic employment of high and low temperatures, etc. The author reports the results of some of his experiments with Röntgen rays in epithelioma and lupus. He has also discovered by experimentation, that the rays of sunlight, of large wave length (heat rays), possess no bactericidal influence. On the other hand, they do exert a favorable influence in some skin affections, as acne vulgaris, leg ulcer, etc.

Medical Education in the United States.—Frank Billings in his address delivered at the fifty-fourth annual session of the American Medical Association at New Orleans, May 5–8, reviews the subjects of the medical schools of the country, Scientific Medicine, Methods of Medical Education, Applied Medicine and Surgery, Education Preliminary to Medical Study, the University Medical College, the Outlook of medical education in the United States, Medical reciprocity between the States of the Union, and the influence of the American Medical Association. The latter, he says, should stand for, and should use its whole power to improve medical education in this country. It should take as its ideal and standard of medical education the University Medical College, with all the name implies in regard to the fundamental medical sciences, and to the clinical branches. It should use its influence to drive out of existence those proprietary medical schools which are conducted solely as money-making institutions. These measures cannot be accomplished at once, but medical science demands it, the profession demands it, the people demand it, and look to the American Medical Association as the chief influence which shall accomplish this end.

Medical News, May 9, 1903.

On the Resemblances of Malignant Endocarditis to Typhoid and Paratyphoid Infections.—Henry L. Elsner declares that, considered collectively, typhoid fever shows a surprisingly infinitesimal number of permanent heart lesions during the acute febrile period, or following. Hence, with evidences of endocarditis and the typhoid condition, we are justified in assuming that the disease is not typhoid fever. To make the diagnosis positive ante mortem, we must have the presence of physical signs referable to the heart, and these we have in the majority of our cases before death. However, the endocardium may be plastered with vegetations without giving rise to physical signs. The presence of embolic infarct is a valuable diagnostic fact.

Intraperitoneal Ligation of External Iliac for Femoral Aneurysm.—William B. Crawford reports this case. An incision three and one-half inches long was made through the skin to the external oblique. After the operation the leg was elevated and continuous heat applied, combined with Tufnell's treatment. Primary union took place. Pulsation was felt in posterior tibia artery on the third day. The foot and leg remained cold for five days, and for twelve days after were colder than the leg of the opposite side. The heat and elevation was continued constantly for seventeen days. Three weeks after operation the tumor had decreased to one-half of its original size and no pulsations could be felt. Two weeks later, examination revealed a small tumor one-third of original size, and with no pulsations. The circulation in the foot was good.

American Medicine, May 9, 1903.

Emansio Mensium.—William Himmelsbach reports two cases. One is a patient of twenty-three years who has never menstruated. There is an infantile uterus.

Aside from slight hæmoptysis at long intervals, she has been perfectly well. The second patient menstruates once or twice a year, but has gone fourteen months without losing a drop of blood in any way. She is well nourished.

An Obstetric Suggestion.—Arthur Devoe offers several considerations for the promotion of infantile life: (1) Stretching the sphincter ani gives immediate aid to respiration at a moment of partial or advanced asphyxiation, which is present in so many of the new born. (2) For this purpose the little finger may be quickly cleansed and oiled, and the operation done for the child while it is in a more or less anæsthetic condition; later on the operation becomes more objectionable as causing more suffering. (3) This routine supplies early the important knowledge as to whether a competent sphincter and anal opening exist. (4) As this stretching of the sphincter is an important aid in establishing respiration, so also it may be considered a help to peristalsis and the due establishment of intestinal function.

Münchener medicinische Wochenschrift, April 21, 1903.

Cardiac and Cardiac Apex Impulse in Aortic Insufficiency.—Giovanni Galli shows that these impulses are not always increased in aortic insufficiency, as has been generally supposed, and hence that their failure to be increased does not necessarily negative a diagnosis of aortic regurgitation. This hold true whether or not this lesion be complicated with mitral insufficiency. Two cases are reported. The first went to autopsy and showed both aortic and mitral insufficiency. Here the cardiac impulse was increased, but not the cardiac apex impulse. The second case was a pure aortic regurgitant lesion, and neither one of these impulses were increased. It is probable that the absence of these increased impulses is due to a marked decreased functional activity of the cardiac muscle, as the result of which it is not able to respond to the increased demands made upon it in the presence of these lesions.

Blood Changes after Extirpation of the Spleen.—E. Rautenberg reports the following blood changes found in a case after the extirpation of a sarcomatous spleen. These changes were persistent for five months following the operation. The number of red blood cells was distinctly increased, the increase being first noticed after the operation. The percentage of hæmoglobin was not materially altered. For four weeks after the operation the total leucocyte count was doubled (increasing from 5,000 to 10,000). It then gradually receded, remaining at 7,000. The polymorphonuclear neutrophilics were at first markedly, both relatively and absolutely, increased. Later they were reduced to 60 per cent. The lymphocytes became permanently increased, being raised from 19 per cent. to 30 per cent. The eosinophiles were also permanently augmented, being increased from 2 per cent. to 8 per cent. These changes deviate from those previously reported under similar conditions in the following respects: (1) The permanent total increase in red blood cells. (2) The absence of hæmoglobin variations. (3) The early and permanent increase in eosinophiles.

The Treatment of Laryngeal Tuberculosis.—E. Kronenberg, as the result of his experience, says that operative treatment is only especially indicated in those cases in which the general condition is good and in which it is certain, or at least extremely probable, that the tuberculous lesions can be removed in their entirety. If such a complete removal is not possible and operation is only to be considered for the suppression of troublesome complications, or for the removal of tissues which are a hindrance to other therapeutical measures. In conducting such operations laryngotomy is seldom to be advised. The proper method is operation through the mouth. None of the much-recommended escharotics have a specific influence upon this condition, and the galvano-cautery is to be preferred to any of them. After all is said and done, the most important means in the treatment of laryngeal tuberculosis are those which seek to improve the general condition and bring about a spontaneous recovery. In the present want of any specific agent against tuberculosis, climatic and dietetic measures yield the best results.

Deutsche medicinische Wochenschrift, April 9, 1903.

Phenylhydraz in Sugar Test.—E. Riegler gives a new test for glucose, which is of advantage because of its easy execution and its great sensitiveness, it demonstrating the presence of glucose when in a .05-per-cent. solution. It is performed as follows: two solutions are made, the first is composed of 1 c.c. of the fluid to be tested, 10 c.c. of water, and a small crystal of phenylhydrazin: the second is made by dissolving 1 gm. of sodium hydroxid in 10 c.c. of water. These solutions are at once mixed and shaken, when, if sugar (glucose) is present in at least the above percentage, a beautiful reddish violet color appears.

Toxic Cardiac Myolysis in Diphtheria.—Hans Eppinger says that post-diphtheritic cardiac paralysis is due to a myolysis of the heart muscle caused by the action of the diphtheria toxin. Extensive macroscopical and microscopical examination of the heart muscle of those dead from post-diphther tic cardiac paralysis has shown that the individual fibers of this muscle are separated from one another and are undergoing a peculiar degeneration. Similar appearances are not found in the cardiac muscle of those dead from other diseases, and it seems certain that they are due to a specific action of the diphtheria poison.

Deutsche medicinische Wochenschrift, April 16, 1903.

Pyramidon in the Treatment of Typhoid Fever.—Valentini has treated nineteen cases with this drug, of which twelve were severe, four moderate and three mild cases. Two were fatal, one from a complicating pneumonia and the other from cardiac weakness. By the administration of pyramidon every two hours, day and night, in typhoid fever the temperature may be rapidly reduced to the normal, while the pulse and general symptoms are favorably influenced. No unfavorable action of the drug was observed. The dose for children is .1 to .2 g. every two hours, for adults .3 to .4 g. at the same interval. This should be continued until the temperature reaches normal or below, which takes place in a few days. The interval is then gradually lengthened, provided no rise of temperature takes place, but the administration is not discontinued until the fever has permanently disappeared.

Berliner klinische Wochenschrift, April 20, 1903.

Immunity in Recovery from Pneumonia.—F. O. Huber thinks that recovery from pneumonia is due to the production of a bacterial immunity, or, in other words, to the presence of specific immune bodies. The action of such immune bodies upon the pneumococci is such that the negative chemotaxis which exists between them and the leucocytes is changed to a positive chemotaxis, which results in a marked phagocytosis. The moment that this positive chemotaxis appears corresponds with the time of the crisis. This view is supported by the recent theories of immunity as advanced by Ehrlich and Metschnikoff, and furthermore by the microscopical examination of pneumonic sputum following the crisis, which shows, so far as it has been carried out, the presence of many pneumococci within the leucocytes, while previous to the crisis such an intracellular location is not found.

Mesotan, an External Anti-rheumatic.—K. Liepelt has treated thirty cases of acute articular rheumatism with mesotan, which is a preparation of salicylic acid. The involved joints were thoroughly massaged with the substance three times daily and then covered with cotton. In every case before treatment was begun the urine was tested with ferric chloride for the presence of salicylic acid, and only those cases were chosen for treatment in which the test was negative. In all the cases treated the urine gave a weak salicylic reaction within two hours after the first application, and within four hours this reaction became pronounced. In the vast majority of the cases a rapid improvement was noted both in the local and general symptoms. Such an improvement was usually permanent, but relapses occasionally occurred. These relapses, however, speedily responded to the same treatment. In many cases morphine or the various analgesics were used in addition to the mesotan, but not a few were treated with the latter alone. A few cases showed no improvement as the result of the applications. The best results were obtained in recent cases of polyarthritis rheumatica in which, in addition to the mesotan aspirin in .5 g. doses was given three times a day. Mesotan was also tried in the various forms of muscular rheumatism with very fair result.

French Journals.

Neoplasm of the Pylorus.—P. Courmont and André describe the case of a patient who was operated on two months before for a neoplasm of the pylorus. The results was most gratifying. The patient, who had suffered from anorexia, with especial distaste for meat, has recovered his appetite. He took on flesh, and his red blood-corpuscles increased to 500,000. The chemical condition of his stomach was not abnormal. This improvement is due chiefly to the disappearance of the mechanical obstacle which caused the stenosis of the pylorus, disturbing the digestive functions and favoring gastric fermentations.—*Lyon Médical*, March 1, 1903.

Suppurative Hydatid Cyst of the Mesentery.—Vincent relates the history of a woman of sixty years who was attacked with a sudden violent pain in the right flank with peritoneal symptoms. On palpation tumor was felt in this region. It had no connection with the genital organs nor with the biliary apparatus. Lumbar

incision was practised, and transperitoneal operation performed. The wall of the cyst was sutured to the skin; part of the wall was resected. A large quantity of purulent liquid escaped. Enucleation was done. It was an hydatid cyst, which the writer believes was located in the mesentery.—*Revue de Chirurgie, April, 1903.*

The Murmur of Cardiac Asthenia.—Lamacq concludes that the brief presystolic murmur, without propagation, whose seat is at the center of the surface of cardiac projection, is a sign of fatigue of the heart. It is due at the beginning of each systole to a very brief functional insufficiency of the valves. Spasmodic mitral contraction is inadmissible. This murmur, with its special characteristics, will be recognized at the beginning of all fatigue of the heart, at the beginning of myocarditis, of pericarditis, in the majority of infectious maladies, and finally in the simple nervous conditions: emotions, fear, etc. The heart should always be auscultated, not only from the four classical points, but also in the mesocardiac zone.—*Archives Générales de Médecine*, March 3, 1903.

Favorable Action of Nitrite of Amyl on Hysterical Manifestations.—Hirtz and Loust communicate two observations in which the various hysterical phenomena have disappeared under the influence of the vasodilator action of amyl nitrite. Hirtz recalls a former paper in which he described a certain malady under the term "angiospasmodic malady." This affection appears under the form of peripheral angiospasm and precedes arteriosclerosis. It can show itself also by visceral angiospasm, and can constitute, according to the localization in the cerebrospinal system, all of the phenomena of hysteria and of hystero-neurasthenia It may end by localization in the vessels of the kidney, in albuminuria. In the stomach angiospasm may create ulcerations with hæmatemesis. On this theory of angiospasm, the favorable action of amylnitrite may be explained, since this action is vasodilator.—*La Bulletin Médical,* April 4, 1903.

Ureteral Calculus of 44 Grams; Transperitoneal Ureterolithotomy; Recovery.—C. Jacobs observed this patient. She was forty-four years of age and a multipara. She complained of painful crises, clearly localized in the left pelvis. Every crisis was followed by emissions of purulent urine. After the crisis passed, the urine again became limpid. She had suffered pain in the left pelvis since the age of ten years. The urine had never been bloody, and there had rarely been fever. Examination revealed, very high in the left pelvis, at the level of the ovary, a tumor about the size of a mandarin, non-adherent, regular, hard, slightly sensitive. Laparotomy was decided upon. The genital organs were found to be normal. The rectum was deviated toward the middle of the pelvis. Under the adnexa and covered by the peritoneum of the broad ligament, was the tumor. It was elongated, hard, regular, movable. Ureteral calculus was diagnosticated. It was removed and no other calculi were found. The kidney was normal in size. The calculus weighed 44 grams. The ureteral wound was closed by fine silk sutures. For two days the urine was bloody, but then became clear. There were no other abnormal symptoms. Three weeks after the operation the patient left the hospital in excellent condition.—*Annales de Gynécologie et d'Obstetrique*, February, 1903.

Suppurative Cholecystitis Simulating the Vomiting of Pregnancy and Terminated by the Syndrome of Cerebrospinal Meningitis.—M. P. Le Gendre reports the case of a woman aged thirty-four years. She came complaining of vomiting. She had not menstruated for two months and presented the nervous symptoms of beginning pregnancy Pathological antecedents were nil. Aside from slight anteflexion of the uterus, there was nothing abnormal about the viscera. Vomiting was not painful. It ceased after lavage of the stomach. Suggestion probably was influential in this. Again, vomiting began and was incessant. It was now spontaneous and bilious, accompanied by anorexia. The skin was jaundiced. The urine did not contain biliary pigment, but a little albumin. The temperature rose, and the pulse; there developed in a few days constipation, incontinence of urine, irregularity of the pupils, and Kœnig's sign, with numerous lymphocytes in the cerebrospinal fluid from lumbar puncture. Death came in coma six days after the beginning of fever. At autopsy a stone, large as a nut, was found at the entrance to the cystic canal, and a number of smaller stones. Besides the purulent cholecystitis, there was diffuse congestion of the nervous centers.—*Annales de Gyéncologie et d'Obstétrique,* April, 1903.

A Prerenal Abdominal Cyst, Probably Hydatid, Simulating a Voluminous Hydronephrosis of the Right Side; Extirpation; Recovery.—E. Vincent gives an account of this case. The patient was a woman of fifty-five years. The illness began like a gastrointestinal infection. Later it simulated typhoid fever. Treatment consisted in medicaments for the disinfection of the digestive tube. On the thirty-third day of the supposed fever, there occurred a crisis characterized by chills, rise in temperature, vomiting, pain in the right side, and meteorism. Examination of the abdomen revealed a hard tumor, occupying the right iliac fossa or rather the right of the abdomen. The writer was called and first thought both of hydatic cyst of the liver and of the kidney. The internal genitals were not involved. After further study the diagnosis of hydronephrosis seemed most rational. The character of the urine supported this decision. Operation, however, revealed a cyst, the contents of which were like that of an old hydatid cyst. Whatever the seat of this cyst may have been, the mesocolon, or the right border of the great omentum, nevertheless, it must be admitted that abdominal cysts lodged in front of the kidney can be mistaken for hydronephrosis, and that even careful study of the case will not always prevent error in the diagnosis.—*Lyon Médical,* March 15, 1903.

Annals of Surgery, March, 1903.

Blank Cartridge Wound Infected with Tetanus Bacilli; Prompt Excision; No Tetanus.—J. B. Bain reports the case of a girl of thirteen years who was shot in the palm of the right hand with a blank cartridge. Thorough excision was performed and healing occurred without incident. All the tissue removed at operation, together with the particles of wadding and powder grains found in the wound, were placed in a culture tube of coagulated blood serum and sent to the laboratory to be examined for tetanus bacilli. After three days in the incubator, a considerable growth of bacteria had occurred in the tube, examination of which showed numerous micrococci and bacilli. Some of the bacilli had spherical spores situated at one end, and were identical with tetanus bacilli in appearance. These were isolated in pure culture by means of anaerobic plate cultures and were found to be true tetanus bacilli. The author claims that this is the first case in which tetanus bacilli have been isolated from a wound without the occurrence of tetanus symptoms in the patient.

Sixty Cases of Actinomycosis.—R. Von Baracz gives a general description of this disease as seen in Galicia. Concerning treatment, he says that as the disease generally produces a hard wall around the softened area and this wall hinders the extension of the process, he has endeavored to produce such a wall which consists of connective tissue, by the hypodermic injection of irritants like tincture of iodine and 20-per-cent. solutions of silver nitrate. In this way he was able to cure his last nine cases without operation. He states that silver in this strength not only produces a boundary wall but also kills the fungus. As to animal inoculation, he tried it in mice, pigeons, hens, dogs, and rabbits. In mice, pigeons, and hens the fresh grains containing the fungus were introduced under the skin, but they disappeared entirely after some weeks. In dogs the grains were inoculated into the peritoneum, and they also disappeared. Only in a few rabbits the inoculation resulted in tumor-formation after six weeks. The tumors were examined microscopically, and proved to be only irritative changes, as produced by other foreign bodies. In the specimens are seen the formation of epithelioid cells surrounded by lymphoids, a view shown in encapsulation of foreign bodies.

Knife-blade Removed from Lung.—In the case of J. F. Baldwin a knife-blade was located by the *x*-ray in the lung of a man who had been stabbed three months before coming under observation. The external wound had healed, but an intrathoracic condition had developed resembling the consolidation of phthisis with distinct sepsis. The operation for the removal of the blade is thus described: About an inch of the overlying rib was resected, the incision being made in the axillary line just below the scar left by the wound of entrance. It was expected that adhesions would be found at this point, so that the pleural cavity should not be opened, and this proved to be the case. A finger was pushed into the lung substance without difficulty, and thus hemorrhage was obviated. The blade was encountered at a depth of about a finger's length, and forceps being introduced along the finger the blade was extracted. Drainage was introduced, and for several days there was considerable purulent discharge from the cavity in which the blade had been lying, this discharge being of a most offensive nature. It lasted, however, but a short time, and the patient was able to return home, with the wound healed and in greatly improved health, sixteen days after the operation. His recovery was prompt and complete.

Acute Yellow Atrophy of the Liver as a Sequela of Appendectomy.—The patient of Max Ballin was a young

brass-worker of twenty years operated upon for an acute appendicitis. The appendix, cæcum, and omentum were quite inflamed and swollen. The first three days after the operation everything looked favorable except a slight icterus. Then in the fourth night serious delirium developed, very violent spasm set in, only to be interrupted by a deep comatose condition. At the same time deep icterus existed, hemorrhagic masses were vomited, bile, albumin, casts, leucin, and tyrosin appeared in the urine, the liver dulness was much diminished. This serious condition lasted five days, to yield finally to a slow improvement. According to the author, there can be no doubt but that he had to deal with a case of acute yellow atrophy of the liver after an appendectomy under chloroform. All the typical symptoms were present, viz., icterus, delirium, spasms, coma, fever, leucin, and tyrosin in the urine. Even the small liver-dulness could be percussed. He thinks that everyone would agree with his diagnosis if he could add to the record of the case an autopsy report. Commenting on the possibility of a mistaken diagnosis, he says there are some undoubted recoveries from this disease, though the mortality is about 95 per cent. He could find only nine cases following operation. Of these a tabulated analysis is given.

The Treatment of Infantile Spastic Paralysis.—Robert Jones groups cases as follows: (1) Infantile hemiplegia; (2) Cerebral diplegia, and (3) Spastic paraplegia. In the first group the following are from the point of treatment the conditions: The upper limb is more severely affected than the lower, the lesion of the upper limb is more permanent, the power of dorsi-flexion of the hand with simultaneous extension of the fingers is lost, movements are performed without precision, spasmodically and slowly. The power of adduction of the thumb is often lost. The disabilities of the lower limb are generally: contraction of the knee, extension of the foot, internal rotation of the femur with adduction and general rigidity.

In the second group we may divide the cases into (1) those with and without mental complications; (2) those with complete and partial disability of hands; (3) the same condition in the feet, and (4) cases complicated by athetotic movements. The third group comprises those cases characterized by the confinement of the spasms to the limbs, Little's disease or spastic paraplegia. The pathological conditions in all three groups are the same in kind, and the symptoms are due to retardation of growth resulting generally from embolism or thrombosis, together with changes in the cord. The general principles of treatment which cannot be detailed here consist in keeping the various extremities in proper position. At times tenotomy is necessary. Tendon transplantation is in other cases more serviceable. Succeeding operative measures are various movements which must be left to the ingenuity of the surgeon. They should be practised slowly and without excitement; should be made interesting to the child; should consist mainly of those opposed to the direction of the deformity, and those presenting the greatest difficulty should be the ones chiefly practised.

Archives of Pediatrics, March, 1903.

Amygdalitis Followed by Appendicitis, Nephritis, and Endocarditis.—E. W. Mitchell reports the case of a child who suffered from the above-named affections in rapid sequence. Death appeared to be imminent, but an infusion of normal salt-solution after not very free bleeding was followed by recovery, which has become complete. The rapid sequence of nephritis, endocarditis, and pyelitis, all plainly of septic origin, could hardly be otherwise explained than by a generalized infection. Whether this general infection was from absorption from the appendix, or whether the infections of the appendix and of the blood were both from some common source, as the tonsils, are questions which we are not, in the present state of knowledge, able to answer positively. In this case the probabilities are largely in favor of the latter view.

Clinical Observations on Circulatory Failure in Acute Infectious Disease.—Augustus Caillé says that saline infusion and hypodermoclysis may be relied upon to stimulate promptly and safely in circulatory failure. The action of both is more prompt than that of drugs and apparently increases the effect of drugs given hypodermically. In the treatment of septic cases, infusion should be reserved for those in which there has been a decided loss of body fluids, as in severe choleraic or typhoid diarrhœa. Enteroclysis properly carried out with Kemp's flexible double current catheter (fifteen minutes' flow of water at 110°) appears to be an absolutely safe method of combating circulatory failure in septic conditions. It stimulates kidney secretion and thereby promotes the elimination of poisons; it induces intestinal absorption of water whenever the body craves water. It has a certain effect in reducing temperature. It appears to be indicated as a routine treatment in all septic conditions, even if the kidneys be not involved. In severe anæmia enteroclysis is followed by an actual improvement of the blood mixture independent of the administration of drugs.

The American Journal of the Medical Sciences, March, 1903.

Aphasia in Acute Disease, with Report of a Case Complicating Smallpox.—Charles J. Aldrich reports the case of a boy of seven years who had an attack of smallpox. There was at first no rash upon the body, nor did thorough physical examination reveal other signs of disease. The trouble was thought to be gastrointestinal. The next day the child went into violent convulsions for about an hour. After they subsided the child was stuporous. He paid no attention to anything whatever. On the morning of the fourth day the characteristic eruption of smallpox appeared, the temperature fell, and the child became conscious. But he was completely aphasic, and for over three months he did not speak a single word. In the course of six months he was speaking fluently again, but he had to be retaught speech. His aphasia could not be properly classified, but it certainly, was not motor.

Upon the Association of Epilepsy and Heart Disease.—T. L. Chadbourne concludes that in none of his cases has he been able to show satisfactorily that there was any direct connection between the vascular lesions and the epilepsy. There was, as a rule, a clear history of acute infectious disease, followed by heart lesions, several times with symptoms on the part of the heart before the onset of the attacks, and, finally, by epileptic seizures. The writer thinks it more than doubtful if the occurrence of heart lesions in epilepsy is anything more than a coincidence. At least the verdict of "not proven" must hold at present. There is no satisfactory direct proof that cardiovascular disease is a cause of epilepsy; therefore, the demonstration of their connection must rest upon methods of exclusion: Stintzing's postulates are: "(1) The heart disease must precede the epilepsy. (2) Other causes must be excluded. (3) The coincidence must be frequent. (4) Improvement in the heart disease must improve the epilepsy." The coincidence of the two diseases is not very frequent. Upon the whole these postulates are not fulfilled.

The Clinical Value of Blood-pressure Determined as a Guide to Stimulation in Sick Children.—Henry Wireman Cook describes the principle of the instrument used in these observations as a continuous system of air, so arranged that equal pressure can be transmitted from a rubber belt held by the operator to a band placed around an arm or leg of the patient, and at the same time connecting with a mercury manometer which registers the pressure in millimeters. In this way the operator can, by a valvular arrangement in the bulb, gradually increase the pressure throughout the air system, raising simultaneously the mercury column and constricting the arm or leg. Keeping a finger on the pulse of the patient's limb, on which the constricting band is placed and distal to the band, the operator can read off on the manometer scale the height of the mercury column at the moment the pulse is lost. Just at that moment such a pressure is being applied to the artery under the band that approximates the systolic pressure in the arterial system. The instrument is very easy of application. The cases stimulated included marasmus, pneumonia, rachitis, pertussis, tuberculosis, and summer diarrhœa. The writer concludes by insisting that it is not meant that blood-pressure observations, in any form of treatment, should take the place of other signs and symptoms, but merely that an accurate estimation of arterial tension furnishes an additional and valuable aid to stimulant therapy. A certain blood-pressure reading is no absolute indication of a patient's condition, but the writer believes that variations in blood-pressure numerically determined constitute the best single guide to the intelligent administration of stimulants.

Indications for Operation in the Hemorrhages of Gastric Ulcer.—Albert Mathien and J.-Ch. Roux consider first acute hemorrhage that does not yield to medical treatment. In these cases operation is justified only when the surgeon can directly arrest the hemorrhage by excision of the ulcer ligature of the artery or any proceeding whatever of hæmostasis. In acute gastric hemorrhage, operation is rarely indicated. As to chronic hemorrhages less abundant but continuous, operative intervention gives in this variety the best results. Gastroenterostomy is the operation indicated in this form, as well as in the repeated acute hemorrhages, when there is an ulcer of the pylorus causing stenosis.—*Gazette des Hôpitaux, Civils et Militaires*, April 23, 1903.

Society Reports.

AMERICAN MEDICAL ASSOCIATION.

Fifty-fourth Annual Meeting, Held at New Orleans, La., on May 5–9, 1903.

GENERAL SESSION, THIRD DAY, THURSDAY, MAY 7.

Oration on State Medicine.—Dr. William H. Welch of Baltimore delivered this oration. He said that fourteen years ago he had had the honor of delivering the oration on State Medicine. Since that time we had not come into possession of new methods having the novel and revolutionary character of those initiated by Koch. However, many new vistas of knowledge had been disclosed by the investigations on antitoxin and immunity; the study of the complex toxins, including snake venom; the discovery of the specific germ of chancroid, of influenza, of bubonic plague and of acute dysentery; the establishment of the micrococcus intracellularis as the infectious agent in cerebrospinal meningitis; the recognition of blastomycetic dermatitis, the demonstration of the agency of the mosquito in the transmission of malaria and of yellow fever, and the recent significant addition to our knowledge of the specific causation of hay fever and of smallpox. To this incomplete list could be added a host of minor discoveries. Surely this record of scientific discovery and of practical achievement during the recent years gave every encouragement to expect continued and increasing advances in knowledge along similar and new lines in the near future!

No Conflict between Epidemiology and Bacteriology.—Any disease caused by a pathogenic organism was now considered to be an infectious disease without regard to the mode of propagation of the disease. It was a narrow conception to suppose that the knowledge of the properties of infectious agents was acquired only in the laboratory. Medical bacteriology should be the handmaid of epidemiology and of clinical medicine, and he would suggest that we did not apply, to the extent which we should, knowledge derived from these sources. It was certain there could be no real contradiction between the facts of epidemiology and clinical medicine, on the one hand, and those of bacteriology on the other, and any such apparent contradiction was the result either of our ignorance or of a one-sided consideration of the subject. The science of epidemiology was a much older and broader one than that of bacteriology. Half a dozen years ago the belief generally prevailed that the germ of malaria was directly transported on the air, and that a malarial patient was incapable of infecting a locality. Most of us now saw that the discovery of the agency of the mosquito in the development and transportation of the malarial parasite afforded a complete explanation of the previously well-established fact relating to the origin of this disease, and had disclosed wholly new points of view of far-reaching scientific and practical significance.

Ultra-microscopic Organisms.—While the presumed parasite of rabies had never been demonstrated, we had considerable information regarding the sphere and nature of its action. On this information was based the very successful preventive treatment of hydrophobia devised by the brilliant Pasteur. We had an abiding faith that all infectious diseases were caused by microorganisms; hence, every new discovery of this kind was to be welcomed, especially one of such significance as that recently announced by Dr. W. T. Councilman. As this was the first complete demonstration of the specific germ of one of the contagious exanthematous fevers it was to be hoped that it would lead to the disclosure of the secrets of other members of this group. The evidence pointing to the possible existence of germs so small as to be entirely beyond the reach of the most powerful microscopes was certainly somewhat discouraging. It was based on the fact that certain viruses could pass through the pores of a Chamberland porcelain filter. Reasoning from analogy, there was good ground for believing that the virus thus passing through was a living organism; any other conclusion regarding the nature of this class of infectious viruses would necessitate almost revolutionary changes in our conception of certain infectious diseases, but it was only fair to recognize the importance and the obscurity of the problems raised by the discovery of these viruses, and not to forget the danger of analogical reasoning in biology.

Serumtherapy.—During the past decade there had been no more fascinating studies than those with regard to immunity. In late years these studies had tended more and more into paths difficult for those not directly concerned to follow, and which seem for the present to lie rather remote from the paths of practical and curative medicine. The high hopes that the discovery of the diphtheria and the tetanus antitoxic serums would soon be followed by the discovery of similar curative serums for other infectious diseases, had been disappointed. The fact was not yet sufficiently familiar to practitioners that the various other healing serums, such as the antistreptococcus, the antipneumonia, antityphoid and antiplague serums, did not belong to the class of antitoxic serums, and that they depended for their action upon principles which at present interposed serious obstacles to their successful employment in the treatment of human diseases. The prophylactic and curative value of diphtheria antitoxin was now so firmly established that the main question relating to it in State medicine had to do with effective methods of controlling its manufacture and sale. The antitoxic treatment of tetanus had not yielded results at all comparable with those obtained by the specific treatment of diphtheria, and the reason was not the inferior quality of the tetanus antitoxin, but our inability to recognize the disease and so begin the treatment before a fatal quantity of toxin had entered into combination with the constituents of the nerve cells. There was, however, a field of application for this serum not yet sufficiently appreciated, *i. e.* its prophylactic use. It was a far easier matter to protect against the outbreak of a disease by the preliminary administration of its specific serum than to cure the disease after symptoms had appeared. There was much evidence from veterinary practice, and some from human medicine, in favor of this prophylactic use of tetanus antitoxin.

Rabies.—Of the application of the principle of active immunization to preventive medicine there were several examples, but the two most striking and important ones were smallpox and rabies. We knew that in vaccination and revaccination we had an effectual weapon for the extermination of smallpox, and that no more baseless and pernicious error had been promulgated than that of the antivaccinationists. The speaker said that he had long held that rabies, while not a frequent disease, was more common in this country than generally supposed, and that it merited serious consideration. It was curious that there should have prevailed so much skepticism regarding the occurrence, and even the very existence of this disease. This attitude was largely attributable to a failure to remember that rabies was primarily and largely a disease of the lower animals, and was only exceptionally transmitted by them to man. Dr. Salmon had shown, by convincing figures, that the disease was not particularly uncommon in dogs, horses, cattle, and cats. The disease itself was as definite as typhoid fever, and as susceptible of positive diagnosis by experimental test. The danger to man cou'd be reduced to a minimum in most localities by a proper enforcement of dog-muzzling laws. With regard to the efficacy of the Pasteur treatment of rabies, he felt there could be no doubt in the mind of any one who had carefully studied the records of the Pasteur Institute in France. Thus, among the untreated cases the mortality from rabies was 80 per cent., whereas among those treated

sufficiently early by the preventive Pasteur method the mortality was less than 1 per cent.

Typhoid Fever.—Typhoid fever must still maintain a prominent position in any consideration of State medicine, but only two or three points would be emphasized at this time. The speaker then raised the question as to whether our prophylactic measures took into account the fact that the original infectious agent was always a typhoid-fever patient. In crowded tenements and under insanitary conditions, this direct mode of transmission from one patient to anotherprobably occurred more frequently than would appear from the statements made in the textbooks. Ordinarily, however, the route before reaching the second person was so long and so circuitous that it could not be readily followed. If we could secure the total destruction, or prevent the escape of the living typhoid bacilli derived from this source, there was good reason for believing that typhoid fever would disappear. Certainly much more could be done in this direction than was done. The efficacy of proper sanitary measures for the disposal of sewage and the protection of the drinking water from contamination with typhoid fever were so generally recognized that town and municipal authorities, who were indifferent to such measures, took upon themselves a grave responsibility. It was remarkable that this country should have lagged so far behind Germany, England, and France in the application of sand filtration to the purification of the drinking water of our cities. We should not forget that typhoid fever was a disease of the rural districts rather than of cities.

The Acute Dysenteries.—The etiology of acute dysentery had many points in common with that of typhoid fever. We now know that the acute dysenteries in this country were produced in large part by the dysentery bacillus discovered by Shiga in Japan. It was highly probable that this bacillus had much the same haunts and distribution in nature, as the typhoid bacillus. Of far-reaching significance was the finding by Duval and Bassett of Baltimore of the dysentery bacillus in a series of cases of the summer diarrhœa of infants. It was now recognized that these two main types were not known to correspond to anatomically or clinically distinct forms of dysentery, or, indeed, to differ essentially from each other in their action. The coming summer would probably see a thorough trial of the anti-dysenteric serum prepared by Dr. S. Flexner. That these discoveries would prove to be of much importance to preventive medicine could scarcely be doubted.

Tuberculosis.—The most stupendous task ever attempted by modern preventive medicine was the crusade against tuberculosis inaugurated by certain dauntless spirits in the medical profession, and it required, and should receive, the hearty coöperation of the people generally, as well as of the profession. The sanitary problems of tuberculosis related partly to the welfare of the consumptive patient, and partly to the protection of the community from infection. Among the most important measures was the establishment of sanatoria for the treatment of early cases and of hospitals for advanced and hopeless cases. Essential as these institutions were, the main emphasis should be laid not upon their value in the prophylaxis of this disease, but upon their importance to the welfare of the patient. There were various sources of infection, but all of them sunk into insignificance in comparison to the importance of the dried and pulverized sputa of the tuberculous patient. However, the danger from "drop infection" should be remembered, particularly by physicians, nurses, and attendants. The danger from the milk of tuberculous cows he believed to be a real one, though not so great as was formerly believed. Among the various public sanitary measures a prominent place had very properly been given to the enactment of anti-spitting ordinances education of the public was another important part of the campaign in which the coöperation of charity organization societies and other lay organizations could be of inestimable assistance. A system of registration of tuberculous cases he considered to be essential to the success of this antituberculous crusade, and the success of this measure in New York City should disarm all adverse criticism.

Malaria and Yellow Fever.—Among the discoveries of recent years, none surpass in interest those concerning the rôle of insects in the transmission of pathogenic organisms. A very important contribution to our knowledge of this subject had been made by a commission composed of Reed, Vaughn, and Shakespeare. The labors of this commission in the inspection of camp life during the late Spanish-American war were most painstaking and thorough, and led to important results. Nanson's demonstration of the agency of the mosquito in the transmission of pityriasis opened the way for later studies along this line but the subsequent researches regarding malaria and yellow fever really originated in the investigation of Theobald Smith into the nature of Texas fever. It had been practically proved that primary malarial infection was due solely to the bite of infected mosquitos of the genus anopheles. It should be borne in mind that a person once infected might harbor malarial parasites in a latent condition in his body for months or even years, and might suffer from relapses by going to a non-malarial region. We were justified in asserting that the extermination of this disease from a locality was possible, however difficult of accomplishment in most cases this must be. The main points in the prophylaxis of malaria were: (1) A systematic search, by means of blood examinations, for malarial parasites in the inhabitants of a certain locality, both the well and the sick; (2) the protection of persons against the bites of infected mosquitos by the use of mosquito screens; (3) the extermination of the mosquitos by drainage of pools and other methods.

Tribute to the Late Major Reed.—Referring to the work on yellow fever, Dr. Welch said that Major Reed be looked upon as one of the greatest benefactors of his race, and one of the greatest adornments of American medicine. The results accomplished in determining the mode of spread of yellow fever through the agency of the mosquito had been proved to be of the utmost benefit to mankind. It had resulted in the extermination of this disease from Cuba, and the number of lives saved and to be saved outnumbered vastly those lost in the war. The name of Major Reed should ever be held in honorable memory by the people of this country.

GENERAL SESSION, FOURTH DAY, FRIDAY, MAY 8.

Report of the House of Delegates.—At the last general meeting of the association, according to order, a summary of the proceedings of the house of delegates was given

Report of the Board of Trustees.—Dr. T. J. Happel of Tennessee, Chairman, presented this report. This showed that the total membership of the association was 12,553, and that during 1902, there had been a gain in New York State of 317 members. A comparison with the report presented at the Denver meeting, five years ago, showed that the present membership was almost twice as great as at that time.

With regard to the question of a national incorporation, about which there had been so much agitation recently, the report stated that it had been given earnest and exhaustive consideration, both by the trustees and by their legal counsel, and a lengthy opinion from the latter was submitted. Briefly, the opinion states: (1) That the constitution and by-laws adopted at St. Paul had no binding force at all until they were readopted in Illinois, but the action had at Saratoga, and readopted in Chicago, was binding, and the charter and by-laws under which the association was now acting were legal, since they were readopted in Illinois, where the association was incorporated; (2) that a national incorporation was an impossi-

bility, because Congress had no power to create a national incorporation for the purposes mentioned in the charter of the association and to give such association the power to do business in any of the States or Territories of the Union, and (3) that while Congress had the power to create such a corporation, and, in fact, had done so in the case of the American Social Science Association, it only allowed of the transaction of business in the District of Columbia, so that the only difference over the present situation would be that the business done at our annual meetings would have to be ratified in the District of Columbia instead of, as at present, in the State of Illinois —manifestly no advantage. So much general interest was taken in this subject, that the portion of the trustees' report dealing with the question of national incorporation was referred to a special committee for further consideration.

Report of the Committee on Prophylaxis of Venereal Diseases.—The committee, consisting of Henry D. Holton, Chairman; Ludwig Weiss, George M. Kober, W. H. Sanders, L. Duncan Bulkley, and Louis E. Schmidt, presented its report. Emphasis was laid upon the fact that it had confined its studies only to the question of whether the enormous spread of venereal diseases could be inhibited by a systematized action emanating from the medical profession, and that the conclusion had been reached that, no matter what the point of view, the profession would have the decisive word in the premises. The committee had felt keenly the utter want of statistics from boards of health. Twenty States and twenty large cities had replied to a circular letter of inquiry, and there evinced a growing interest in the subject and a readiness for coöperation. The report then quoted statistics from various sources, showing convincingly that venereal diseases stood next to tuberculosis and alcoholism in importance, 15 to 20 per cent. of adult males being infected with syphilis and about 80 per cent. having had gonorrhœa. Moreover, 80 per cent. of all deaths from pelvic disease in women were due to gonorrhœa; 20 per cent. of all blindness was due to gonorrhœal infection of the newborn; 50 per cent. of all involuntary childless marriages were caused by gonorrhœa of the female generative organs, and the original source of the gonorrhœal infection was traceable in about 70 per cent. of the cases to prostitutes. According to recent government statistics, it had been computed that in Berlin, among men marrying after their thirtieth year, every one had suffered from gonorrhœa twice, and every fifth man had been infected with syphilis. It was a most significant fact that, in the northern countries of Europe in which generous hospital facilities had been placed within the reach of all venereal patients, these diseases had markedly diminished. London, in order to cope successfully with venereal diseases, should have for its 6,300,000 inhabitants about 2,500 beds for such patients, and Greater New York, with its 3,500,000 people, should have, at least, 1,500 beds. In conclusion, the committee recommended that a national congress for the prophylaxis of venereal diseases should be convened, under the auspices of the American Medical Association, and that the delegates from each State, or special committees for this purpose, be authorized to organize such a movement in their respective State and district societies and send delegates to such congress. This recommendation was favorably received and the committee was continued.

Adoption of a New Code of Ethics.—The most important business transacted by the house of delegates was the adoption of a new and revised code of ethics, although the word "code" has been eliminated in these "principles of ethics." When the committee on revision, consisting of Drs. E. Eliot Harris, Joseph D. Bryant, William H. Welch, T. J. Happel, and J. N. McCormack, first submitted its report, the matter was referred to an enlarged committee representing all the States.

The following is the full text of the report:

"Principles of Medical Ethics of the American Medical Association."

The American Medical Association promulgates as a suggestive and advisory document the following:

CHAPTER I.—THE DUTIES OF PHYSICIANS TO THEIR PATIENTS.

"Section 1. Physicians should not only be ever ready to obey the calls of the sick and the injured, but should be mindful of the high character of their mission and of the responsibilities they must incur in the discharge of momentous duties. In their ministrations they should never forget that the comfort, the health, and the lives of those entrusted to their care depend on skill, attention, and fidelity. In deportment they should unite tenderness, cheerfulness, and firmness, and thus inspire all sufferers with gratitude, respect, and confidence. These observances are the more sacred because, generally, the only tribunal to adjudge penalties for unkindness, carelessness, or neglect is their own conscience.

"Sec. 2. Every patient committed to the charge of a physician should be treated with attention and humanity, and reasonable indulgence should be granted to the caprices of the sick. Secrecy and delicacy should be strictly observed; and the familiar and confidential intercourse to which physicians are admitted, in their professional visits, should be guarded with the most scrupulous fidelity and honor.

"Sec. 3. The obligation of secrecy extends beyond the period of professioual services; none of the privacies of individual or domestic life, no infirmity of disposition or flaw of character observed during medical attendance should ever be divulged by physicians. The force of the obligation of secrecy is so great that physicians have been protected in its observance by courts of justice.

"Sec. 4. Frequent visits to the sick are often requisite, since they enable the physician to arrive at a more perfect knowledge of the disease, and to meet promptly every change which may occur. Unnecessary visits are to be avoided, as they give undue anxiety to the patient; but to secure the patient against irritating suspense and disappointment the regular and periodical visits of the physician should be made as nearly as possible at the hour when they may be reasonably expected by the patient.

"Sec. 5. Ordinarily, the physician should not be forward to make gloomy prognostications, but should not fail, on proper occasions, to give timely notice of dangerous manifestations to the friends of the patient; and even to the patient, if absolutely necessary. This notice, however, is at times so peculiarly alarming when given by the physician, that its deliverance may often be preferably assigned to another person of good judgment.

"Sec. 6. The physician should be a minister of hope and comfort to the sick, since life may be lengthened or shortened not only by the acts but by the words or manner of the physician, whose solemn duty is to avoid all utterances and actions having a tendency to discourage and depress the patient.

"Sec. 7. The medical attendant ought not to abandon a patient because deemed incurable; for, continued attention may be highly useful to the sufferer, and comforting to the relatives, even in the last period of the fatal malady, by alleviating pain and by soothing mental anguish.

"Sec. 8. The opportunity which a physician has of promoting and strengthening the good resolutions of patients suffering under the consequences of evil conduct ought never to be neglected. Good counsels, or even remonstrances, will give satisfaction, not offense, if they be tactfully proffered and evince a genuine love of virtue, accompanied by a sincere interest in the welfare of the person to whom they are addressed."

CHAPTER II.—THE DUTIES OF PHYSICIANS TO EACH OTHER AND TO THE PROFESSION AT LARGE.

"Article 1. Duties for the support of professional character.

"Section 1. Every one on entering the profession and

thereby becoming entitled to full professional fellowship, incurs an obligation to uphold its dignity and honor, to exalt its standing and to extend the bounds of its usefulness It is inconsistent with the principles of medical science and it is incompatible with honorable standing in the profession for physicians to designate their practice as based upon an exclusive dogma or a sectarian system of medicine.

"Sec. 2. The physician should observe strictly such laws as are instituted for the government of the members of the profession; should honor the fraternity as a body; should endeavor to promote the science and art of medicine and should entertain a due respect for those seniors who, by their labors, have contributed to its advancement.

"Sec. 3. It is the duty of every physician to identify himself with the organized community in which he resides. Where local or county medical societies do not exist, physicians, recognized as such by law and known to each other to possess good moral and professional character, should assemble in convention and effect an organization, and thereafter any physician, recognized as such by law, residing within the county and possessing a good personal and professional character, whatever may be his individual views on any question connected with the science of medicine, ought, on application, to be considered eligible to membership.

"All county medical societies thus organized ought to place themselves in affiliation with their respective State association, and the State associations, in turn, with the American Medical Association.

"Sec. 4. Physicians should be active in their support of their respective county societies, which constitute the chief element of strength in the organization of the profession. The county societies should be utilized for the cultivation of fellowship, for the exchange of professional experiences, for advancement of medical knowledge, by means of papers, essays and addresses, and by bringing within their midst, when practicable, laboratory demonstrations of the latest developments of scientific methods. They should enact and enforce resolutions and ordinances touching all ethical questions of local importance, and each county society should discipline its own members, always, of course, subject to appeal to its respective State association. County societies should, furthermore, secure concert of action and should coöperate with their respective State associations on all matters of pending legislation touching the interests of the profession and of the public and common interests of both.

"Sec. 5. There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical; and to attain such eminence is a duty every physician owes alike to the profession and to patients. It is due to the patients, as without it their respect and confidence can not be commanded; and to the profession because no scientific attainments can compensate for the want of correct moral principles.

"Sec. 6. It is incumbent on physicians to be temperate in all things, for the practice of medicine requires the unremitting exercise of a clear and vigorous understanding; and in emergencies—for which no physician should be unprepared—a steady hand, an acute eye and an unclouded mind are essential to the welfare, and even to the life, of a human being.

"Sec. 7. It is incompatible with honorable standing in the profession to resort to public advertisements or private cards inviting the attention of persons affected with particular diseases; to promise radical cures; to publish cases or operations in the daily prints, or to suffer such publications to be made; to invite laymen (other than relatives who may desire to be at hand) to be present at operations; to boast of cures and remedies; to adduce certificates of skill and success; or to employ any of the other methods of charlatans.

"Sec. 8. It is equally derogatory to professional character for physicians to hold patents for any surgical instruments or medicines; or to dispense, or promote the use of, secret medicines, for if such nostrums are of real efficacy, any concealment regarding them is inconsistent with beneficence and professional liberality, and if mystery alone give them public notoriety, such craft implies either disgraceful ignorance or fraudulent avarice."

ARTICLE II.—PROFESSIONAL SERVICES OF PHYSICIANS TO EACH OTHER.

"Section 1. Physicians should not, as a general rule, undertake the treatment of themselves, nor of members of their family for obvious reasons. In such circumstances they are peculiarly dependent on each other; therefore, kind offices and professional aid should always be cheerfully and gratuitously afforded. These visits ought not, however, to be obtrusively made, as they may give rise to embarrassment or interfere with that free choice on which such confidence depends.

"Sec. 2. All practising physicians and their immediate family dependents are entitled to the gratuitous services of any one or more of the physicians residing near them.

"Sec. 3. When a physician is summoned, from a distance, to the bedside of a colleague in easy financial circumstances, a compensation, proportionate to traveling expenses and to the pecuniary loss entailed by absence from the accustomed field of professional labor, should be made by the patient or relatives.

"Sec. 4. When more than one physician is attending another, one of the number should take charge of the case, otherwise the concert of thought and action so essential to wise treatment can not be assured.

"Sec. 5. The affairs of life, the pursuit of health and the various accidents and contingencies to which a physician is peculiarly exposed sometimes require the temporary withdrawal of this physician from daily professional labor and the appointment of a colleague to act for a specified time. The colleague's compliance is an act of courtesy which should always be performed with the utmost consideration for the interest and character of the family physician."

ARTICLE III.—THE DUTIES OF PHYSICIANS IN REGARD TO CONSULTATIONS.

"Section 1. The broadest dictates of humanity should be obeyed by physicians whenever and wherever their services are needed to meet the emergencies of disease or accident.

"Sec. 2. Consultations should be promoted in difficult cases, as they contribute to confidence and more enlarged views of practice.

"Sec. 3. The utmost punctuality should be observed in the visits of physicians when they are to hold consultations, and this is generally practicable, for society has been so considerate as to allow the plea of a professional engagement to take precedence over all others.

"Sec. 4. As professional engagements may sometimes cause delay in attendance, the physician who first arrives should wait for a reasonable time, after which the consultation should be considered as postponed to a new appointment.

"Sec. 5. In consultation no insincerity, rivalry, or envy should be indulged; candor, probity, and all due respect should be observed toward the physician in charge of the case.

"Sec. 6. No statement or discussion of the case should take place before the patient or friends, except in the presence of all the physicians attending, or by their common consent; and no opinions or prognostications should be delivered which are not the result of previous deliberation and concurrence.

"Sec. 7. No decision should restrain the attending physician from making such subsequent variations in the mode of treatment as any unexpected change in the character of the case may demand. But at the next consultation reasons for the variations should be stated. The same

privilege, with its obligation, belongs to the consultant when sent for in an emergency during the absence of the family physician.

"Sec. 8. The attending physician, at any time, may prescribe for the patient; not so the consultant, when alone, except in a case of emergency or when called from a considerable distance. In the first instance the consultant should do what is needed, and in the second should do no more than make an examination of the patient and leave a written opinion, under seal, to be delivered to the attending physician.

"Sec. 9. All discussions in consultation should be held as confidential. Neither by words nor by manner should any of the participants in a consultation assert or intimate that any part of the treatment pursued did not receive his assent.

"Sec. 10. It may happen that two physicians can not agree in their views of the nature of a case and of the treatment to be pursued. In the event of such disagreement, a third physician should, if practicable, be called in. None but the rarest and most exceptional circumstances would justify the consultant in taking charge of the case. He should not do so merely upon the solicitation of the patient or friends.

"Sec. 11. A physician who is called in consultation should observe the most honorable and scrupulous regard for the character and standing of the attending physician, whose conduct of the case should be justified, as far as can be, consistently with a conscientious regard for truth, and no hint or insinuation should be thrown out which could impair the confidence reposed in the attending physician."

ARTICLE IV.—DUTIES OF PHYSICIANS IN CASES OF INTERFERENCE.

"Section 1. Medicine being a liberal profession, those admitted to its ranks should found their expectations of practice especially on the character and the extent of their medical education.

"Sec. 2. The physician in his intercourse with a patient under the care of another physician, should observe the strictest caution and reserve; should give no disingenuous hints relative to the nature and treatment of the patient's disorder, nor should the course of conduct of the physician directly or indirectly tend to diminish the trust reposed in the attending physician.

"Sec. 3. The same circumspection should be observed when, from motives of business or friendship, a physician is prompted to visit a person who is under the direction of another physician. Indeed, such visits should be avoided, except under peculiar circumstances, and when they are made, no inquiries should be instituted relative to the nature of the disease, or the remedies employed, but the topics of conversation should be as foreign to the case as circumstances will admit.

"Sec. 4. A physician ought not to take charge of, or prescribe for, a patient who has recently been under the care of another physician in the same illness, except in case of a sudden emergency, or in consultation with the physician previously in attendance, or when that physician has relinquished the case or has been dismissed in due form.

"Sec. 5. The physician acting in conformity with the preceding section should not make damaging insinuations regarding the practice previously adopted, and, indeed, should justify it if consistent with truth and probity; for it often happens that patients become dissatisfied when they are not immediately relieved, and as many diseases are naturally protracted, the seeming want of success, in the first stage of treatment, affords no evidence of a lack of professional knowledge or skill.

"Sec. 6. When a physician is called to an urgent case, because the family attendant is not at hand, unless assistance in consultation is desired, the former should resign the care of the patient immediately on the arrival of the family physician.

"Sec. 7. It often happens, in cases of sudden illness, and of accidents and injuries, owing to the alarm and anxiety of friends, that several physicians are simultaneously summoned. Under these circumstances, courtesy should assign the patient to the first who arrives and who, if necessary, may invoke the aid of some of those present. In such a case, however, the acting physician should request the family physician to be called, and should withdraw unless requested to continue in attendance.

"Sec. 8. Whenever a physician is called to the patient of another physician during the enforced absence of that physician the case should be relinquished on the return of the latter.

"Sec. 9. A physician, while visiting a sick person in the country, may be asked to see another physician's patient because of a sudden aggravation of the disease. On such an occasion the immediate needs of the patient should be attended to and the case relinquished on the arrival of the attending physician.

"Sec. 10. When a physician who has been engaged to attend an obstetric case is absent and another is sent for, delivery being accomplished during the vicarious attendance, the acting physician is entitled to the professional fee, but must resign the patient on the arrival of the physician first engaged."

ARTICLE V—DIFFERENCES BETWEEN PHYSICIANS.

"Section 1. Diversity of opinion and opposition of interest may, in the medical as in other professions, sometimes occasion controversy and even contention. Whenever such unfortunate cases occur and can not be immediately adjusted, they should be referred to the arbitration of a sufficient number of impartial physicians.

"Sec. 2. A peculiar reserve must be maintained by physicians toward the public in regard to some professional questions, and as there exist many points in medical ethics and etiquette through which the feelings of physicians may be painfully assailed in their intercourse, and which can not be understood or appreciated by general society, neither the subject matter of their differences nor the adjudication of the arbitrators should be made public."

ARTICLE VI—COMPENSATION.

"Section 1. By the members of no professions are eleemosynary services more liberally dispensed than by the medical, but justice requires that some limits should be placed to their performance.

"Poverty, mutual professional obligations and certain of the public duties named in sections 1 and 2 of chapter III should always be recognized as presenting valid claims for gratuitous services; but neither institutions endowed by the public nor by the rich, nor by societies for mutual benefit, for life insurance, or for analogous purposes, nor any profession or occupation, can be admitted to possess such privilege.

"Sec. 2. It cannot be justly expected of physicians to furnish certificates of inability to serve on juries, or to perform militia duty; or to testify to the state of health of persons wishing to insure their lives, obtain pensions, or the like, without due compensation. But to persons in indigent circumstances such services should always be cheerfully and freely accorded.

"Sec. 3. Some general rules should be adopted by the physicians in every town or district relative to the minimum pecuniary acknowledgment from their patients; and it should be deemed a point of honor to adhere to these rules with as much uniformity as varying circumstances will admit.

"Sec. 4. It is the duty of physicians to recognize and by legitimate patronage to promote the profession of pharmacy, upon the skill and proficiency of which depends the reliability and elegance of remedies, but any pharmacist who, although educated in his own profession is not a qualified physician, and who assumes to prescribe for the sick, ought not to receive such countenance and support. Any druggist or pharmacist who dispenses

deteriorated or sophisticated drugs, or who substitutes one remedy for another designated in a prescription, ought thereby to forfeit the recognition and influence of physicians.

CHAPTER III—THE DUTIES OF THE PROFESSION TO THE PUBLIC.

"Section 1. As good citizens it is the duty of physicians to be very vigilant for the welfare of the community, and to bear their part in sustaining its laws, institutions, and burdens; especially should they be ready to coöperate with the proper authorities in the administration and the observance of sanitary laws and regulations, and they should also be ever ready to give counsel to the public in relation to subjects especially appertaining to their profession, as on questions of sanitary police, public hygiene and legal medicine.

"Sec. 2. It is the province of physicians to enlighten the public in regard to quarantine regulations; to the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions; in regard to measures for the prevention of epidemic and contagious diseases; and when pestilence prevails, it is their duty to face the danger and to continue their labors for the alleviation of the suffering people, even at the risk of their own lives.

"Sec. 3. Physicians, when called on by legally constituted authorities, should always be ready to enlighten inquests and courts of justice on subjects strictly medical, such as involve questions relating to sanity, legitimacy, murder by poison or other violent means, and various other subjects embraced in the science of medical jurisprudence. It is but just, however, for them to expect due compensation for their services.

"Sec. 4. It is the duty of physicians, who are frequent witnesses of the great wrongs committed by charlatans, and of the injury to health and even destruction of life caused by the use of their treatment, to enlighten the public on these subjects, and to make known the injuries sustained by the unwary from the devices and pretensions of artful impostors.

"Sec. 5. Physicians ought to use all the influence which they possess to discourage pharmacists from vending the secret or other medicines of charlatans, or from being in any way engaged in their manufacture."

Dr. Harris, before reading the proposed enunciation of principles of ethics, read the following special report in explanation of the action of the general committee on code:

"*To the President and Members of the House of Delegates*

"Your committee has given extended and careful thought to the proposed revision of the code of medical ethics referred to it for consideration. As you will note on caption of report, the word 'code' has been eliminated, and the expression 'The principles of medical ethics of the American Medical Association' adopted as adequately descriptive. In reference to this change it is proper to say that such action on its part is based on the idea that the American Medical Association may be conceived to occupy some such relation to the constituent State associations as the United States through its Constitution holds to the several States. The committee, for this reason, regards it as wiser to formulate the principles of medical ethics without definite reference to code or penalties, thus leaving the respective States, etc., to form such code and establish such penalties as they may regard to be fitting and proper for regulating the professional conduct of their members; provided, of course, that in so doing there be no infringement of the established ethical principles of the association. The committee regards as wise and well intended to facilitate the business of the parent organization and promote its harmony, this course, which leaves to the State association large discretional powers concerning membership and other admittedly State affairs.

"Your committee has retained to a large extent the phraseology of the existing code, while aiming at condensation of expression and a better understanding of some of its statements.

"The report of the committee has been reached unanimously without discussion or distrust on the part of its members, each aiming to formulate a result based on principle alone, and without regard to any past or present disagreements or misunderstandings whatsoever.

"Such being the case, the committee invites your candid and unprejudiced attention and action to the results of its labor, feeling that at least some good has been accomplished.

"Respectfully submitted,

"E. Eliot Harris, Chairman;
"T. J. Happel,
"W. H. Welch,
"Joseph D. Bryant."

The report was unanimously adopted.

There was no discussion of the proposed enunciation of principles. Dr. Harris dwelt upon the fact that the subcommittee had been unanimous and that the report had been unanimously adopted by the general committee. He moved the adoption of the committee report, which consisted of the Welch-Reed preamble, the first part of the original report to the convention, with the elimination of the word "code" from the title, the insertion of three sections from the proposed Reed document, and the elimination of the second part of the original committee report.

Dr. Reed instantly seconded the motion to adopt, expressing the hope that the discussion, if any, would be brief.

There were cries of "question," and it was put and carried with a cheer.

When this final report was presented to the house of delegates, it was adopted by a unanimous vote amid cheers.

Officers Elected.—*President*, J. H. Musser, Pennsylvania; *First Vice-President*, E. C. Savage, Tennessee; *Second Vice-President*, Isadore Dyer, Louisiana; *Third Vice-President*, C. Lester Hall, Missouri; *Fourth Vice-President*, George H. Jenkins, Iowa; *Treasurer*, H. P. Newman, Illinois; *Secretary*, George H. Simmons, Illinois; *Trustees*, William H. Welch, Maryland; Miles F. Porter, Indiana; M. L. Harris, Illinois; *Judicial Council*, Frederick Holme Wiggin, New York; G. B. Gillespie, Tennessee; D. C. Peyton, Indiana; T. C. Martin, Ohio; J. B. Roberts, Pennsylvania; Christopher Tompkins, Virginia. *Orators:* In Surgery, W. J. Mayo, Minnesota; in Medicine, George Dock, Michigan; in State Medicine, H. M. Biggs, New York.

Place of Meeting.—Atlantic City was selected for the next place of meeting.

The New Orleans Meeting.—The official registration, 2,017, gives a fair idea of the attendance, as it is estimated that there were at least 1,000 more present. The meeting was especially noteworthy because the character of the scientific work was far above the average, but it is also memorable because of the harmony and good feeling that prevailed, and that, too, despite the dethroning of that troublesome idol, the code of ethics, and its relegation to the more appropriate, but no less honorable, position of "a suggestive and advisory document." But other pleasant memories will linger in the minds of those who were present at this great gathering—the recollections of the warm-hearted Southern hospitality of the people of the great crescent city.

SECTION ON PRACTICE OF MEDICINE, THURSDAY, MAY 7.

Combined Meeting with the Section on Hygiene and Sanitary Science.

SYMPOSIUM ON TYPHOID FEVER.

On the Sources and Manner of Infection of Typhoid Fever.—Dr. Wm. H. Welch of Baltimore said that there was no missing link in the chain of proof that the typhoid bacillus was the cause of typhoid fever. At present there

was no positive or experimental proof that the origin of the disease could be through the respiratory tract; it could only arise from the injection of the typhoid bacillus into the alimentary canal. The bacillus was eliminated from the body through the fæces and the urine and, in very rare instances, it might be found in the sputum, but this was so rare as not to deserve consideration. He emphasized the importance of the knowledge of the bacillus being found in the urine of typhoid-fever patients, even for a long time after convalescence had become established. This fact was a very important one from a prophylactic consideration. Another important factor in the causation of typhoid fever was the dosage. The source of the infection was, *the typhoid patient.* If one could prevent the typhoid bacillus from gaining an exit from the typhoid patient he believed that typhoid fever could be made to disappear from the world. He referred to the experimental work of Reed, Vaughn, Shakespeare, and others, in which it was shown that the majority of the cases were not attributable to drinking water, but to a direct transmission from one typhoid-fever patient to another; in the cases of the soldiers the disease was transmitted by things about the tents, articles of bedding, etc., and they brought out the agency of flies and other insects in the transportation of the disease. The bacillus could be transmitted in various ways, but he believed that in many communities the solution of the prevention was likely to be found in the powdered infiltration, or sand infiltration. He thought we were far behind the continental countries in this respect. Typhoid fever was occasionally traced through the ingestion of vegetables or raw foods; also through the dust in the air. He also took up the consideration of the contamination of milk occurring chiefly through the air or through the water used in washing out the cans. Milk, he said, was an excellent medium for the growth of the bacillus. Milk had been the cause of many epidemics.

Some Unconsidered Hindrances in the Prophylaxis of Typhoid Fever.—Dr. John S. Fulton of Baltimore read this paper and said that knowledge of the natural history included all facts essential to successful prophylaxis, yet prophylaxis was a failure, for typhoid was one of the most common of continued fevers. Failure in prophylaxis was, in most part, explained by three considerations, as follows: (1) In most cases it was not recognized. Of the ambulant and mild cases, a vast majority escaped recognition; those cases at the extremes of life, a vast majority was not recognized; the plain, uncomplicated, bedridden cases, 40 per cent., were unrecognized. Fifty per cent. of all such cases, shared by physicians all over the country, were chargeable to a serious default of education and to the delusion that malaria was a considerable cause of mortality. (2) The view that typhoid fever was distinctly a disease of large communities was erroneous. He said that the rural mortality was nearly three times that of the largest cities and that typhoid fever was distinctly a rural disease, and this he illustrated from census reports. (3) The general prophylaxis in large cities, though measurably effective in the defense of cities, could not, by its widest conceivable extension, have a marked effect upon the total typhoid mortality in the country. Municipal prophylaxis was concerned only with the least part, and was not in immediate relation with this least part of the general morbidity from typhoid fever. He said that the largest prime factor in dissemination was occurrence in rural districts where the disposal of human excrement admitted of wide distribution of the bacillus by wind, water, animals, and insects. Prophylactic measures consisted in the general care of the water and food, the screening of privies, the destruction of flies, and other insects, and their exclusion from dwellings, etc. He emphasized the need of a rapid, simple, and cheap method of disinfecting fæces.

Dr. John H. Musser of Philadelphia thought that, with the more modern means for making diagnoses, an earlier diagnosis should be had. He advised the use of urotropin as a means of lessening the number of bacilli contained in the urine of these patients. This drug would also tend to prevent one of the complications of typhoid, *i. e.* cystitis

Dr. DeLancey Rochester of Buffalo, N. Y., advised the use of large amounts of chloride of lime for disinfecting the stools.

Dr. James J. Walsh of New York referred to a large city in this country where, for ten years, the introduction of a filtration plant had been held back because of political reasons. Three thousand deaths occurred, and yet nothing was done toward punishing anyone for criminal negligence.

SYMPOSIUM ON YELLOW FEVER.

The Mode of Transmission of Yellow Fever.—Dr. James Carroll, U. S. A., opened the discussion of this topic. He discussed some of the older theories and the lessons learned in the past from observation and experience alone. The more modern theory was based on the supposed bacteriologic origin of the disease. Finley's theory of the transmission of the disease by means of the mosquito was considered. He claimed that yellow fever could be produced by the mosquito only. Disinfection and fumigation was a perfectly useless expediency, entailing a useless expense of time and money.

Dr. Stamford E. Chaillé referred to certain notable investigations made by Reed, Carroll, Agramonte, and others which had contributed four sets of precious facts: (1) Fresh blood or its serum taken from a case of yellow fever during the first days of the attack would give the disease, if hypodermically injected into a non-immune. Hence the blood contained the poison. (3) The female stegomyia fasciata mosquito, serving as an intermediate host, could convey the poison to non-immunes. (3) Excluding all mosquitos, fomites prepared and kept under all the known conditions universally known to be the very best, for supplying the most virulent fomites, failed to infect seven non-immunes extraordinarily exposed to said fomites. (4) Disregarding filth and fomites, because two years' warfare against them had proved ineffectual, and limiting sanitary measures solely to excluding imported cases, to isolating every home case, and preventing in every possible way the access of mosquitos, these measures were followed in Havana by the total disappearance of all home cases from September 28, 1901, to May, 1903. He said that the case of fomites *versus* stegomyia was of the utmost importance for prevention and commerce and deserved consideration. The only advocates of fomites known to him, who had published their views, were two distinguished sanitary officers, Punnell of Mississippi and Souchon of Louisiana. He then took up the arguments of both to prove that the stegomyia was not the sole cause, but that fomites were also a cause. He said that Carter, writing in favor of the stegomyia, claimed that every disease, having an intermediate host, was propagated solely by its special host and never by fomites. He doubted whether we could be justified at present to accept this as a final conclusion. Dr Chaillé, so soon as he was convinced that mosquitos followed routes of travel, and that the stegomyia was a conveyer of yellow fever, embraced the stegomyia as a welcome substitute for fomites. In fact, he had never secured satisfactory evidence of the proof of a single case either by direct contagion or of infection by fomites. He concluded his paper as follows: The probabilities now are that the stegomyia, the only cause yet proven, was the sole cause for the dissemination of yellow fever; time was required to convert these probabilities into certainty. Boards of Health, should they neglect any practical measure of warfare against the stegomyia, would deserve the severest punishment of the worst criminals. Southern Boards of Health were excusable for over-precaution against yellow fever. States adjacent to Louisiana had power, by sanitary restrictions, to strangle the commerce of New Orleans, and Louisiana should not abandon the disinfection of fomites until approved by said States. Boards of Healths were representatives of the people, and were justifiable in continuing to disinfect

fomites as long as public opinion favored this measure, and until the probability of its inutility was converted into certainty.

Dr. Edmund Souchon, President of the Louisiana State Board of Health, continued the discussion. He said the foremost perplexity of the responsible officers was the question of the treatment of fomites; from the known experiments of Reed, Carroll, Guitéras, and Ross it was contended that the disinfection of fomites was unnecessary. To these experiments the responsible officers oppose the fact that they were made at a time of the year when yellow fever was not at its worst, except, perhaps, the early experiments of Ross. Again it should be considered that 30 per cent. of the non-immunes bitten by infected mosquitos did not develop yellow fever. He thought, therefore, it was unreasonable to expect that all experiments made with fomites should develop yellow fever. The responsible officers did not contend that fomites do not transmit yellow fever; they modestly state that they do not know. He said that for the present and until further progress the responsible officers were unwilling to make any change in the quarantine regulations against yellow fever.

Dr. C. W. Stiles of Washington said there were certain biological facts in the consideration of yellow fever. The cause of the disease belonged to one of three different groups: (1) bacterium, (2) flagelia, and (3) sporozoa. The entire history of the disease, with its short incubation period, etc., shows that the organism was probably reproduced by non-sexual methods. The bacterium seemed to be excluded by the history of incubation in the mosquito. Regarding the flagelia, nothing was known regarding its sexual development. He thought the parasite which was the cause of the disease possibly was a sporozoa.

Sources and Manner of Infection of Plague.—Dr. W. J. Calvert of St. Louis, Mo., read this paper, giving a historical sketch with reference to great pandemics, more especially to the present. He considered the features of the bacillus pestis, its viability and possible modes of dissemination, and portals of entry into the human system. He said that no matter if it was stamped out in this country it would be likely to reappear so long as such places as Canton and Hongkong existed.

Prophylaxis of Plague.—Dr. J. J. Kinyoun of Philadelphia said that the *sine quâ non* was the accurate diagnosis of the first case, and that the clinical forms were so varied that error in diagnosis of first cases was the rule. Plague might resemble anthrax, tonsillitis, mumps, diphtheria, erysipelas, pneumonia, acute pleurisy, malignant pericarditis, endocarditis, typhoid, typhus, relapsing and malarial fevers, acute dysentery, miliary tubercle, septicæmia, pyæmia, and syphillis. These forms of plague and its insidiousness and the inexperience of the profession rendered plague one of the most difficult to recognize. For diagnosis a bacteriological examination was essential. He then considered the measures to be adopted in caring for such patients, dividing up the treatment into the following different heads: (1) Isolation pending a diagnosis; (2) Segregation under medical supervision of contacts and suspects; (3) Disinfection of premises; (4) Sanitary measures in immediate vicinity; (5) Destruction of vermin and their examination; (6) General measures against the dissemination of the disease, *i. e.* then referred briefly to the consideration of maritime commerce, the personnel of vessels, the cargo, the vessel itself. Under the heading of maritime quarantine, he considered the measures to be taken in a port where plague existed both in its detection and eradication and the measures to be taken to prevent its spread.

Dr. F. G. Novy of Ann Arbor, Mich., continued the discussion. He said that in plague we had a well-defined disease caused by a well-defined organism. The organism can be readily seen and recognized under the microscope in every case brought to the post-mortem table. The experiments can be made to demonstrate the disease in animals to any one, and the organism complies with every requirement. The question came up, "Will this organism always produce the disease?" He emphasized the fact that plague was essentially a disease of animals and primarily was not a human disease. The disease was transmitted by the bites of animals, such as the rats or rodents of China. How the disease was communicated to the human being; what was the portal of entry, was a very difficult question to answer and possibly never would be answered satisfactorily. The virulency of the germ decreased the longer it was kept in artificial culture. The organism he did not consider to be very resistent and could be easily destroyed. Besides isolation of the sick, disinfection, segregation, etc., he said we have a powerful method of controlling the disease, *i. e.* with the serum.

Arthritis Deformans.—Dr. Thomas McCrae of Baltimore read this paper, reporting a study of a series of 110 cases from the Johns Hopkins Hospital. Reference was made to the obscurity of the pathology and our ignorance regarding the disease. The two great types of the disease were mentioned and the distinction between them. Certain cases of this series apparently showed the co-existence of these two different grades. The whole series showed an equal number in the two sexes, but a striking small number among the colored, only four out of 100, a proportion of twenty-six to one colored. The native born were ninety-six. There was an absence of a history of exposure to cold or wet. There was a family history of arthritis in forty-four. For clinical study the cases were divided into four groups: (1) Heberden's nodes; (2) the polyarticular form; (3) the monarticular form; (4) spondylitis. Of the first group no cases are in this series unless the joints were involved. Of these there were nine, but in only two of these were the manifestations severe. The polyarticular forms were in the largest group, ninety-four, including two cases of "Still's disease." In half of these the onset was before the age of thirty years. Special stress was laid on the acute character of many of these. In forty-one the onset was sudden. Two main classes of cases can be recognized, a slow progressive type and one in which there were repeated acute attacks. There were thirty cases in this latter group. Such cases were nearly always mistaken for acute articular rheumatism. The distinguishing features of these cases were dwelt upon and the importance of other infections, such as influenza in bringing on attacks. The usual high pulse rate and the temperature curve were noted. Especial stress was laid on the importance of the study of the early cases if we are to clear up the disease. The diagnosis and treatment were also discussed. Of the monoarticular form there were three cases. Their doubtful character was discussed. The fourth group, spondylitis, comprised twenty-two cases, thirteen of spinal involvement only and nine with other joints in addition.

In fifteen the whole spine, and in seven only a portion were involved. The work of Dr. Goldthwait of Boston was noted in this group. The importance of knowing especially the features of the local involvement was emphasized and the points in the diagnosis and treatment.

Albuminuria in Diabetes Mellitus: Its Importance as a Factor in the Causation of Coma.—Dr. Arthur R. Elliott of Chicago read this paper and said that the following conclusions seemed to be warrantable: (1) Albuminuria was a frequent occurrence during the progress of diabetes, one-third of all cases manifesting this symptom at some time during their course. (2) Albuminuria in diabetes may, for clinical purposes, be divided into two varieties, toxic and degenerative. (3) Toxic albuminuria was generally of acute onset, arising during the later stages of the severe form of the disease, as the result of irritation of the tubular epithelium, producing hyaline degeneration thereof and due to the presence of acid toxins in the blood and urine. (4) Toxic

albuminuria was an invariable precedent and accompaniment of coma, and may be regarded as one of the greatest prognostic significance. (5) Toxic albuminuria and its associated renal changes was the final determining cause of coma diabeticum, by producing a heaping up of sugar and toxins in the blood, through diminished permeability of the renal secreting structure. (6) Degenerative albuminuria occurs with great frequency during the progress of the mild type of the disease, and was of renal origin and produced by a gradually developing nephritis, which arose from prolonged hyper-function and impairment of renal nutrition. (7) The appearance of albumin under the circumstances, while of little immediate significance, was of the greatest eventual importance, as indicating thei ntrusion of chronic nephritis into the already manifold clinical difficulties. (8) A few cases of albuminuria diabetes may be produced by venous stasis due to cardiac asthenia, and under such circumstances will be associated with other evidence of heart failure. (9) Albuminuria in diabetes was never devoid of importance. It may be of the greatest significance, and was always of sufficient import to receive the earnest attention of the clinician.

FOURTH DAY—MAY 8.

The Passing of Chronic Rheumatism.—Dr. JAMES J. WALSH of New York read this paper. He said there were four different achey conditions which were often called chronic rheumatism, but without any good reason. The most common form of pseudo-rheumatism was the relaxation of joints which occur in the ankle, and which was known as flat-foot, or which followed the dislocation of joints producing tissue changes which made the patients very susceptible for all their after-life to changes in the weather. Just as there were relaxations of the ankle joint, so could there be relaxations of other joints. A second form occurred in the so-called occupation neuroses. A third form of vague pains which would often be attributed to rheumatism was neuritis. Persons who were exposed to the weather, and who used one set of muscles more than another, especially if there was an absorbtion into the system of such toxic substances as lead and alcohol, were especially prone to a neuritis in the nerve supplying the over-worked muscles. Again, a certain number of so-called chronic rheumatism cases in this country presenting evidences of joint degeneration following acute attacks of arthritis, were undoubtedly not genuinely rheumatic in character, but were of gouty nature. He said that, according to recent statistics, gout was only three-fourths as frequent in this country as in England. Acute gout was very difficult to differentiate from acute rheumatism. After considering briefly three forms of rheumatoid arthritis, he stated that it was easy to understand that but little space was left for the so-called chronic rheumatism. Certainly cases of true chronic rheumatism that was of a progressive pathological change in joint tissues, for which no other cause except rheumatism could be found, were very rare, and he confessed that he had never seen such a case.

Hæmoglobinuric Fever; Its Causes and Treatment.—Dr. WALTER SHROPSHIRE of Yoakum, Tex., read this paper. A report of 202 cases collected showed 61 treated without methylene blue, or with less quinia than 5 grains per diem, of which 26.2 per cent. died and 73.8 per cent. recovered; while of 112 cases treated with 20 grains or over of quinia, 16.9 per cent. died and 83.1 per cent. recovered. Four were treated with methylene blue, with one death and three recoveries. It was shown that quinia not only lowered the death rate, but also lowered the percentage of recurring paroxysms. The following facts were presented: (1) That this disease always occurred in persons suffering repeated attacks of malaria; (2) that it nearly always followed one or more paroxysms of malaria at the proper time for its next exacerbation; (3) it had all the characteristics of malaria, chill, fever, and sweat; (4) that where adequate examination of the blood was made, the hæmatozoa of malaria was found; (5) its habitat, that of the most violently malarious districts. After a review of the effects of quinia it was indeed difficult, if not impossible, to conclude logically that it could produce hæmoglobinuria. Summing up the evidence for and against quinia as a cause of this disease, he said that 29.4 per cent. of physicians affirmed and 70.59 denied it. When quinia was suspended, 73.8 per cent. recovered; when quinia was administered, 83.1 per cent. recovered. Distinct recurrences of attacks after the first appearance of black water in non-quininized patients, 9.8 per cent.; distinct recurrences of attacks after the first appearance of black water in quininized patients, 4.4 per cent.; of cases occurring from quinine alone 0 per cent.; of cases occurring from malaria without quinine, 15 per cent.; of cases in which quinine was supposed to aggravate, 5.9 per cent.; of cases in which quinine was thought not to aggravate, 55.41 per cent. This gave a preponderating evidence against quinia as a causative factor in the production of this disease. In the treatment of this condition he advised giving 40 grains of quinine per diem, either intravenously or hypodermically until the next period of an exacerbation was safely passed; then it should be discontinued for three or four days and then repeated in 20 to 30-grain doses every four to six days until five or six weeks have passed without a paroxysm. Attention to liver and bowels was emphasized with the ingestion of large doses of very hot water.

Some Clinical Aspects of Tuberculous Peritonitis.—Dr. JOSEPH EICHBERG of Cincinnati read this paper, and said that among the many startling results that have followed the introduction of laparotomy, exploratory and curative, none showed a more decided departure from beliefs of a former generation than the present attitude of the profession with regard to tuberculous peritonitis. On the basis of post-mortem finding various classifications had been made, but the simplest was the dry and the exudative, included under the latter head the caseous and purulent varieties. From a clinical standpoint, Hawkins divided them into four varieties, as follows: (1) Latent; (2) severe, with ascites and a spontaneous tendency to remissions or encapsulations; (3) cheesy-purulent form, with frequent formation of large caseous masses and adhesions; (4) fibro-adhesive form. He said there was much difficulty in establishing any basis of classification, either pathological or clinical. Laparotomy did not always establish a diagnosis. Good results have followed simple incision, irrigation of the cavity, drying of the peritoneum, resection of diseased parts, and other modifications. The essential feature seemed to be incision. He stated that the percentage of recoveries without operation for all ages, with or without complications, was greater than with operation. In five and a half years Herringham observed 25 cases diagnosed as tuberculous peritonitis, of which 19 recovered without operation, and 3 were improved. He found the only justification for operation was a return and increase of the ascites, after puncture. Hawkins reported 59 cases which recovered, all but 3 being treated by internal medication. Czerny cautioned against expecting too much from the operation. He believed that the opinion that a diagnosis of tuberculous peritonitis called for an immediate laparotomy was erroneous, not to say vicious.

Tuberculosis in the Negro.—Dr. SEALE HARRIS of Union Springs, Ala., read this paper. He said that tuberculosis was unknown among the native Africans until the infection was carried to them by slave traders and colonists. It was a rare disease among the slaves in the Southern States, because the hygienic methods of living enforced among slaves prevented their becoming infected. Statistics showed an increase of tuberculosis among the negroes during the past forty years. Then followed statistics for Southern States and for his home in Alabama. Among the causes he gave for increase of tuberculosis among the negroes, comparing them with the white population, were the small lungs, less lung capacity and less chest expansion. The filthy habit of spitting was one of the great causes of the dissemination of the disease. Syphilis was a very great

predisposing factor in tuberculosis, and the increase in syphilis in the past thirty years had been *pari passu* with that of tuberculosis. He then considered the methods to pursue in limiting an infectious disease like tuberculosis, such as increasing the strength and vitality of the individuals of the race, thereby rendering their tissues an unsuitable soil for the invasion and propagation of the specific germs of the disease and in preventing his exposure to the infecting agent, as by the isolation of those already infected and by destroying the organisms causing the disease.

Should the Tuberculous Patient Know the Truth Regarding His Condition?—Dr. C. P. Ambler of Asheville, N. C., read this paper. He believed it to be the duty of the physician to explain to the patient the dangers to himself and to others; to point out where he was most apt to make mistakes; to give explicit directions regarding his hygienic life, including diet, exercise, work, physical or mental application, secretion and excretion, sexual relations, and, in fact, to go fully into the whole question of the hygiene of life. Such instructions should apply to the incipient as well as the advanced cases. To get the coöperation of the incipient cases they must know the truth. The laws of health demand that the patient fully realize the danger to himself and others. The patient should be appealed to that it was unkind to his friends not to make every effort to protect them. The education of the public, and the careful education of the patient as regards infection of others would accomplish more than legislation. In the fight against the spread of tuberculosis the patient should first of all know the truth regarding his condition.

Officers Elected.—For *Chairman*, Dr. Alexander Lambert of New York; for *Secretary*, Dr. J. S. Miller of Chicago; for *Member of House of Delegates*, Dr. Frank A. Jones of Tennessee.

INTERNATIONAL CONGRESS OF THE MEDICAL PRESS.

Held at Madrid, Spain, April 20-22.

In accordance with the rules of the International Medical Press Association, which were adopted at a meeting held at Monaco last year, the second international congress was held in Madrid on April 20, 21, and 22, the three days immediately preceding the opening of the International Medical Congress.

The meetings were held in the hall of the University of Madrid, under the presidency of Dr. Cortezo, chief health officer of Madrid and proprietor of *El Siglo Medico*. The secretary of the Congress was Dr. Larra y Cerezo, editor of *La Medicina Militar Española*. At the opening session, the Minister of Public Instruction, Señor Allende Salazar, presided. An address was delivered by Dr. Larra, in which he spoke of the organization of the present congress, outlined the work to be done, and reviewed briefly the history of the International Medical Press Association. The president, Sr. Cortezo, then delivered an address of welcome to the members present, speaking in French, Spanish, Italian, and German. Addresses were then made by the delegates of the various national medical press associations, and then the Minister of Public Instruction declared the congress open.

In the evening the members were entertained at dinner by the president of the congress.

The *second session* was held on Tuesday morning. Dr. Tolosa Latour of Madrid read a paper on "Intellectual Property in Relation to the Medical Press," in which he contended that to the author of any memoir, article, or letter belonged the right of publication. In the discussion some of the speakers denounced the publication of society reports in the medical journals, contending that such publication discouraged the careful preparation of papers read before societies. Dr. Espina urged a more active propaganda against tuberculosis by the medical press, and Dr. Vargas added to his suggestion the recommendation that medical journals should keep standing upon their covers counsels looking to the suppression of this disease. Dr. Pulido then read a paper on the "Relations between the Medical Press and the State Governments," in which he expressed the opinion that medical journalists could be of great assistance to legislators if the latter would only take their advice.

The *third session* was held in the afternoon of the same day. Dr. Larra read a paper on the "History of Medical Journalism" in Spain, which country, he said, was the second to give birth to a medical periodical. This was the *Efemérides Medico-matritenses*, published by the Academy of Medicine in 1734. Dr. Blondel of Paris read a paper in which he developed at greater length his remarks in discussion of Dr. Latour's paper of the morning, regarding the publication of reports of society meetings in medical periodicals. Dr. Male then presented a communication on popular medicine and the manner in which it might be permissible to publish essays on medical subjects in the lay press. After the adjournment the members were entertained at a Basque ball game. In the evening the Press Association of Madrid gave a reception in honor of the medical journalists.

The *fourth session* was held on Wednesday morning. Dr. Barberá read a paper on "Medical and Pharmaceutical Journalism in Valencia." Dr. Pascual of Gerona presented a communication on "The Need of a Methodical Index, with Abstracts of Articles Published in the Medical Press." Dr. Perez Noguera read a paper on "The Medical Press in Its Relation to Military Surgery"; Dr. Martínez Vargas one on "The Medical Press and Medical Teaching," and Dr. Monmeneu one on "The Influence of the Medical Press on General Culture." Dr. Codina introduced a motion in condemnation of periodicals which, under the cloak of medical science, had no other aim than the pushing of proprietary remedies. A paper was also read deprecating the publication in one country of medical periodicals in the language of another country, the attack being directed mainly against the publication in Paris of journals in the Spanish language. At the close of this session the members breakfasted together in the Alhambra Theatre.

The *fifth session* was devoted to a discussion of the regulations of the International Medical Press Association. The article which excited the most lively discussion was the one defining literary property, in which it was held that oral lectures could not be published without the permission of the authors. Opinions on this point were so evenly divided that a roll call was necessary before the president gave his decision. Finally it was carried in the affirmative, and the regulations were definitely adopted. The city council gave a reception to the members in the evening. Dr. Cortezo, the president of the Congress, was chosen president of the International Medical Press Association to succeed Dr. Cornil of Paris.

The management of the Medical Press Congress was admirable, the program being carried out exactly as announced, without confusion, and in a seemly manner—furnishing thereby a most marked contrast to the pandemonium resulting from the utter lack of executive ability displayed by the officers of the International Medical Congress.

Surgery of the Prostate.—Sir Thomas Myles believes that the perineal route in the majority of cases is to be preferred to the abdominal, for the complete removal of diseased prostates for the following reasons The advantages of the method are: It guarantees that the bladder shall be kept empty; that no hemorrhage shall take place, and that every stage of the operation is in sight of the operator. Against the perineal method are the facts that it requires a bigger and more elaborate dissection; that it takes more time until one acquires practice and that there is an element of danger in detaching the rectum from the central tendinous point of the perineum. —*The Medical Press and Circular.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending May 9, 1903:

	Cases.	Deaths.
Measles	314	19
Diphtheria and croup	405	51
Scarlet fever	323	18
Smallpox	..	..
Varicella	108	..
Tuberculosis	293	175
Typhoid fever	25	5
Cerebrospinal meningitis	..	..

The Diagnosis of Chronic Interstitial Nephritis Based upon Physical Signs, Chiefly Cardiovascular.—Charles Louis Mix considers it an error to approach the problem from the point of view of the urinary examination alone, as many cases of chronic interstitial nephritis fail to show any albumin. The vascular changes are important. Practically, the arteries are those of arterial sclerosis, firm, tough, and tortuous. The renal pulse is one of abnormally high tension, but in a few cases the tension is not increased, especially in cases of failing cardiac compensation. According to Traube's old statistics cardiac hypertrophy is present in 93 per cent. of the cases of chronic interstitial nephritis. This hypertrophy is compensatory, the increased cardiac power promoting increased diuresis for the purpose of sweeping out the toxins, but it also has its disadvantages, as hemorrhages are likely to occur. Hæmaturia is rare, but there may be epistaxis, hemorrhage from the bowels in rare cases, retinal hemorrhages with amaurosis, auditory hemorrhages and, most of all, cerebral hemorrhages. It is the physician's duty to keep an even tension in the radial pulse. Cardiac stimulants should never be given unless cardiac failure is evident; and when arterial pressure is very high, it should be lowered by nitroglycerin or the nitrites.—*Medicine*, March, 1903.

Starvation as a Therapeutic Agent.—Charles Douglas says that the selection of patients requiring starvation for a time, opens up a very wide field, inasmuch as we find them of all ages, and the sicknesses of a wide range in character. When we consider the anorexia usually produced in all febrile diseases, and also the direct range of its intensity with the height of the fever, we see at once how nature follows a common law of lessened necessity for food in all acute febrile disturbances. We should also remember nature's law in those with unhealthy or overworked digestive organs when suffering from acute febrile disturbances. Especially in this latter class it is necessary to apply this starvation regimen, as these patients very commonly suffer from an increased craving for food, rather than the anorexia which should accompany the condition. In other words, the physician should always apply this regimen when he knows that the clinical condition of the patient prevents perfect digestion of the food, and consequently if allowed it will add another source of high temperature, and consequently a mixed infection of toxæmia will be the result, with the difficulties of diagnosis and treatment materially increased. The author reports a number of cases illustrating the success of the starvation treatment in nephritis, gastroenteritis, pneumonia, and scarlet fever.—*Detroit Medical Journal*, March, 1903

Observations upon the Hypnotic Action of Hedonal.—Frederick L. Hills reports cases of chronic mania, recurrent mania, melancholia with agitation acute melancholia, melancholia with stupor, senile degeneration, puerperal mania, epilepsy, asthma, etc., in which hedonal was given as a hypnotic. He believes that it has a value greater than that of sulphonal or trional, not so long continued as that of paraldehyde or chloral, but safer in its action than any of these. It seems to be entirely devoid of any ill effect upon the organism, safe in the presence of valvular heart lesions, and effectual in producing from four to eight hours of quiet sleep, from which the patient awakes refreshed. Its action is manifested in from one-half to one hour after administration. Its field of usefulness is in cases of neurasthenia, hypochondriasis, melancholia of the milder types, and various nervous diseases attended by insomnia without marked mental excitement or great motor restlessness. It is best to administer it in wafers. The best action has been obtained from doses of 20 to 30 grains. Only in very refractory cases is a larger dose necessary,—*The Therapeutic Gazette*, March 15, 1903.

Health Report.—The following cases of smallpox yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending May 9, 1903:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
Alabama, Mobile	Apr.	25–May 2	4	..
California, San Francisco	Apr.	19–26	8	..
District of Columbia, Washington	Apr.	25–May 2	1	..
Illinois, Belleville	Apr.	24–May 1	15	..
Chicago	Apr.	25–May 2	15	2
Galesburg	Apr.	25–May 2	4	..
Joliet	Dec.	29–Mar. 2	30	2
Indiana, Elwood	Apr.	26–May 3	7	..
Indianapolis	Apr.	27–May 2	5	2
Kokomo	Apr.	27–May 2	1	..
Iowa, Des Moines	Apr.	27–May 4	2	..
Dubuque	Apr.	26–May 2	1	..
Kentucky, Lexington	Apr.	26–May 2	1	..
Louisville	Apr.	1–30	55	4
Louisiana, New Orleans	Apr.	18–May 2	14	(2 imptd.)
Maine, Biddeford	Apr.	26–May 2	1	..
Franklin County	May	7	20	..
Rumford Falls	May	3	1	..
Maryland, Baltimore	Apr.	26–May 2	2	..
Massachusetts, Fall River	Apr.	26–May 2	2	..
Michigan, Detroit	Apr.	26–May 2	12	..
Flint	Apr.	26–May 2	1	..
Grand Rapids	Apr.	26–May 2	2	..
Port Huron	Apr.	26–May 2	2	..
Minnesota, Winona	Apr.	26–May 2	..	1
Nebraska, Omaha	Apr.	26–May 2	1	..
South Omaha	Apr.	1–30	7	..
New Hampshire, Manchester	Apr.	25–May 2	11	..
Nashua	Apr.	25–May 2	3	..
New York, Buffalo	Apr.	25–May 2	1	..
Elmira	Apr.	25–May 2	1	(imported.)
Ohio, Cincinnati	Apr.	24–May 1	5	..
Cleveland	Apr.	25–May 1	1	..
Dayton	Apr.	25–May 2	3	2
Pennsylvania, Carbondale	Apr.	23–30	1	..
Dunmore	Apr.	1–30	5	..
McKeesport	Apr.	25–May 2	6	..
Philadelphia	Apr.	25–May 2	16	4
Pittsburgh	Apr.	11–18	24	7
	Apr.	25–May 2	..	5
Pottsville	Apr.	1–30	2	..
South Carolina Charleston	Apr.	25–May 2	4	..
Tennessee, Memphis	Apr.	25–May 2	2	..
Utah, Salt Lake City	Apr.	25–May 2	11	..
Wisconsin, Green Bay	Apr.	26–May 3	1	..
Milwaukee	Apr.	25–May 2	3	..

SMALLPOX—FOREIGN.

Austria, Prague	Apr.	4–18	8	..
Belgium, Brussels	Apr.	11–18	..	5
Canada, Halifax	Apr.	25–May 2	1	..
Owen Sound	Apr.	29—present	..	..
Quebec	Apr.	25–May 2	1	..
China, Hongkong	Mar.	14–21	1	1
Columbia, Barranquilla	Apr.	19–26	..	1
France, Marseilles	Mar.	1–31	..	32
Great Britain, Birmingham	Apr.	11–18	50	..
Bristol	Apr.	11–18	2	..
Dublin	Apr.	4–18	34	2
Dundee	Apr.	11–18	2	..
Leeds	Apr.	18–25	19	..
Leith	Apr.	4–11	1	..
Liverpool	Apr.	11–18	94	7
London	Apr.	4–11	5	..
Manchester	Apr.	11–18	5	1
New Castle-on-Tyne	Apr.	11–18	4	..
Nottingham	Apr.	11–18	2	..
Sheffield	Apr.	4–18	6	..
South Shields	Apr	11–18	2	..
India, Bombay	Mar.	31–Apr. 7	..	89
Netherlands, Amsterdam	Apr.	18–25	..	1
Rotterdam	Apr.	18–25	1	..
Russia, St. Petersburg	Mar.	28–Apr. 11	43	7
Warsaw	Mar.	28–Apr. 4	..	3

YELLOW FEVER.

Columbia, Panama	Apr.	23–30	2	1
Ecuador, Guayaquil	Apr	4–11	..	2
Mexico, Tampico	May	4	..	1
Vera Cruz	Apr.	25–May 2	9	3

CHOLERA—INSULAR.

Philippines, Manila	Mar.	14–21	4	3
Provinces	Mar.	14–21	203	130
Not previously reported			421	231

PLAGUE.

China, Hongkong	Mar.	14–21	28	28
India, Bombay	Mar.	31–Apr. 7	..	1,827
Karachi	Mar.	22–29	192	

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Original Articles.

SOME UNUSUAL CASES OF APPENDICITIS.*

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THE something new that is ever presenting itself in the operation for the relief of appendicitis is a matter of common remark among surgeons. It recalls the similar observation which was made in earlier years when strangulated hernia was more frequent than it now is. It is this appearance of the unexpected that renders this particular disease of great interest to the surgeon, but makes just the otherwise invidious statement that a considerable experience is requisite to meet its varied conditions. Many of the phases of appendicitis are often only recognized at the time of the operation, such as, for instance, an extensive and spreading peritonitis, or pus infiltration in the dorsal gutter or in the pelvis, etc., and all these demand the highest surgical skill. Add to these the post-operative complications of sub-hepatic or sub-diaphragmatic and other abscesses, and of fecal fistula or of early or late intestinal obstruction, or a septic pneumonia or pleurisy, and we have a total that is sufficient to tax the best trained mind and hand.

The ordinary run of cases is apt to make a surgeon too confident of his ability to meet a rapid or obscurely progressing attack of appendicitis. It is the unusual case that most disturbs his equanimity, and hence we all can aid each other, and particularly our juniors, by publishing each one his little mite of experience in the difficult cases; and it is with this intent I have ventured to narrate here a few instances in which somewhat unusual conditions were found in which the diagnosis was obscured, believing that the members of this society, made up as it is of men of large practice, will not only appreciate the points presented but will also corroborate the statements just made, and will add, I hope, by their contribution of other or similar cases, to the general instruction on this subject.

I. Internal Intestinal Strangulation from an Elongated Inflamed Appendix.—The first case to which I ask your attention is one in which much obscurity presented itself, and in which when judgment advanced to the point of a laparotomy, to meet whatever might be thus revealed, an elongated appendix was found with the end recently glued to the side of the lumbar vertebra, and under it a large loop of small intestine had thrust itself and had become strangulated to a dangerous degree. The details are as follows: The patient was a young woman, aged twenty-one years, who was admitted to the Roosevelt Hospital on November 18, 1902, with the history that forty-eight hours previously, having up to then been in robust health, she was seized with general abdominal pain and vomiting. This latter symptom had persisted, the matters ejected being of a greenish color. Her bowels had not moved for four days, though many purgatives had been used. Nothing was felt in examination of the abdomen, no rigidity or distension was present. There were no special points of tenderness, though pain was complained of whenever and wherever pressure was made on the abdominal walls. When, however, her attention was distracted, pressure was well borne on previously complained-of places. Nothing was detected in the right iliac fossa, and no history of previous appendical attacks could be elicited. She voluntarily turned from side to side. The vomiting continued frequently during the day of admission and the pain occurred at intervals. There was, however, some increased leucocytosis (13,000). In brief, the symptoms were only vomiting and unreliable pain in an apparently hyperæsthetic young woman with an unchanged facies. Temperature, 99–100°; pulse, 88–96. Castor oil by the mouth and large enemata were given. The next day the vomiting held up until the afternoon, possibly from a dose (8 m.) of Magendie's solution given at 6 A.M. to relieve her abdominal pain. Late in the day vomiting returned, still with absence of rigidity or distension and with a temperature the same as yesterday, but by the next morning, November 20, a change showed itself, in that a central abdominal meteorism presented itself with a marked change in her facial aspect, and the vomited matters became browner and more offensive in odor, the temperature and pulse remaining the same. A leucocyte count that morning showed an increase to 17,000. An exploratory laparotomy by a median incision was resorted to by Dr. Weir at 3.30. This revealed in the right iliac fossa near the pelvic edge a mass of contracted purplish-brown small intestines which indicated an obstruction, which a little search showed to be due to a band that ran upward toward the root of the mesentery, and which, when first seen, was believed to be a Meckel's diverticulum, under which a loop of some eight or ten inches of intestine was firmly bound down and constricted. While endeavoring to trace this, it yielded under the traction of the fingers, and the distal end of a five or six-inch long appendix came into view and released the constricted loop of intestine, which speedily began to resume its normal color and size. The accompanying diagram (Fig. 1) shows better than words how the constriction was exerted. The end of the appendix was bulbous, deeply congested from inflammation, and was found to have been attached to the right side of the lower lumbar vertebræ just above the sacral rim of the pelvis. The adjacent loop of intestine showed some recent fibrinous exudation. The appendix was removed and its stump cauterized, inverted into the cæcum and buried by a purse-string suture. The abdominal wound was closed by layer sutures without drainage, as the peritonitis was so very limited. The patient made a satisfactory recovery.

Since then I have seen a somewhat similar case in which the symptoms did not become acute, but the moderate tenderness, with an ill-defined swelling in the right ileac fossa, suggested a mild appendicitis. After waiting a while until tenderness abated and the swelling partially subsided, an "interval" operation was undertaken and revealed a band from the

*Read at a meeting of the New York Practitioners' Society, March 6, 1903.

omentum to the cæcum, under which was caught a loop of small intestine. This had lasted long enough to groove deeply the bowel.

The next case was supposed, until the operative incision was made, to be one of simple strangulated femoral hernia, but it was then discovered to be a *hydrocele of a hernial sac with an acute appendicitis*.

The patient, a woman of forty years, came into the Roosevelt Hospital on February 5, 1903, complaining of a small persistent swelling of varying size in the right groin, the origin of which she could not give, and which had existed over a year. This tumefaction did not trouble her in any special way until about three weeks before her entry

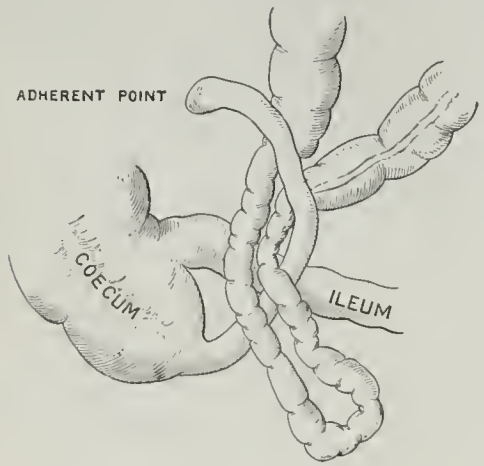


FIG. 1.—Strangulated intestine from an adherent appendix.

into the hospital, nor had she had prior to this time any symptoms that pointed toward appendical difficulty. Then pain was felt in the region of the groin, and this continued with moderate enlargement of the hernial swelling. Three days ago she had severe pains, which doubled her up and compelled her to go to bed. With this she had some nausea, but no vomiting nor fever. On examining her a swelling the size of a large walnut was recognized just below Poupart's ligament. It was moderately painful, irreducible, and gave a slight impulse on coughing. The abdomen was generally soft and *free from rigidity* and a little tender above the ligament, but not more so than is often felt in a strangulated hernia, which this was taken to be. Pulse, 128; respiration, 20; temperature, 101°.

At the operation, done immediately after the preceding examination, it was found, on exploring the sac by the usual vertical incision, that it was of a bluish-black appearance, suggestive of a congested or gangrenous intestine, but this proved to be incorrect, for on carefully incising the sac two or three drachms of rather dark serum escaped. On further enlarging this opening to see into the hernial sac, neither intestine nor omentum was found in it, and its neck was so much narrowed as barely to admit a probe. It was then evident that this small accumulation of fluid did not account for the tenderness in and above the tumor. A renewed palpation of the area of abdominal tenderness showed with the ether relaxation, running from the femoral ring upward under the rectus muscle, a deep resistance suggestive of a Littré hernia or a possible appendicitis. The abdomen was, accordingly, freely opened by the intermuscular separation method of McBurney, conjoined with the transverse division of the anterior and posterior layers of the sheath of the right rectus, which muscle was strongly drawn to the median line. This gave a large view of the entrance to the femoral canal, which was free from intestine or omentum, but blocked up by an enlarged gland pressing against it from under the peritoneum, and well toward the median line was felt an elongated, movable mass which turned out to be an inflamed, thickened appendix covered at its middle with a layer of fresh fibrinous exudate. The appendix was removed in the usual manner, cauterized, inverted, and secured by a purse-string suture, and the abdominal wound closed. The hernial sac was extirpated after ligation of its neck, and the femoral canal closed by the Bassini method. The appendix when incised showed its walls and its mesentery to be thickened and infiltrated with pus.

In this case, as well as in the preceding one, there was an absence of the rigidity of the abdominal wall, the presence of which is, with justice, looked upon as an evidence of peritoneal inflammation. In each case this membrane was, it is true, involved only to a moderate extent, and perhaps in the first case its invasion may have occurred at the period when the rigidity did develop. While rigidity may be occasionally absent and thus mislead the surgeon, the reverse may also occur, and we have to keep in mind that this symptom may be provoked by pneumonic and pleural inflammations and more rarely by grip or in the early stage of tetanus. Very lately an experience came to me in which, with high abdominal pain and abdominal rigidity, there was associated a temperature of 104° and rapid breathing, 52 per minute, and tympany nearly to the nipple level. The ear of an expert medical man detected amphoric tinkling and a double friction sound. It was here more dangerous to wait for probable chest developments than to resort to an exploratory incision. This done, revealed a perforated duodenal ulcer with gas and fluid extravasation between the liver and the diaphragm. The marked rigidity influenced me strongly in my intervention, in spite of the supposed pulmonary origin of his disease.

Furthermore, I would like to call attention to the fairly protective agency of the mesentery in this and in many of these appendical infections. It is true that this is only a temporary stay, but I have been struck with the frequent perforations of the appendix in this direction, and believe that it often sufficiently hinders the infectious action to allow of the limiting action of the exudate to be safely carried out. Six of the eleven specimens before you representing recent and consecutive appendicitis cases, which have been beautifully mounted by Dr. Carleton Flint, illustrate this point very well. It is well known that the various peritoneal fold, stretching from the small to the large intestine at the ileocolic valve, also aid in limiting an abscess in the region.

Strangulated Hernia with Gangrenous Appendix.—In operating for the cure of a right-sided hernia, it is not very rare to find the normal appendix in the sac. This has occurred to me a number of times, and I have once seen thickened and chronically inflamed appendix in the sac of a strangulated hernia. But in the case now to be narrated the hernia, which was but little strangulated, contained also a gangrenous appendix. The details of it were as follows: A woman aged sixty-seven years entered the Roosevelt Hospital on December 11, 1902, with the statement that a swelling appeared in her right groin a week ago, which gave her pain, and that this had persisted and increased. She had had no vomiting, and her bowels had moved daily. The tumor over the external abdominal ring was the size of a peach, soft, compressible and painful, and had a slight impulse on coughing. She had had no previous attacks of abdominal pain. The diagnosis was of strangulated or incarcerated hernia.

The operation was done at my request by my

assistant, Dr. Brewer. On opening the sac, which contained some two or three drachms of clear fluid and a slipped cæcum, a short gangrenous appendix was found. The bowel itself was but little congested, and the retaining constriction was but slight and did not require any section. The appendix at its base was flaked with lymph. It was ligated and cut off, its stump cauterized, disinfected, turned into the cæcum and held so by a purse-string suture. The cæcum itself was of the conical type. The hernial opening was closed by Bassini's method with a small cigarette drain to the stump of the appendix. Uncomplicated recovery.

I take it that the gangrene here was aided by the hernial constriction which, even though it was slight, probably compressed the blood supply of the appendix. While in women, in a certain percentage, there is an additional artery to this useless organ coming through the ovarian ligament, yet in either sex in a hernia, a slight pressure plus an infectious inflammation would be sufficient to produce a gangrene. It is not stated what the length of the mesentery was. This has been considered by some to be of moment, as it has been thought that gangrene was more apt to occur in those cases in which the mesentery reached half way down the appendix or less than this distance. Ochsner says that, on account of this anatomical point, gangrene is rarely complete above the middle of the appendix. The researches of Monk and Blake* of Boston, in nearly 700 autopsies, however, show that the mesentery extends the full length of the appendix in 64 per cent. of the cases, and that in only 6½ per cent. does it reach half way down. Certainly this is insufficient to allow us to count much on the influence of outside circulatory influences in the death of the appendical walls.

The next case is an interesting one of *cystic enlargement of the appendix*, which Dr. Brewer has kindly placed at my disposal.

A woman aged thirty-eight years, who had an ovarian cyst removed by a median laparotomy twelve years ago, and who five years ago underwent an operation for appendicitis at the hands of a gynecologist of this city and now deceased, and believed that there the appendix was removed. A ventral hernia resulted at the site of this operation, for which she wore a supporter. Ten weeks ago she began to have pain again in the right iliac fossa, which was at first ascribed to the rupture. The pain was of a dull aching character, varying in severity, and occasionally was sharp and darting through the hernia. Micturition also became frequent and urgent. When admitted to the Roosevelt Hospital on January 10, 1903, her temperature was normal, pulse 96°, respiration 24. On examination the right lower quadrant of the abdomen was seen to bulge unduly from the resulting paralysis of the rectus muscle following the previous operation. Through the stretched cicatrix could be felt an elongated swelling apparently five or six inches long, just outside the iliac artery and running forward toward the anterior brim of the pelvis. This mass was movable and very tender on pressure. It was supposed to be a small ovarian cyst. An incision by Dr. Brewer to the inner side of the former scar exposed, in the peritoneal cavity, after separating a number of adhesions, an enormously distended appendix 4½ inches long and over 1½ inches in diameter. (See Fig. 2.) At its cæcal origin there was found about an inch of normal sized appendix, which allowed its ligation, section, and inversion of the stump by the usual methods. Closure of the abdominal wound completed the operation. The patient made a prompt recovery. The distended appendix had thin walls and was translucent to ordinary light, and the fluid therein was of a clear yellow color. The specimen is be-

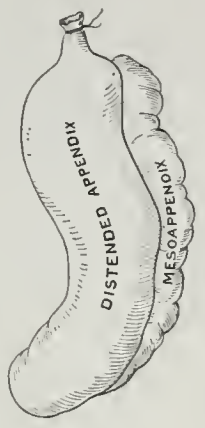


FIG. 2.—Cyst of appendix—4½ inches long and 1½ inches broad (Dr. Brewer's case.)

fore you, though it has somewhat shrunken in the fluid in which it has been immersed.

I have myself once encountered in an internal operation a cystic distension of the appendix, but of a less size than this.

Among the other queer things connected with our surgical benefactor, the appendix is an instance of a

Tumor of the Cæcal Wall Following the Removal of an Appendix.—The patient, a young woman of twenty years, underwent, in June, 1902, an internal operation for recurring attacks of appendical pain, but since that date there had been a continued soreness in that region, and three times since she had attacks of pain like those experienced before the operation and which were supposed to be appendicular in origin. With the last two attacks she had had vomiting, diarrhœa, and fever. The last of these attacks occurred only a week before her admission into the hospital on November 29, 1902. Her symptoms, which her last physician said were those of an acute appendicitis, continued three days, since when there has existed soreness over the region of the appendix with nausea after meals. There is, the record states, tenderness on deep pressure over the appendix and a small hard and sensitive mass with a greater vertical diameter can be felt directly underneath the cicatrix of the operation of June last.

Naturally Dr Brewer, in whose care the patient was, thought that there might be some error in the statement given him that the appendix had already been removed, but on writing to the surgeon who officiated at the operation and who is a man of good surgical training, it was learned that he had been reported correctly and that after removal of the appendix the stump had been inverted into the cæcum, as is customary. Dr. Brewer opened the abdomen and found no appendix, but at its site there was a small, hard tumor three-fourths of an inch in diameter, projecting externally and also into the lumen of the cæcum. It was excised and the resulting opening into the intestine and of the abdominal wall duly closed. The tumor on section presented a fibrous appearance and on microscopic examination by the hospital pathologist was pronounced a chronic inflammatory condition of the wall of the appendical stump.

Dr. Dawbarn several years ago called attention to the possibility of the stump of the ligated

*"The Normal Appendix, etc."—*Boston Medical and Surgical Journal*, November 27, 1902.

and excised appendix giving rise to subsequent trouble when inverted into the cæcum and covered over by the sutured peritoneum He reasoned that because the small portion of the infected mucous membrane between the cut end of the appendix and the ligature when thus closed over might beget abscess, thickening or other infection, and hence to guard against this mishap suggested and practised at one time the procedure of inverting the stump without previously ligating it, and then suturing over it the peritoneum, so that whatever inflammatory products might arise could thus readily be emptied into the cæcum. This was tried by myself and others and found to be not always safe, as in carrying out the suggestion there would at times be an escape of cæcal fluids from the open appendical tube which might infect the peritoneum. Moreover the procedures adopted to obviate these supposed risks, of which the above case is a good but a rare illustration, have been proved beyond doubt to be generally satisfactory. These are either to dissect away the diseased mucous membrane from the cut end of the appendix down to the ligature, or, what is easier and better still, to destroy the membrane by the small point of a Paquelin cautery. Some use efficaciously a cauterization of the same membrane by a swab of pure carbolic acid. So far in my experience, I have never seen any mishap follow such a treatment of the stump. In this individual case it seems that cauterization of the stump was not resorted to in any form.

As a contrast to the foregoing case, and yet allied to it in appearance at least, I beg to give you one in which *a very short appendix one-half inch long was productive of several sharp attacks of appendicitis.*

A gentleman, aged fifty-nine years, had several sharp attacks of appendicitis, one of which caught him away from home and decidedly imperilled his life. Though he had been assured by his physician (an able homœopath) that he could cure him, he was unwilling to risk further his life (a particularly valuable one in a business point of view), and therefore accepted operative treatment in a quiescent interval. The usual intermuscular separation operation was accordingly resorted to, but so many and so extensive adhesions were found that the section of the rectus sheath in front and behind, with retraction of the muscle (which Dr. Farrington of Boston, Fowler of Brooklyn and myself independently worked out as a good wrinkle), was employed to get a satisfactory exposure of the desired area. When this was accomplished the *fons et origo mali*, the appendix, was only found after some search, as it was hardly half an inch long and nearly the same in thickness. After its removal it was seen that its lumen was nearly obliterated and that its walls were very much thickened and sclerosed It was at first supposed that it was merely the remains of an appendix and that the major part had been destroyed in one of its severe attacks, but a renewed inspection showed it to be complete. His recovery was prompt and permanent.

One incident of this operation still remains vividly before me. As I began sewing up the abdominal wound, I said, according to my routine, to the assistant, "Have the abdominal pads counted," of which I only employ a fixed number. The nurse, told to do so, reported in a moment, "One is missing." "Count again and look around for it." Again the report, "One is missing." I had by that time the wound half closed. Nothing remained but to undo the entire line, insert my fingers first and then my hand to feel around for the missing pad. I could not find it. My thoughts ran rapidly that my disturbing his intestines was a damaging thing, but if the pad were there and I didn't find it then and did find it in an autopsy, what a position I would be in—for this was a case in which the reporter's zeal would find out the worst and exaggerate even that! After a while I stopped my examination and said, "It is not there." A final specific inquiry as to whether any one before the operation had touched my pile of a dozen pads, brought out the information from one of the nurses that she had need of a cover to some brandy and water in a tumbler and had cut off a piece from one of them and had put the end having the tape attached to it in her pocket. She was a fine nurse and hitherto of excellent record, but I then thought some hard things of her. One of the family physicians present also had his say about it afterward, and suggested a little sarcastically that "you surgeons ought to be more careful in your management of your pads," but when I asked his enlightenment as to improved methods I got no valuable hints from him.

This point of lost pads, instruments, etc., in laparotomy operations has been much ventilated lately, not only in the public prints concerning the resulting fatal mishap in the practice of a distinguished western surgeon, but also from a proper scientific standpoint in a paper on this subject by Dr. Schachner* of Louisville, Ky., who collected some 154 instances in which it had occurred, notwithstanding the many plans suggested to obviate this risk. The methods usually adopted by myself and the surgeons in this city and, I think, elsewhere, is to allow no pads or pieces of gauze to go into or remain in the abdominal cavity unless in the grasp of a forceps, or to which clamps have been attached. Usually tapes are sewn to the pads, which hang some distance outside the wound and to which clamps are fastened. As the handles of the clamps often catch the suture threads, etc., to obviate this nuisance I have substituted the ordinary harness ring, which is, beforehand, sewn to the outer edge of the tape and, with the pads, duly sterilized. These pads or gauze pieces should be counted before and after an operation. All drainage tubes are guarded by a large safety-pin, and if several pieces of gauze are introduced into a wound they are tied together by a ligature. If a single piece of gauze is used, I generally secure it by a suture to the skin. This "fussiness" has been induced by having had the ill luck to leave once a sponge in the abdominal cavity with a fatal result, and twice pads with the recovery of the pads and patient after a retention of the former for, respectively, two weeks and four months, thus showing a tolerance for pads beyond sponges, which fact has been noted by others. In each of these three operations I was helped by two able assistants, who have since developed into attending surgeons of the largest hospitals in this city, and who each reported at the time that all the sponges and pads were duly accounted for. Five times have I been called to extract sponges or pads from the abdominal cavity left there by other surgeons, most of whom were justly of eminence. I emphasize this because it shows that care must have been taken in every instance by such men, and hence the judgment given in the Western case in favor of the surgeon should be considered as a just and proper one. This surgical retention of a pad or drain in a wound is as much one of the recognized risks of an operation as is hemorrhage, intestinal damage, or infection.

This, I know, is somewhat of a digression, but, as I before said, it was a painful five minutes to me,

*Annals of Surgery, November, 1902.

and I believe most surgeons in large practice have met with this accident. More germane to the case are the facts gathered in the paper previously quoted of Monk and Blake in respect to the length of the appendix. While this one was and is the shortest I have yet encountered, and seven inches is the longest, these authors report from 641 autopsies that the shortest appendix met by them was a little over one-third of an inch in length, and the longest one measured a little more than nine and one-third inches, the average length being about three inches.

I hesitate a little in adding anything more to the rather discursive cases of this paper, but I venture to place one more on my list, not that it is unusual, but that it represents a treatment that is largely employed at the present time for several surgical conditions, and whose working is yet obscure to us. I refer to the use of saline infusion in septic conditions and in shock. The best explanation of the good effects in sepsis that is advanced is that it helps the kidneys, skin, and lungs, but particularly the first, to carry off the diluted toxins.

Appendicitis with General Peritonitis; Operation; Repeated Infusion; Recovery.—Man, thirty-two years old; admitted to Roosevelt Hospital on August 9, 1902, for appendicitis of three days' duration. Temperature, 102°; pulse, 104; respiration, 32. Entire abdomen rigid and very tender. No mass or localization of signs. Leucocytes, 34,000. Urine negative. Operation by Dr. Brewer. Kammerer incision. Appendix found gangrenous and ruptured. Free purulent fluid throughout abdominal cavity. Thorough irrigation, and wound closed with large drains going to pelvis and right iliac region.

August 11.—Frequent vomiting. Temperature, 106⅗°; pulse, 160 and weak. Urine scanty, fifteen ounces. Case considered hopeless by attending surgeon. The house surgeon, Dr. Geyer, asked permission to try infusions. One of 1,000 c.c. given at 5.30 P.M., and lavage.

August 12.—Temperature, 105⅘°. Three infusions and three lavages given during afternoon, each 1,000 c.c. Urine up to forty ounces passed, with drop of temperature to 101°.

August 13.—Again elevation of temperature to 104°. One infusion of 1,000 c.c., three saline enemata. Urine thirty ounces. Thence on, steady improvement and recovery.

In the use of the venous infusions of normal salt solutions, aside from an occasional chill and temperature elevation produced by them, and which is of a rather transitory nature, there are two objections likely to be encountered. One of these has been noticed by Crile and others, that when the fluid is injected into the circulation in large amounts saturation of the tissues or, technically, "wetting" takes place, which is shown by pulmonary hypersecretion and sometimes by a puffiness of the face with a watery-eyed appearance. When these appear one may assume that a similar condition exists elsewhere, and that the most dangerous of all, an œdema of the brain, may be produced. Therefore with us and with others, the amount injected is limited to about 1,000 to 1,250 c.c., repeating the same according to the diminution of the pulse tension.

A second objection, yet more than half theoretical, is that made by Lennander, that with a salt infusion there is not in the cells of the tissues and the blood fluids such an exchange of carbonic acid and oxygen as is normal, and at his suggestion, commended after trial by Arthur Barker of London, we have at the Roosevelt Hospital largely added to the salt-solution 5 per cent. of sterilized glucose or, which answers, as Schieking says,* the same purpose, 0.03 per cent. of the saccharate of sodium. It is difficult always to appreciate the value or results of any medication, but since I have employed this addition to the salt-solution I have found a rosier hue maintained or produced after the venous injections, and feel encouraged to continue its use. Furthermore, it has been felt that another suggestion of Crile, whose experiments in physiological surgery are so interesting and valuable, of adding to our salt infusions from 10 to 15 minims of a 1 to 1,000 solution of the adrenalin chloride has been productive of good results, and that the reaction obtained in the circulation is more lasting than from the ordinary saline fluid.

Cancer of the Appendix.—In conclusion I desire merely to place on record a rare instance of cancer of the appendix. Only fourteen have been collected since 1896 by Dr. Moschcowitz of this city. The interesting point is not only that the appendix should be involved in the neoplasmic invasion, but that in the few cases that have been traced for some time after the operation no recurrence has taken place. The following is an example of the good effect of a thorough removal of a growth in its early stage:

Man, twenty-three years old, was admitted to the New York Hospital on June 7, 1893, with history of thirteen attacks of appendical pain within two years. Nothing could be felt through the abdominal walls, nor was there anything special noticed in the appendix, which was strongly kinked and knobbed a little more than usual at its end. The stump was cauterized (a treatment used generally as early as this period), and the removed appendix sent unopened to the pathologist of the hospital, Dr. Ferguson, for examination. He reported, in addition to the usual inflammatory changes in the mucous membrane, that at the tip of the appendix there was found a small mass of adenocarcinoma.

The patient was kept under observation for over three years, during which time no recurrence took place; that is to say, he remained in good health. Since that time he has been out of my observation.

The case was briefly alluded to in the discussion on this subject in the Transactions of the American Surgical Association last year. This must have, from the chronology of Dr. Moschcowitz's collection, been the earliest recognized case of this complication.

I am open to criticism in not publishing it before this, but in medicine, as in poker, one generally wants a pair to open, and its fellow never came along.

With this exception and that of the short appendix, the foregoing list of odd and interesting cases of appendicitis have all occurred within the last year. Many others have been previously noted, but with the increased and increasing number of appendical cases that present themselves in every large hospital, a rare case is rapidly duplicated, and a special experience rapidly becomes generalized. This is hoped will follow from the present paper.

11 East Fifty-fourth Street.

Credentials for Scientists.—The State Departments, on May 2, issued special credentials to three well-known scientists who are going to Europe for the World's Fair Commission to insure the success of the Scientific Congress which is to be held in St. Louis. These are Simon Newcomb of Washington; Profs. Hugo Munsterberg of Harvard and Albion W. Small of the University of Chicago.

*"British Medical Journal," Epit., p. 20, 1900.

ON A CASE OF COMPLETE FIBROUS OBSTRUCTION (CONGENITAL?) OF BOTH SUPERIOR AND INFERIOR VENÆ CAVÆ IN A YOUNG MAN OF EIGHTEEN YEARS—FIRST RECORDED CASE.*

ALFRED MEYER, M.D.,
NEW YORK.

Enough cases of complete obstruction of *either* the vena cava superior *or* of the vena cava inferior alone have been published to rob cases of this kind of some of their interest. Thus Welch ("Allbutt's System," Volume VI, p. 217) reports 140 cases of obstruction of the inferior vena cava from thrombosis, without considering other causes of closure. Still every instance of this kind, independent of the question of rarity, is of great interest from the point of view of diagnosis, etiology, and the establishment of collateral circulation. But when this obstruction implicates both venæ cavæ, as in the case of which history and post-mortem follow, this interest is enhanced manifold. A very diligent search of the literature of all countries has failed to discover the report of another similar case. I believe, therefore, that it is the first case of the kind on record.†

The patient was a young man (H. S.), single, sewing-machine operator, aged eighteen years, admitted to Mount Sinai Hospital, September 16, 1902.

Family History.—Practically negative. Father, forty-seven years old, healthy; had married at age of twenty-two years and had never had any venereal disease. Mother, forty-seven years, healthy. There were seven children, of whom one had died at age of fourteen years of Asiatic cholera.

Previous History.—Had Asiatic cholera seven years ago; at the time his brother died of the same disease; also had measles. Four years ago was told by a physician that he had kidney disease and water in the abdomen. Otherwise negative; in particular no scarlet fever, diphtheria, pneumonia, typhoid, rheumatism, malaria, or jaundice. No venereal disease, no alcohol, no tobacco.

Present History.—One year ago began to have ulcers on legs. These healed after some time, but broke open again some months ago. Was able to work hard on a sewing machine until four weeks before his admission. Since that time his abdomen began to swell gradually, as did his left foot and scrotum. One week before his admission abdomen was tapped and three liters withdrawn. No headache, no eye symptoms. Urine high-colored; no cardiac symptoms. Cough and dyspnœa, which were relieved by the tapping previously alluded to. No vomiting nor anorexia. Bowels costive. No loss of weight.

Physical Examination. — *General Condition.*—Poorly nourished. Tongue moist and slightly coated. Teeth and gums in poor condition, but no Hutchinson's teeth. Mouth and throat otherwise negative. Skin dark and muddy, especially in axillæ. No icteric discoloration of conjunctiva. Numerous scratch marks on arms, face, neck, chest, and abdomen. Wound at site of paracentesis abdominis. Anterior and posterior cervical glands enlarged; also axillary glands and glands leading from right axilla to right breast. Slight enlargement of epitrochlear glands and marked enlargement of inguinal glands. Two large ulcers on the anterior surface of left leg, one on right leg with foul discharge. Signs of numerous smaller healed ulcers. Small scars on posterior surface of neck; numerous scars on scalp. Marked dilatation of the veins of the chest and side of the abdomen, also of lower abdominal veins. Some dilatation of the veins of the neck and back and of both upper and lower extremities.

Lungs: Anteriorly.—Some dulness lower part of right and left axillæ. Slight dulness behind upper part of sternum and at left apex.

Posteriorly.—Dulness left apex and interscapular region. Some dulness both bases. Otherwise negative.

Heart.—Right border just outside of sternum. Left border just outside of nipple line. Action slow, regular, faint aortic sound. No murmurs. Apex beat fifth space, inside the nipple line(?). Pulses equal. Slight thickening of arteries(?). No tension.

Liver: Upper Border.—6th rib mammary line. 6th space axillary line.

Lower Border.—5.5 cm. below free border ribs mammary line; 5 cm. below free border ribs axillary line; 6 cm. from tip of ensiform, midsternal line. Surface smooth, edge sharp, hard.

Spleen.—Seventh rib, two fingers in front of the anterior axillary line. Palpable two fingers below free border of ribs. Edge hard and sharp.

Abdomen.—Lax, tympanitic in center, dull at flanks, change of note on change of position. Circumference of abdomen 81 cm.

Extremities.—Some œdema and cyanosis of feet.

Blood Examination.—Red, 4,550,000; white, 6,000; hæmoglobin, 70 per cent. Blood spread negative.

Urine.—Acid, 1,024; albumin trace, no sugar, 2.2 per cent. urea, micr. neg. Temperature on admission slightly above normal. Pulse 106, respiration 26. The patient was at once placed upon xv gr. doses of sod. iodide, t. i. d., and mercurial inunctions ss. oz. q. d., by Dr. H. W. Berg, adjunct physician.

Subsequent History.—Patient was first seen by me on October 11, 1902. The absence of any visible apex beat was noted, with normal cardiac dimensions, and pure, though somewhat distant, heart sounds. A presumptive diagnosis of total pericardial adhesion was made, although confirmatory evidence in the shape of pulsus paradoxus was looked for in vain, and there was, of course, in the absence of any apex beat, no systolic retraction. Still this diagnosis seemed best to explain the obstruction to the circulation in both the upper and lower halves of the body, with the attendant enlargement of the superficial veins, the cyanosis, the œdema, the ascites, the enlargement of liver and spleen and the ulcers on the lower extremities. For, in the absence of valvular lesion, total pericardial adhesion has been found repeatedly without any hypertrophy of the heart, and when present in children has even led to some atrophy of that organ. (Allbutt, "System of Medicine, Vol. VI, p. 786). The widespread enlargement of the lymphatic glands, it was thought, could be explained in one of three ways, none of which was incompatible with the diagnosis of total pericardial adhesion (1) because of backward pressure in the thoracic duct in the absence of free anastomosis with the right lymphatic duct, as described in thrombosis of left innominate vein, by Ormerod and Sydney Martin (Allbutt, *loc. cit.*, p. 443); (2) because of a possible syphilis, which might be at the same time the underlying cause for the presumptive total pericardial adhesion; (3) because of the cachectic state of the patient.

There was a gradual increase in size of the abdo-

* Read before the Medical Section of the New York Academy of Medicine, April 21, 1903.

† Cayley published a case under the misleading title of "Obstruction of Both Venæ Cavæ," in Middlesex Hospital Report, '01, Lond., '02, page 61, which appears to have been merely a case of simple mitral stenosis and insufficiency with failing compensation, and therefore need not be considered further.

men in spite of rest in bed and the use of digitalis, so that on November 7 the circumference equaled 87.5 cm.

Taken during life, showing enlargement of veins in inguinal and latero-abdominal regions.

November 30: Abdomen was tapped, and over three quarts of turbid, yellow fluid were withdrawn. The fluid presented the following characteristics: Specific gravity 1011, alk., no sugar, no bile, no urea, no iodine (in spite of large amounts of NaI taken).

Alb., 1.5 per cent. Did not clear upon shaking with ether. Microscopic: An occasional fat globule, a few red blood cells.

December 1: Slight icteric discoloration of conjunctivæ. Circumference of abdomen, 79.5 cm. Ulceration on extremities healed.

December 12: Circumference 85 cm.

January 7, 1903: Temperature arose suddenly to 104.8°. Somewhat more cyanotic.

January 8: Fever ranges between 101 and 103.6°. Complains of sore throat. A few patches of exudate visible on tonsil and pharynx. Throat culture: Negative.

January 9: Feeling better. Temperature 100–102°.

January 10: This evening temperature again arose to 104.8°.

January 11, A.M.: Complains of pain in right leg. On inner surface of right thigh is a red and painful area, 4x6 inches, that is tender, sharply defined, not indurated. Right inguinal glands much enlarged and tender. Indications of lymphangitis extending between inflammatory area and groin. Temperature at 11 A.M., 107.2°, when he was removed to isolation house for erysipelas, in a very feeble condition with a pulse of 170. A pale red area extended then as far as the umbilicus. Vigorous stimulation and antipyretic treatment reduced his temperature to 104° and pulse to 140. He also received 20 c.c. of antistreptococcic serum.

January 13: Erysipelatous redness has extended down to ankle over sacrum and left trochanter. Periods of delirium. Septic odor of breath. Marked cyanosis of face and hands. Fever between 104 and 105°.

January 14: Death at 8 A.M.

Post-mortem by Dr. E. Libman, Assistant Pathologist, five hours after death, through abdominal incision. Marked rigor mortis, œdema of both extremities, of slight degree. Pigmentation both legs anteriorly. General icterus. Body fairly well nourished. General glandular enlargements (as described in clinical history). Dark red infiltrated area at right thigh extending up over abdomen to umbilicus. Ears dark blue in color. Small hemorrhagic area at posterior margin of auricles. Veins of abdominal wall distended and very prominent. This is particularly true of lateral veins.

Abdomen.—Adhesions between abdominal wall and liver. Large amount of bile-stained fluid in abdomen. Spleen adherent to abdominal parietes, rotated so that it lies transversely with lateral surface anterior.

Thymus.—Small.

Lungs.—Right: Large amount of bile-stained fluid in pleura. Lung compressed. Congestion of lung. Slight œdema.

Left: Markedly adherent, sacculation of fluid at base between diaphragm and lung. Parenchyma as in right lung.

Pulmonary Vessels and Bronchi.—Negative.

Bronchial and Mediastinal Nodes.—Bronchial nodes all enlarged, pigmented, some soft, others quite firm. Most are grayish in color. Size up to about that of lima beans. Mediastinal nodes same, only slightly pigmented. In a few bronchial nodes, some tubercles are present.

Heart.—Moderate increase of fluid in pericardium. No adhesions. Heart rather small. Cavities not enlarged. Slight thickening of free edge of mitral and aortic flaps. Some thickening of endocardium between aortic and mitral valves. Heart muscle cloudy, brownish. Coronaries and aorta negative. No congenital lesions.

Measurements and Weights.—Heart weighs 210 grams. Length of left ventricle, 8.5 cm. Tricuspid ring, 12 cm. in circumference. Mitral ring, 9 cm. in circumference. Pulmonary, 5.5 cm. in circumference. Aortic, 6.5 cm. in circumference. Diameter of coronary sinus, 0.5 cm. Arch of aorta, 4.5 cm. in circumference. Thoracic aorta, 4.0 cm. in circumference.

Spleen.—Very large, firm, adherent to parietes. On section, marked congestion. Malpighian bodies enlarged. Increase of connective tissue. Measures 9.5x14.0x18 cm. Weight, 1,000 gms. (29 oz.).

Kidneys.—Somewhat enlarged. Weight together 420 gms. (14 oz.). Capsule slightly adherent. On section quite firm, cloudy, quite marked congestion of parenchyma and injection of vessels of surface.

Adrenals.—Right: Embedded in and compressed by a mass of connective tissue on under surface of liver. Adrenal very flat, dark brown in color. No differentiation between medulla and cortex.

Left: Small, dark brown in color.

Liver.—Very much enlarged. Extends to umbilicus. Quite firm and adhesions to parietes. Marked perihepatitis on lower surface of right lobe, especially about transverse fissure. Surface of right lobe anteriorly very granular. As a whole, the surface of the liver is quite irregular, with a slight tendency toward lobulation. There is a marked perihepatitis on upper surfaces. On section, liver quite firm, brownish in color, surface looks rather spongy. Branches of hepatic veins enlarged. Central veins all enlarged.

Measurements.—Weight, 2.36 kilos (5 lbs. 1 oz.) Width, 25 cm. Length of right lobe, 19 cm. Length of left lobe, 14 cm. Thickness (right lobe), 9.5 cm. Lymph nodes about transverse fissures much enlarged, dark reddish gray in color. Ductus venosus obliterated.

Portal Vein.—Does not appear to be much com-

pressed by the adhesions or nodes—circumference of vein 2 cm.

Gall-bladder.—Cystic duct completely stenosed by adhesions. Gall-bladder very small. Wall thick, whitish; pale mucoid fluid in gall-bladder, very pale yellow in color. Common duct rather narrow (but no stenosis at or near papilla). Hepatic ducts rather large. Hepatic veins, diameter of each 1 cm.

Pancreas.—Very firm; ducts not obstructed.

Stomach.—Moderately dilated. Mucosa swollen. Hemorrhagic areas—especially near pylorus.

Intestines.—Practically negative. Veins are moderately enlarged.

Mesenteric Nodes.—Very large, most size of lima beans, most are pale, some dark reddish in color. There seems to be quite some thickening of the mesentery and the various mesocolons.

Prostate and Bladder.—Negative.

Head.—Not opened.

Cavæ.—Superior cava ends at a distance of 6 cm. above auricle. Its circumference 3 cm. Near the termination of the cava, the wall is somewhat thickened. On the left side near the stenosis (about 1 cm. below it) is a small irregular tab on the wall. Above the atresia, for a distance of $\frac{1}{6}$ cm., there is only some fibrous tissue in which both innominate veins end. They are both small, the left being the smaller. The walls are quite thick. The right has a valve. There is no evidence of any inflammatory process at or near the atresia of the cava. The vena azygos major quite large, opens into the cava at the usual location, its circumference is 2 cm. There is a valve near its point of entrance.

Inferior Cava.—Shows atresia at the diaphragm, there is fibrous tissue about 1 or $1\frac{1}{2}$ cm. thick about its termination. The upper end of the cava is rather conical, the wall quite thickened, the atresic part is surrounded by the area of perihepatitis on the upper surface of the liver (but the vein does not appear to be affected by the perihepatitis). Circumference of inferior cava at widest part (behind liver), 4 cm.

Microscopic Examination by Dr. F. S. Mandlebaum, pathologist.

Lung.—Moderate amount of fibrinous exudate on pleura. Intense acute congestion, with numerous hemorrhages into lung tissue. Moderate œdema. Moderate anthracosis.

Heart.—Parenchymatous degeneration. Brown atrophy.

Pancreas.—Chronic interstitial inflammation. Islands of Langerhans not involved.

Spleen.—Intense acute congestion with hemorrhage. A few small areas of purulent inflammation. Gram's stain shows streptococci in these areas.

Kidney.—Intense acute congestion with hemorrhages. Moderate increase in amount of interstitial connective tissues. Slight cloudy swelling.

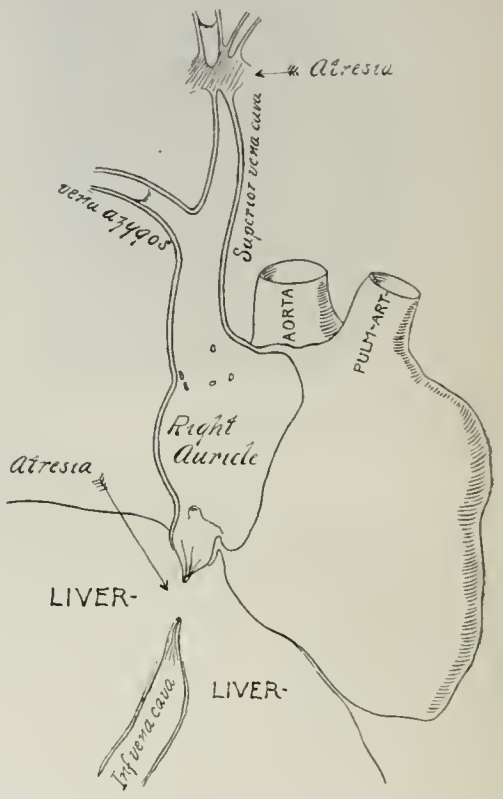
Adrenal.—Intense acute congestion with hemorrhage. Slight increase in interstitial connective tissue of cortex.

Liver.—Chronic congestion. Acute congestion with hemorrhage. Blood pigment. Perihepatitis. Large amount of connective tissue surrounds inferior vena cava.

Mediastinal Nodes.—Chronic interstitial inflammation. Acute congestion.

Mesenteric Nodes.—Shows similar changes, also a pronounced dilatation of the lymphatic vessels.

Epicrisis.—If this case is studied in the light of the post-mortem evidence, it is at once apparent that the entire return circulation was provided for by the dilated vena azygos major. Under these circumstances the amount of distention of the superficial veins during life, particularly in the territory drained by the superior vena cava, was strikingly little; in fact, much less than has been repeatedly observed in closure of one of these great trunks alone. This may possibly have been due to the gradual and slow manner of closure of these vessels permitting a great deal of time for the establishment of the deep and superficial collateral circulation. In fact, a rapid obliteration of either superior or inferior vena cava as by a thrombus, probably leads to a rapid death; and this result is in conformity with the results of animal experiment. Picard (*Comptes rend. des Acad. des Sciences*, Paris, '80, XC, p. 100) tied the inferior vena cava in animals, above the liver, and they all died within one-half to four hours,



with increasing frequency and diminishing force of the systole—the animals practically bleeding to death into the vessels below the diaphragm. (See also *Gazette des Hôpitaux*, Paris, '80, LIII, p. 99.)

In a study of the subject, Eppinger says (*Prager medicinische Wochenschrift*, '76, I, 725) that obliteration of the superior vena cava is almost always found just below the entrance of vena azygos. This is not so in my case—in fact, had it been so, it would have been incompatible with life.

The relatively lesser distention of the veins of the upper one-half of the body in my case must be explained by the fact that the return circulation is here not against the force of gravity, because mainly directed downward toward the heart, while the reverse is the case in obstruction of inferior vena cava; and in the latter case the circulation is in part contrary to the direction of the normal circulation. This difference in closure of the two veins respectively, has already been alluded to by Eppinger (*loc. cit.*), though he did not have an opportunity of observing the effect of closure of both of these vessels in one subject.

On the other hand there are recorded a number of cases of complete closure of inferior vena cava without any enlargement of superficial veins. Thus Andrew ("Transactions of Pathological Society," London, 1864-1865, XVI, 92) reports the case of a woman aged thirty-five years who died at St. Bartholemew's Hospital of epithelioma cerv. uter. and amyl. degen. of spleen, liver, kidney. The

inferior vena cava was closed for about an inch from a point just below the entrance of right renal vein by an organized clot which converted the vein into a fibrous cord. She had had an attack of dropsy ten months before death,from which she had recovered. Feet were swollen last two months of life, *but there was no enlargement of superficial veins.* Bloch (Über Obliter. der V. C. Infer., Jena, 1880) quotes a case from Ziemssen's "Handbuch der spec. Path.," in which there was a cicatricial obstruction of inferior vena cava below renal veins, with no distinct symptoms. Griffith (*Scalpel*, London, 1899, IV, 13), in a man who died at age of fifty-five years, found inferior vena cava completely closed just above renals, *i. e.* at a point between them and the hepatic veins. *No superficial veins enlarged*, no evidence of obstruction, and the man died of other causes.

Late Appearance of Large Veins in Obstruction of Inferior Vena Cava.—Cavasse *Bullet. Soc. Anat. de Paris*, 1897, LXXII, 811) found a probably congenital atresia of inferior vena cava at a point below renal vein, where the inferior vena cava ended in a filiform extension in a man dead of pneumonia at the age of fifty-four years. Enlargement of veins on the abdomen and blue spots only appeared two years before death.

Closure of Superior Vena Cava; No Evidence of Obstruction.—Banti (*Sperim. Mem. Orig. Firenze*, 1891, XLV. 408) describes a man who died at the age of forty-six years of acute miliary tuberculosis in whom the superior vena cava was converted into a hard and resistent cylinder 5.6 cm. in circumference, and there was no evidence of stasis in head, neck or upper extremities. In the majority of cases, however, closure of either of these vessels leads to enlargement of superficial veins, without whose presence the underlying condition would scarcely be suspected, much less diagnosticated. Thus Claverie (Reflex. sur cas d'oblit. du Veine Cave Sup., Paris, 1858) describes the case of a man who died at the age of fifty-two years, in whom the superior vena cava was converted into a fibrous cord for a distance of 1½ cm. at a point below entry of azygos vein; in addition there was a total pericardial adhesion. The patient had had great varicosities on the sternum, and from the axilla to Scarpa's triangle for thirty years.

Albuminuria.—Welch says that in thrombosis of the inferior vena cava albuminous, bloody urine is more often lacking than present. This is an interesting fact. In my case there was persistent absence of albumin, and of other evidence of congestion of the kidneys, until a few days before death, and then it was undoubtedly due to the fatal complication. Bloch (*loc. cit.*) reports the case of a man fifty-five years old, in whom he found a thrombosis of the external iliac veins and both common iliac veins and of inferior vena cava up to 40 mm. from foramen quadrilaterum (*i. e.* far above entry of renal veins), and in whom there had been no albuminuria.

Prognosis.—During a considerable part of last century the prevailing notion was that closure of the main vein of an extremity meant the gangrene of that extremity. Hence it is not surprising to note that in 1826 a professor of surgery in France ligated the femoral artery for a wound of the femoral vein, not daring to risk (as he thought) a gangrene of the lower extremity by ligating the wounded vein. In 1858 Claverie (*loc. cit.*) combated this view as erroneous, citing anatomical facts from the cadaver, results of surgical experience and of animal experiments against it. Still many able surgeons continued to be guided by the earlier theory until the end of the nineteenth century. A case like the present one illustrates strikingly how excessive have been these fears of gangrene, and how wonderful are the provisions for collateral circulation. Leaving out of consideration at this point the question of the probable congenital origin of the trouble, we have in the boy's history excellent proof of at least a four years' duration before his death, for he had been told by a physician at that time that he had kidney disease and *water in the abdomen*, and the nearest approach to gangrene subsequently were the ulcers on the legs referred to in the history one year before admission, and even they had healed repeatedly. As it is, the boy's death was finally due to erysipelas, a cause only indirectly connected with the obstructed vena cava (infected puncture wound), and, barring this occurrence, his condition at the time warranted the belief that he had many more months to live.

Claverie's case of obliteration of the superior vena cava already referred to lasted at least thirty years. In this connection it is interesting to note that the capacity of the veins to that of the arteries of the body is variously estimated. Borelli gives 4 to 1, Sauvages 9 to 4, Haller 2 to 1, and Sappey 2 to 1. Even taking the most conservative estimate as the correct one, this fact is of enormous advantage in overcoming the effects of occlusion of a large vein like either vena cava.

Collateral Circulation.—W. Thomas has perhaps made the most complete study of both the superficial and deep routes connecting the superior and inferior venæ cavæ and available in obstruction of either, or, as in my case, of both. (Beitrag zur Differentialdiagnose zwischen Verschluss der Pfortader und der unteren Hohlader. Bibliotheca Med. D., No. 2.)

In my case the *superficial* route was probably as follows: (*a*) Vena cava inferior, vena iliaca commun. or vena femoralis, vena circumflex ilei tegument, truncus anastamot. lumbo-vertebralis, sinus vertebralis externi, vena azygos, vena cava superior. The *deep* route probably as follows: (*l*) Vena cava inferior, either direct or via vena hypogastrica, to vena lumbalis ascend; vena azygos, vena cava superior. (*c*) Vena cava inferior, vena renalis (dextr. or sin.), vertebral sinus, vena hemiazygos (or azygos), vena cava superior.

Route "b" has been demonstrated experimentally by Schwartz and Walther (quoted by Thomas, *loc. cit.*). After ligature of inferior vena cava in animals they have succeeded in forcing foreign bodies by this route from the common iliac vein into the right auricle.

The picture of the patient taken during life shows not only the ascitic distention of the abdomen, but especially the enlarged veins in the latero-abdominal area. It has been found repeatedly that enlargement of veins in this area rather speaks for obstruction in the inferior vena cava, while when the enlargement is mainly present on the anterior abdominal wall and about the umbilicus the probability is in favor of obstruction in the portal system. My case supports the correctness of the generally accepted view.

Etiology.—In the larger number of cases the closure of the venæ cavæ is due to thrombosis extending into them from tributary veins (as after typhoid in inferior vena cava) and from pressure of various kinds of tumors (aneurysms, new growths, lymphadenomatous, and tuberculous glands). Still there have been published a large number of cases of atresia of the vena cava, the etiology of which has been obscure. In a few cases the authors have believed syphilis to be the etiological factor. A process of this nature might have been the cause of

the atresia of the vena cava in my case, in which the inflammatory adhesion to the liver presented at first sight the appearance of a healed gumma. On the other hand the atresia of the superior vena cava was not at all suggestive of such an etiology, and it is reasonable to look for a common cause for both. In addition there was no clinical evidence of either acquired or congenital syphilis in the boy, nor in his father; nor was there other evidence of either recent or old syphilis disclosed by the post-mortem examination; the ulcers, scars and even large lymph nodes being due to the severe chronic congestion. It is of course possible, but not probable, that one of the lesions was congenital and the other not. In the case published by Eppinger (*loc. cit.*) the condition and localization in the inferior vena cava resembled very closely that of my own case. At a distance of 21 mm. from the auricle the inferior vena cava came to a point and was then closed for a distance of 7 mm. and converted into a cord of the thickness of a quill; below the closure a gradual enlargement of the vessel, and its walls were united to a hepatic scar. He reached the conclusion that it was: (1) A syphilitic hepatitis, with development of scar tissue; (2) Involvement of the inferior vena cava in the scar tissue, then (3) Cicatricial occlusion of the inferior vena cava He also quotes a case reported by Klebs ("Handbuch der path. Anat.," p. 447) of a boy twelve years of age, in whom hereditary syphilis was demonstrated, including fresh syphilitic deposits in the liver and an obstruction (partial) of the inferior vena cava by scar tissue emanating from a gumma at the identical situation in the vein as in Eppinger's case. If lues were the etiological factor in my case he would put it in the same category as the cases of endophlebitis obliterans of the hepatic vein (supposedly due to syphilis) described in recent years by Chiari (*Beiträge zur pathologischen Anatomie*, Band XXVI), Churton and Lazarus Barlow (Transactions of Pathological Society, London, 1899), Kelynack (*Medical Press and Circular*, Vol. CXV, 1897), and Lichtenstern (*Prager medicinische Wochenschrift*, 1900, XXV, 325).

Jastrowitz (*Deutsche medicinische Wochenschrift*. Berlin, 1883, IX, 682) published a case of thrombosis of the portal vein of syphilitic origin. There was a whitish yellow gumma about the size of a walnut projecting into the portal vein, from which the thrombosis started, and there was a syphilitic cicatrix in the liver. Schueppel (Ziemssen's "Cycl. Pract. of Med.," Vol. VI, p. 493) reported three cases in new-born children of gummy peripylephlebitis, affecting either the trunk of the portal vein or of one of its main branches, the vein being changed into a thick dense cord with a much-contracted lumen. One case lived eight and a half days, another only eight hours.

In other cases the authors have believed a phlebitis (either exomeso- or endo-) to have been the cause, without assigning a syphilitic or other basis for the phlebitis. That there may be marked phlebitis without closure of the vein has been shown by de Giovanni (*Wiener klinische Wochenschrift*, 1893, VI, 578), and sometimes accompanied by marked hypertrophy of the muscular coat. In one case this hypertrophy was so marked that the vena cava was with difficulty distinguished from the œsophagus.

As curiosities I would mention a case reported by Thompson (Transactions of Clinical Society, Vil., VIII, p. 19), in which a needle, which had probably been swallowed, was the cause of a thrombosis of the inferior vena cava; and another by Peacock (Lond. Med. Chir. Tr., 1845) of a man sixty-eight years old, in which the lower two-thirds of the inferior vena cava was closed by a calcareous concretion extending into the right and left iliac veins. Banti (*loc. cit.*) reports the closure of the superior vena cava by a tuberculous endophlebitis.

In conclusion, I would state that Hirtz and Henniquin (*Bulletin Médical*, Paris, 1901, XV, 389) have attempted to show that there exists in certain families a veritable "arthritisme veineux," a "héridité veineuse," or a "phlébite familiale," an hereditary disposition to phlebitis and other venous affections. An investigation shows that nothing of this kind could be asserted of the family to which this boy belonged.

TOTAL RESPIRATORY FAILURE FROM ETHER—ARTIFICIAL RESPIRATION FOR OVER FOUR HOURS; RECOVERY.

By H. H. EVERETT, M.D.,
LINCOLN, NEB.

Mr. F. H., aged twenty years, a travelling salesman, came into the sanitarium with a history of a four days' illness, and presenting the following symptoms: Pulse, 110; temperature, 103°; abdomen, somewhat distended, tender over its entire extent, and very tender in the region of and below the umbilicus, where there was to be felt a thickened and very sensitive mass. He was nauseated, and presented a very unfavorable appearance. A diagnosis of acute appendicitis was made, and he was prepared for immediate operation.

In this case there was a clear history of a previous attack fourteen years ago, which followed one week after a fall from a coal-shed where he was playing. He had what was then called "acute peritonitis." He was desperately ill for six weeks, when he slowly convalesced. Since his early attack he has been entirely well, except for some constipation. Two years ago he had typhoid fever, after which his constipation increased.

His present attack began with vomiting, severe pain in the abdomen, centrally localized. The pain and abdominal tenderness increased, temperature and pulse mounting rapidly. The ice-bag was applied, salts and calomel and high enemas given, the symptoms slowly abating until, on the third day, he was so well that he expected to go to work the day following. That evening he became extremely ill, was very nauseated, vomiting frequently. His pulse and temperature again rapidly rose and his pains were so severe that his physician, Dr. H. J. Winnett, was forced to give him ¼ gr. of morphine.

The next day Dr. Winnett brought him into the sanitarium for operation. At the beginning of the operation his pulse was 130, temperature 103°.

An incision was made in the median line directly over the tumor mass. Free pus was found immediately on opening the abdomen. The intestines were highly injected and covered with a plastic exudate in many places. They were not overdistended with gas. The appendix was found to the left of the cæcum, firmly adherent. The whole mass, appendix, cæcum, and all lay almost in the median line, thus justifying the median incision. The appendix was firmly bound down and could not be brought up into the field of operation. It was gangrenous almost in its entire extent and contained a large fecal concretion. The peritoneal coat was split up and the diseased mucosæ and muscularis separated from their covering and removed. The stump was ligated because the surrounding tissues were so thickened and friable that it could not be inverted. The entire abdomen was now flushed with normal salt-solution, as is our practice in these

cases, it being impossible to wipe out all, or any considerable amount of the pus.

At this time was first noticed any indication of respiratory embarrassment. The flushing of the abdomen with hot salt-solution always produces a deepening and quickening of the respiration, but in this case it did not. Ether was now discontinued and $\frac{1}{30}$ gr. of strychnine ordered hypodermically, together with 30 minims of adrenalin chloride by mouth. The respirations became progressively slower and slower, until finally, ten minutes after the first untoward symptoms were noticed, respiration ceased. The pulse, just before the adrenalin chloride was given was 120 and of poor character.

Artificial respiration was instituted, the cyanosis, which was very pronounced, became gradually less until the skin was of an apparently normal color. The pulse from 120 slowed to 96, where it remained until the patient was returned to bed. Artificial respiraton was continued for four hours and twenty minutes before the slightest sign of returning respiration became apparent, and for thirty minutes after the first returning gasp it was continued, decreasing the force of the movements, as those of the patient became stronger and stronger.

During the four hours and twenty minutes of respiratory paralysis many expedients were tried. Strychnine was given to the amount of $\frac{1}{15}$ gr., atropine sulph., $\frac{1}{30}$ gr. in two doses of $\frac{1}{60}$ each at an interval of an hour, adrenalin chloride after the first and second doses of 30 minims each was repeated in 10-minim doses every hour. By rectum nearly 200 c.c. of normal salt-solution and whiskey were given, later 200 c.c. of hot black coffee. Both enemas were retained and absorbed. Lingual traction was tried faithfully, but, even in connection with artificial respiration, seemed of no benefit, only impeding respiratory efforts. Faradism was also valueless, and when applied caused contraction only of the muscles to which it was applied, impeding respiration instead of aiding. Flagellation proved useless, as did also any and all cutaneous stimulation. A mustard plaster was applied over the chest and produced a thorough reddening of the skin. Any irritation of the skin produced a reddening. Dilatation of the sphincter was several times resorted to, and in each instance produced a strongly marked stiffening of the entire body, every muscle seemingly on an intense strain. No effect was apparent on respiration except to impede it and produce a profound cyanosis. The pupilary reflexes were abolished; together with the conjunctival, these did not appear until the respirations reappeared. The pupil remained contracted throughout. This was so unusual that it was feared that morphine had been given instead of strychnine. This was disproved. The atropine had no effect upon the pupils.

To recapitulate, the only things which seemed to be of great service were artificial respiration and the adrenalin chloride.

Discontinuance of artificial respiration always produced cyanosis. Renewed efforts produced a pinkening of the skin and a return to a normal color. If it had not been for the active and laboring efforts of those at work, nothing unusual could have been detected in the appearance of the patient.

To the adrenalin chloride I think must belong the greater part of the credit of resuscitation. To it must surely belong the credit of the extraordinary slowing of the heart to nearly normal, and the remarkable increase in force and volume. At no time after the first dose of 30 minims did the action of the heart cause any anxiety.

To the atropine in a small degree, and to the salt-solution in a greater, was the elimination of the ether due, outside of the great amount eliminated by the lungs.

The intravenous injection of normal-salt might possibly have been of some value, but it was not done on account of the amount left in the abdomen and the amount retained in the rectum.

The ether was given in the most painstaking manner by our anæsthetist, who is one of the most careful in method. The ether was administered slowly by means of an Allis inhaler, and less than 100 c.c. was given throughout.

To Dr. Winnett and the several others present for aid in performing the artificial respiration great thanks are due, for it would have been almost impossible to have continued the respiration over such a length of time unaided.

Mr. H.'s respirations after leaving the table were thirteen only, but gradually rose to twenty, where they remained for some hours, they now slowly increased to twenty-six, remaining there for several days, and then as gradually dropping to normal, where they have been ever since. His temperature was at its highest the next day after his operation, when it stood 100.2°, but for this exception the temperature has been practically normal, ranging between 98.6° and 99.3 or 4. His pulse has never been over 100, and is now 76.

The adrenalin chloride was administered for a day after his operation, in doses of 10 drops every two hours. The administration of the adrenalin was not an untried procedure, as in several cases of cardiac failure from shock and hemorrhage it has been invaluable. I give it credit for saving life when I am sure without it the patient would have died. Our favorable experience with the drug dates from its introduction, and for that reason Dr. Criles' experiments gave us added confidence in its use.

His recovery is all the more remarkable when one considers the amount of manipulation necessary to continue respiration and the condition found on opening the abdomen.

Now, six weeks after his operation, Mr. H. is about town and is almost able to attend to his business.

Fabricated Cable Reports.—One of our contemporaries with a zeal worthy of a better cause, prints an alleged cable report of the proceedings of the International Medical Congress, in which there is so much internal evidence of fabrication that we are impelled to protest against the imposition in the interest of truth and fair play. There does not appear in it a single item that could not have been obtained before the meeting was held, and even the few that are offered either lack directness of statement or are not correctly presented as regards actual occurrences. Altogether it reads like a sensationally worded newspaper report in the effort to make something out of nothing. This is certainly not fair to the readers of a strictly scientific periodical. How it could have been possible, for instance, to have cabled the following it is difficult to conjecture: "An expedition to the Escurial and another to Toledo formed part of the social festivities among which (by no means the least) was a bull fight given especially for the edification of the members of the Congress." No such entertainments took place, as witness the following cablegram to the MEDICAL RECORD as part of its report received direct from Madrid: "April 28: No bull-fight. Excursions to Toledo and Escurial not given by Congress."

When our proceedings of the sections are published as taken on the ground by our representative, there may be other opportunities for comparing notes as to what actually did occur even at the specially selected section meeting in question.

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A NEW FACTOR IN THE ETIOLOGY OF MALARIAL FEVER INDICATING NEW METHODS OF TREATMENT.

DR. A. F. A. KING of Washington published a paper with this title in the *American Journal of the Medical Sciences*, February, 1902. He thinks that since malarial fever has been proved to be a parasitic affection, of which the paroxysms are produced by sporulation of successive groups of parasites in the blood, it behooves us to reconsider some of our former ideas as to the influence of meteorological factors in the etiology of the disease. Solar heat has long been regarded as of the first importance in the causation of malarial fever, but the writer argues that there seems to be no scientific evidence that the heat of the sun is in any way an etiological factor, and he would explain the undeniable relation between hot climates and malarial fever, by eliminating the term "heat" and substituting that of "light." Dr. King, therefore, proposes, as a working hypothesis, that it is the light of the sun, not its heat, that determines the periodic sporulation of parasites in the blood, and he puts forward the evidence in support of this theory in the following statements: (1) The accumulated experience and observations of centuries, which have been held to prove the agency of solar heat in causing malarial fever, may be held to prove the agency of solar light. (2) Paroxysms of intermittent fever will not, as a rule, take place at night in the dark. (3) The relative liability and relative immunity of different races of men to malarial fever depend upon the relative translucency or non-translucency of their skin, and probably of their blood. (4) In places where malarial fever prevails the disease is increased by bright, sunny weather and lessened by clouded skies. (5) It has long been a popular tradition that to prevent the occurrence of ague, or to forestall its recurrence when it has once occurred, it is advisable to keep in the shade and to avoid sunlight. (6) The malarial parasite is a naked amœba. Red light promotes the vital activities of amœba, while violet or purple light restricts them. The color of the light diffused through the blood is necessarily red. The foregoing propositions are supported by the evidence of numerous observers. That the malarial parasite will not sporulate in the dark would seem to be the opinion of a large number of those experienced in tropical diseases, the late Dr. Walter Reed, U. S. Army, stated that he could not criticise this argument; as all of his own patients suffering from malaria had had their chills in the daytime. The unrecognized factor, then, which Dr. King claims promotes the sporulation of the parasite after it has entered the blood, and in the absence of which sporulation will not take place, is the light of the sun.

A most important part of Dr. King's theory is that which deals with the action of quinine on malaria. The writer advances the following statements: That the malarial parasite will not sporulate in the dark; that the light it obtains in the blood is necessarily red; and, following the demonstrations of Harrington and Leaming, that amœba proteus streams in the presence of red light, and ceases to stream in violet light, it may be assumed that the same is true of the malarial amæba; therefore it is suggested that the curative action of quinine may be due to its fluorescence, producing violet rays of light in the blood.

The evidence adduced in favor of this part of the theory is weighty if not conclusive. First, it is pointed out that two other vegetable products possessing blue fluorescence to a remarkable degree, have long been known as effective remedies for intermittent fever, viz., esculine and fraxine. But more satisfactory proofs are given that quinine actually produces fluorescence in the body, and that coincidently the symptoms and phenomena of malarial fever disappear. Such results were obtained more than thirty years ago (1868) by the experiments of Drs. Edward Rhoads and William Pepper of Philadelphia. These experiments are too long to record here, but suffice it to say, that these physicians proved in several cases that fluorescence of the blood was greatly diminished by malaria, and that in two cases fluorescence was greatly increased, and a cure effected by the administration of sulphate of cinchona.

The author explains these cases which quinine fails to cure, by contending that in such instances the febrile paroxysm is not produced by the usual tertian or quartan parasite, but by the "malignant" crescentic form. These crescent parasites, according to Mauson, are not generally found in peripheral circulation. They are found in the spleen, liver, bone-marrow, and brain—in fact, in the darkest recesses of the body, where the fluorescent properties of quinine can exert no effect.

Into the question of the universally admitted comparative immunity of the negro race to malarial fever the limited scope of this article precludes us from entering. Dr. King's views as to the cause of this idiosyncrasy are in line with the rest of his theory.

Of course the ideas promulgated by Dr. King can be subjected to more or less destructive criticism, nevertheless, they are deserving of the closest attention. It should be borne in mind that so far back as 1883 the author brought forward the theory that the mosquito was concerned in the propagation of malarial fever and published papers upholding this opinion. He was then many years in advance of his generation, and it is not at all unlikely that he may again be right. In any case Dr. King's views are deserving of a fair trial. Experiments might be conducted, when malaria is prevalent, on an extended scale, and in accordance with the theory introduced by Dr. King. Even if it be proved

that the writer is wrong, he still will have done much good by giving a fillip to scientific research, while if it be shown that his ideas were based upon the solid foundation of fact he will have gained honor for his country and himself, and benefited mankind at large.

The Increase of Cancer.

It would appear from statistics which have been gathered within the past two or three years, that cancer is on the increase in all parts of the civilized world. The *Lancet*, April 25, in an editorial referring to the disease as it affects England, says, "From the report of the Registrar-General of England for 1900, we gather that among women who have attained their forty-fifth year of age, as well as among men ten years older, cancer exacts a yearly death-toll vastly heavier than that which is levied by that other national scourge, pulmonary tuberculosis.

The Registrar-General of Ireland has recently published a blue book of the most alarming character, so far as it draws attention to the remarkable increase of cancer in that country. Indeed, the account has given rise to a feeling almost approaching panic, throughout Great Britain, and the lay journals have been flooded with correspondence on the subject.

The *British Medical Journal* is issuing, week by week, a comparative statistical study of cancer mortality, dealing with cancer statistics in the various countries of the civilized world. In the number for May 2, the United States, Switzerland, and Italy are made the subjects for discussion. The figures for this country are taken from the twelfth census, and, of course, are both interesting and instructive. Cancer in the United States is said to have been the cause of 29,475 deaths, equivalent to a rate of 38.6 per 100,000 living. The regions showing the highest and lowest death rates from cancer and tumor were: Highest—Pacific Coast region, 51.9 per 100,000; heavily timbered region in the northwest, 46.8 per 100,000; Northeastern hills and plateaus, 44.5 per 100,000; prairie region, 43.0 per 100,000; Atlantic Coast region, 41.5 per 100,000. Lowest—Gulf Coast region, 20.2 per 100,000; South Central Appalachian region, 20.0 per 100,000; South Atlantic Coast, 18.7 per 100,000; South Interior plateaus, 18.1 per 100,000; Mississippi river belt, 11.3 per 100,000.

The death rate from cancer and tumor per 100,000 was: White, 66.7; Chinese, 49.4; Negro, 48.0; Indian, 28.6; foreign-born, 124.6. It will thus be observed that the foreign-born whites are much more subject to cancer than native-born whites, and not only this, but those who have one foreign-born parent are more liable to the disease than the native-born whites. The statistics also show that Jews contract cancer very frequently in the latter half of life, and that the cancer rate is far higher in rural than in urban districts.

The death rate from cancer of four of the most important American cities, per 100,000 living, all ages, is as follows: Chicago, 63.3; New York, 64.7; Philadelphia, 73.6; and San Francisco, 112.0.

Notwithstanding, the efforts that have been made within the past few years to trace the origin of cancer, it must, in truth, be confessed that but a very small corner of the veil which covers its secret has been lifted. Its etiology is yet to be discovered. Perhaps of all the well-known diseases of modern life, our knowledge of cancer is less than of any. The hopeful feature of the situation is that almost all civilized nations are vying with each other, and giving money and brains in the endeavor to solve the cancer problem.

Movement for the Improvement of Allen street.

It is freely allowed on all hands that prevention is better than cure. This, indeed, is an axiom. In no one disease does this statement bear so much force as in tuberculosis. The only manner in which consumption can possibly be stamped out, is by improving the conditions of life of the poorer classes. Where persons are herded together like animals, debarred from their share of light and air, it stands to reason that if in such a district tuberculosis originates, there it will spread rapidly. The soil is suitable, the environment is propitious, and if the seed be planted it will flourish exceedingly.

Allen street, in the lower East side of New York, fulfils all these conditions exactly, and in a high degree. Both light and air are lacking, and the population is dense. A crusade has been undertaken to deliver the inhabitants of this street from their distressful state. A committee has been appointed from among the settlement workers, who will use their utmost endeavors to prove to the authorities that Allen street as it is now is a scandal to the city, and a menace to the dwellers in surrounding locality. It is said that a committee of fifteen physicians is behind the movement to secure as much light and ventilation for Allen street as the other streets of the lower East side enjoy. The agents of the United Hebrew Charities, in whose district the street lies, declare that it is the worst in the city. The light is shut off from the houses by the elevated railroad structures, and the interior of the dwellings on the sunniest days are dark and dismal.

The state of affairs prevailing in Allen street may be taken as a text for a sermon on the absolute necessity of sufficient light and air for human beings to be able to live in health. The tenement district of New York is probably as crowded and as unhealthy as that of any city of the world. There is not in any part of the said district a sufficiency of light and air, and it is a source of danger, to some extent, to the entire city. It must be thoroughly understood that to prevent disease the first thing to be done is to provide the population with sanitary dwellings, and until this is accomplished diseases of all kinds will spread. The widening of Allen street would be a step in the right direction, and an earnest of further reform.

Vital Statistics.

The Census Office, in conjunction with the American Public Health Association, and other bodies, has initiated a movement to secure more complete and accurate data for vital statistics by promoting the extension of registration of births and deaths upon practical and uniform lines, and to make the registration records of greater value to individuals by insuring the proper registration of all births and deaths that occur. To further this movement, a series of circulars has been published by the Census Office, each relating to a special part of the subject. These are as follows: (1) Legislative requirements for accurate and uniform registration, including resolutions of Congress and the American Public Health Association, with a paper prepared by the Association Committee on "Demography and Statistics in Their Sanitary Relation," outlining the essential features of an adequate law for the registration of deaths, and a specimen form of a law drawn in accordance with the principles stated by the committee. (2) Practical registration methods, including a description of the "Standard Certificate of Death," with suggestions as to its use and treatment. This circular is designed for the use of regis-

tration officials, and presents a systematic method of securing complete and satisfactory returns, and of filing and preserving them so as to ensure the best results as contemplated by the law formulated in the previous circular. (3) Relation of physicians to mortality statistics, with special reference to the statement of causes of death and other details essential to completeness and accuracy. It gives the titles of "the International Classification of Causes of Death," with explanatory notes showing the meaning of titles as applied in statistical tabulation; also a long list of indefinite or unclassifiable terms very frequently used by physicians in stating causes of death, with notes showing why they are unsatisfactory, and indicating the further information necessary to permit their proper classification. (4) Manual of the "International Classification of Causes of Death" as adopted by the Census office and approved by the American Public Health Association. This is designed for the use of officials who compile statistics.

The Census Office has acted wisely in sending out these circulars. The one on medical education in vital statistics is especially to the point, as medical colleges are best able to carry on this much-needed instruction. The manner in which some physicians make out certificates is decidedly unsatisfactory. By studying, however, the circular on the "Relation of Physicians to Mortality Statistics," and acting upon the advice tendered therein, they can render the work of the Census Office valuable for scientific purposes. So inaccurate are many of the death certificates sent in at present, that they are comparatively useless for the compilation of mortality statistics.

News of the Week.

Parasitic Diseases and Predisposition.—Dr. A. L. Benedict of Buffalo, N. Y., writes: "Will you kindly allow me to present the following proposition through your columns. Without expressing a personal opinion, I would like to collate those of clinicians, sanitarians, and pathologists and would suggest that, to insure their receipt, they be sent to me in the form of private correspondence or references to literature.

"Of all diseases due to parasites, of whatever kind, tuberculosis alone clearly illustrates predisposition by general states of the organism of the host, independently of opportunities for infection and of plainly local lesions or cellular states (as in regard to the malignant neoplasms, if these be considered parasitic) which favor colonization of the parasite. Even in the case of tuberculosis, these latter factors outweigh purely general conditions of diminution of resistance."

Arguments in Justification of the Galveston Quarantine Regulations against Cuban Ports.—Dr. Edmond Souchon, M.D., President of the Louisana State Board of Health sends the following:

Cuba has been for 130 years the hot bed of yellow fever.

It is only two years ago that yellow fever was not reported from there.

That does not mean that there are no mild cases unknown, unrecognized, or unreported.

Epidemic diseases are often dormant and then break out again.

We are not so sure as yet that fever will not spring up in Cuba—in Havana, especially.

No attention is paid in Cuba to baggage, bedding, and fomites in general from vessels from infected ports or from the Yellow Fever hospitals.

The Louisana State Board is not as yet prepared to accept this procedure as safe.

Infected baggage, bedding, and other fomites may reach Louisiana.

It is the first year really that the Cubans are managing the health matters of the Island, and we will wait to see with what final result.

We desire to be liberal toward our neighbor, but not at the risk of suffering ourselves.

We have done away with detention this year and have limited our regulations to baggage and mosquitos.

We will require that Cuba goes through one year more of probation before removing all restrictions and precautions.

We are told that these precautions are unnecessary.

We are the sufferers when yellow fever and quarantines break out and not our would-be advisers.

We claim to know better what is best to protect ourselves than the partisans of Cuban commerce or officious advisers, or even official advisers.

Florida, we are told, has removed all restrictions against Cuba. Florida depends so much upon Cuba that it must take risks that we do not approve of and will not take.

We are urged to follow the advice of Dr. Wyman and the U. S. Public Health Service and consider Cuba free from any possible risk. But Dr. Wyman and the U. S. Public Health Service will not be the sufferers if yellow fever appears in Cuba and reaches Louisiana. We will be the sufferers.

We positively decline to run the risk of being caught with all the bars down. We refuse emphatically to run the risk of another epidemic to prove that yellow fever is still lurking in Cuba.

To guard against all risks, all baggage is sealed before being admitted on board of the vessel, but it is not disinfected at the port of departure, pyrethrum powder is burned on board against the mosquitos, and the temperature of every passenger is taken before the vessel leaves.

Upon arriving at the Mississippi River Quarantine Station the vessel is regularly disinfected. There is no detention of passengers unless there is sickness.

Owners of baggage from Florida Ports and from Jacksonville (Fla.) coming to Louisiana shall have to satisfy the Inspector of the Louisiana State Board of Health that they do not come from Cuba, or their baggage shall be held at Louisiana Line or Stations for inspection and disinfection.

The quarantine regulations of Louisiana against Cuba are also practised by Texas and the Quarantine Board of Mobile Bay.

Dinner to Dr. Charles A. Powers of Denver, Col.—Dr. William T. Bull gave a complimentary dinner, May 17, at his residence, to Dr. Charles A. Powers, formerly of this city, the recently elected chairman of the Surgical Section of the American Medical Association.

Street Sign Bills Held Up.—The officials of the Department of Finance and President Cantor cannot agree as to the expenditures for street signs made under the authority of the Board of Estimate. President Cantor was allowed $40,000 to put up street signs, and of that sum he has spent more than $26,000. The work has all been done by Joseph N. Early. Up to the present time Mr. Early has supplied the city with street signs valued at $19,900, and additional orders have been given him. The officials of the Finance Department now assert that the last orders were given without public letting of any contract, and have refused to audit the bills sent over by President Cantor, and the matter has been referred for arbitration to Corporation Counsel Rives. It is devoutly to be hoped that this quarrel will not delay the putting up of the much-needed street signs throughout the city. New York has already been too long without these necessary aids to direction.

Pavilion for the Deaf.—On May 12 the Schermerhorn Aural Pavilion, the gift of the late William Schermerhorn to the New York Eye and Ear Infirmary, on Second Avenue, was dedicated. This addition, which cost $75,000, contains two operating rooms, special rooms for patients with brain complications and a separate ward for children. The most interesting part of the opening ceremonies was the delivery by Joseph Jefferson of an address composed by Helen Keller, the deaf and blind girl.

A Crusade against Scents.—Atlanta, Ga., it is said is soon to have an ordinance which will bar

persons carrying odors from riding on street cars. By "odors" the Council means those scents which emanate from individuals who work in factories, and especially in guano factories, of which there are many in Atlanta. So loosely framed, however, is the ordinance, that it will be left to the discretion of the conductor and passengers as to what constitutes an unpleasant odor, and the former will have the power to eject any person from whom proceeds a smell offensive to any other passenger.

Complimentary Dinner to Dr. Hans Kehr of Haverstadt, Germany.—Dr. Hans Kehr, so well known by his original and extensive work in gall stone surgery, was the recipient of a well-deserved courtesy on the occasion of his recent visit to New York, after his attendance at the Washington Congress. Dr. Willy Meyer tendered him a banquet at Delmonico's on Tuesday evening last, at which twenty-five of the representative surgeons of this city were present. On Wednesday Dr. Kehr gave an operative clinic at the German Hospital, by invitation of Prof. Willy Meyer; also one on Thursday at Bellevue, by invitation of Prof. F. B. Farquar Curtis, and one at the Post-Graduate Hospital, occupying the clinic hour of Dr. Willy Meyer. In each instance he demonstrated his methods of gallstone surgery.

Statue to Major Reed.—A movement is on foot to induce Congress to authorize the erection of a statue in honor of the late Major Walter Reed, who effected so much in proving the theory that yellow fever was propagated by mosquitos. The success of his researches in Havana made his name famous in all parts of the world. and no medical man of the present generation has more fully deserved well of his country than Major Reed. It is eminently fitting that due honor should be paid to his memory.

Automobile Bill Signed by the Governor.—Governor Odell, despite protests from those connected with the automobile trade and social organizations in all parts of New York State, has signed the Doughty-Bailey bill. The salient points of the new law are: Speed restricted to four miles an hour when crossing a dam or causeway of less than twenty feet in width. Speed restricted to eight miles an hour within a radius of half a mile from a post-office or a greater radius if local authorities so elect, when passing in either direction, a person driving a horse or domestic animal, or passing a pedestrian in the roadway; when crossing an intersecting main highway; in the closely built-up portions of cities. Speed restricted to ten miles an hour, when passing a public school during school hours, or a church during the hours of service. Speed restricted to ten miles an hour in the suburbs of cities where the houses are more than one hundred feet apart. Speed restricted to twenty miles an hour in the open country where post-offices, school-houses, churches, causeways, cross-roads, drivers, or pedestrians do not conflict. A motor must be stopped on request of a rider or driver. The penalties are: First offense, not exceeding $50; second offense not less than $50, nor exceeding $100, or imprisonment not exceeding thirty days or both; for third offense, imprisonment not exceeding thirty days and fine of not less than $100 nor exceeding $250.

Bills Relating to Medicine and Public Health Signed by the Governor.—Governor Odell has, after all, signed Senator McEwan's Barber Bill. It establishes a State board of barber examiners, and provides for the sanitary inspection of barber shops.

The following bills were vetoed: Assemblyman Bostwick's Substitution of Drugs Bill, Senator Martin's Inebriate's Home Bill.

Epidemic of Pneumonia in Chicago.—Surgeon Banks of the Marine Hospital Service, according to the *New York Tribune*, has made a report to the central office of that service in Washington relative to the prevalence of pneumonia in Chicago. He says that the disease has almost reached epidemic proportions. Of the 5,341 deaths from all causes in the city in two months, Dr. Banks says that 1,186, or 22 per cent., were caused by pneumonia.

Anniversary of German Poliklinik.—The twentieth anniversary of the founding of the German Poliklinik was celebrated by its members on the evening of May 16. In addition to celebrating the anniversary, the members of the board of trustees honored the five surviving founders, Dr. Samuel Kohn, C. A. von Ramdohr, Ludwig Weiss, H. J. Boldt, and C. E. Denhard. Dr. Edward Benneche, President of the Poliklinik, made the principal speech, addresses were also made by Drs. Carl Beck, S Kohn, C. A. von Ramdohr, and S. Britenfeld.

Graduation of Nurses.—Sixty-four nurses attached to the City Maternity, Gouveneur, Harlem, and Fordham hospitals were graduated at the twenty-eighth annual commencement of the New York City Training School for Nurses, which took place on May 16, on Blackwell's Island. Of this number seventeen were from the graduate course.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

INFECTIVE ENDOCARDITIS—CONGENITAL HYPERTROPHY OF THE EXTREMITIES—BRADYCARDIA—CRETIN WITH CYANOSIS OF THE LIMBS—MEDICAL MISSION—HOSPITAL SATURDAY FUND—ZOOLOGICAL SOCIETY—NOTES.

London, May 1, 1903.

The Lumleian Lectures this year were delivered by D. T. R. Glynn of Liverpool, who took for his subject infective endocarditis, a disease to which he has long devoted much attention. He was able to illustrate his lectures by numerous colored drawings which he made during his tenure of office at the Liverpool Royal Infirmary, of which he is now consulting physician. These drawings represent the morbid appearances of the heart, characteristic of the various forms of disease to which it is subject, and which, therefore, illustrate infective endocarditis by contrast with other lesions. The morbid changes produced by endocarditis were carefully described long before their clinical associations were suspected, and Dr. Glynn quoted observations recorded by Morgagni (1769), Senac (1749), Matthew Bailey (1807), and a number of authors since. To Bouilland must be ascribed the honor of recognizing first the relationship between rheumatism and simple endocarditis, and also the association of ulceration of the cardiac valves with symptoms of typhoid fever. These points he distinctly laid down in his *Traite Clinique* (1824). Nearly thirty years elapsed before Kirkes (1853) enunciated the embolic theory, and demonstrated the lesions and clinical features of ulcerative endocarditis, though he confined his study to the consequences rather than the nature of the disease. Soon after came the dawn of bacteriology. In 1855 Rokitanski indicated the presence of bacteria in the vegetations, and was confirmed by Virchow and others. With the rapid progress of bacteriological technique, it soon became evident the infective endocarditis is not a specific disease due to one species of microorganism, but is produced by different varieties, notably the streptococcus, staphylococcus, and pneumococcus.

For some time the disease was regarded as a local one, which generalized itself by introducing into the blood products formed at the valves. But it became evident that organisms could only reach the valves through the circulation. Then it was clear that a local lesion, as in pneumonia, typhoid fever, and other diseases, might favor the entrance of pathogenic organisms and their multiplication in the system. The simple and infective forms of endocarditis are difficult to distinguish, and both having been shown to be due to microbes, the difference between them seems to be only one of degree. The terms "infective" and "non-infective" would be better discarded, as Dr. Glynn thought them hardly justifiable,

and suggested that malignant would be more appropriate, only it has been otherwise applied. The manner in which the organisms may enter the system was discussed by Dr. Glynn, but he had to confess that in the majority of his cases he had not been able to trace it. He classified his cases according to the severity and duration of the symptoms, as acute, subacute, and chronic. The great majority were of the chronic type, the symptoms persisting for several months. Perhaps this proportion was due to the diagnostic sagacity which Dr. Glynn brought to bear on his patients.

With regard to the treatment of infective endocarditis, not much can be added to what Sir Douglas Powell had to say in his Lumleian Lectures for 1898. The success of anti-streptococcic serum has not equalled the expectations formed. Perhaps a polyvalent serum may prove more efficacious. Sir D. Powell's table of cases gave successes in 25 per cent. Dr. Ogle drew up a table showing 31.5 per cent. Dr. Glynn has used the serum three times without success, but he deprecates a despondent attitude for recovery in desperate cases is possible, and the physician must patiently follow rational indications.

Two children with congenital hypertrophy in the lower extremity were shown at the last meeting of the Clinical Society. One was a girl of three and a half months. A difference in the size of the legs had been noticed when two weeks old and had increased ever since. The right foot is now one-quarter inch longer than the left. The enlargement of the leg is symmetrical, greater at the proximal than at the distal extremity, mostly composed of soft tissues, but a skiagram shows that the bones are also enlarged. There is no other abnormality.

The other case is a girl of four and a half months. Enlargement of left leg was noticed at birth and of the thigh when she was two months old. The leg is about one-quarter longer than the right. There is asymmetry of the cranium, causing a projection on the left side and the face is fuller on that side. No other abnormality but a capillary nævus on the back.

At the same meeting there was a man of forty-six years who had a sunstroke in 1901. Since then his pulse rate has ranged between 20 and 36; it is not known what it was before. The left ventricle is large, the apex beating under the fifth rib just outside the nipple line: no other abnormalities about the heart. Since the sunstroke he suffers from syncopal attacks, at first four or five a day, but lately seldom: about six last year. He has a momentary dizziness, then complete unconsciousness for four to eight minutes. Neither convulsions nor paralysis. These attacks seem to resemble some described by Osler as "Adams' disease."

A girl of three years and nine months was shown who has a typical cretinoid appearance with cyanosis of the extremities which was to have been noticed two years ago and which varies a good deal from time to time. She has learned to walk. She can only say a few words. The heart sounds are feeble, but there is no murmur.

For months past the Zoological Society has been agitated by the determination of prominent Fellows to enforce some much-needed reforms. On Wednesday the climax was reached when the meeting was attended by 870 Fellows and a new secretary elected by a majority of 194 votes. The ballot was taken without any excitement, no discussion of the claims of candidates being allowed at the meeting. Dr. Chalmers Mitchell, a well-known naturalist, was elected, and will no doubt set about the many reforms which are needed.

Some suggestions were made to the Council as to the comfort of the animals kept in the gardens. I would add to them that they should be better fed. Why should the lions in the Dublin Zoo breed and in London not? I believe in London their food is insufficient. They seem always hungry.

An income of £22,964 was reported to the annual meeting of the Hospital Saturday Fund on the 26th ult. Sir S. Crossley, M.P., Chairman of the Fund, said it was feared in some quarters that the abolition of the street collections would lead to considerable loss, but that fear had not been realized and a substantial increase had been received, mainly from the workshop collections. The Lord Mayor, who presided, expressed his pleasure at the satisfactory nature of the report, especially with regard to the support of the working classes.

Sir E. H. Currie expressed his fear that hospitals would have to be maintained by the rates unless managers kept down the expenses, which are now much higher than ten years ago. He urged that the three great hospital funds—the Kings', the Sunday and the Saturday—should unitedly take steps to make managers keep down expenses.

The report was adopted, the Lady Mayoress distributed certificates in first aid and nursing, and Dr. T. D. Lister read a paper on "Infant Feeding and Milk Supply," in which he dwelt on the great infant mortality of our large towns due to improper feeding. The milk supply, he said, required the most careful supervision to secure immunity from contamination. The municipal milk depots in Battersea and St. Helens, he reckoned, had saved 60 to 70 lives per 1,000 compared with the average infant death rate of those boroughs.

A new accident and surgical ward erected by the Billingsgate Medical Mission was opened on Tuesday by the Lord Mayor. It has cost £7,500, of which £2,000 remains to be provided.

The Lord Chief Justice of England presided at the annual festival of King's College Hospital on Tuesday, and speaking of the services rendered by the hospital to the community made a strong appeal for increased support. Subscriptions amounting to £2,143 were announced.

The Jews Hospital and Asylum is fortunate this year. The dinner presided over by the Lord Mayor was given at the Mansion House on Wednesday, and the subscription list amounted to £15,300.

Mr. Foulerton has resigned the Directorate of the Cancer Research Laboratories of the Middlesex Hospital to make way for a director who can devote all his time to the work.

Mr. Foulerton will continue to direct the clinical and bacteriological work.

The death is announced of the Hon. M. S. Grace, C. M. G., a member for many years of the Legislative Council of New Zealand, in which colony he settled in 1860. He was for many years in the army and attained the rank of Surgeon-General in the colonial forces. He died on the 19th ult., at Wellington, N. Z.

THE MISMANAGEMENT OF THE FOURTEENTH INTERNATIONAL MEDICAL CONGRESS.

To the Editor of the Medical Record:

Sir: It is impossible to convey to one not present the inconceivable lack of system prevailing at the Madrid Congress. The building in which the section meetings were held, and in which was the registration office was the National Library and Museum in the Paseo de Recoletos. Although it had been known for two or three years that the building would be used for this purpose, shortly before the congress met the government decided to make some alterations to the front of the structure. A huge scaffolding was erected, defacing the building and closing the handsome main entrance, and the members of the congress were forced to use the back door, and then wander through a maze of rooms and cross a bridge before getting to the office of registration. This office, where the programs and badges were given out, was a narrow passage-way ending in a cul-de-sac, wide enough to admit three persons walking abreast, and into and out of which surged for hours a mass of perspiring humanity, shouting, stamping, gesticulating, and swearing in all the tongues of the earth. Although the town was full of congressists for a week before the opening, the programs and badges were not ready for distribution until four o'clock in the afternoon preceding the opening day. The section meetings were held in the second floor of the same building in a series of rooms opening one into the other, and through which was a continual tramping of members going to other sections, the noise of which effectually drowned the voices of those reading papers. The commotion was much greater than need be, because each man was left to find his own section as best he could, no plan of the distribution of sections having been prepared until the congress was half finished. The general sessions were held at irregular intervals in the amphitheater of the medical school, two miles distant from the place of section meetings, and notice was given of but one of these general sessions to the members of the congress. The general program, be it remarked in parenthesis (a pamphlet of sixty-four pages), contained not one word regarding the order of exercises, save of the general sessions, and this was incorrect in every particular. Diligent inquiry made each morning of officers of the congress regarding the holding of the general session sometimes was rewarded by the statement that, owing to the great confusion, the secretary could not say when the next session would be held, sometimes by the assurance that a meeting would be held that day at three o'clock. The seeker after knowledge would then go to the medical school at the appointed hour and wait and wait and wait until his patience was exhausted, and then go home. After he had gone two or three addresses would, perhaps, be read before an audience of twenty or thirty medical students. The attendance at these general meetings, it is needless to say, was so exceedingly scant as to be actually insulting to the orators. At the opening session the same mismanagement was in evidence. Hundreds of the members of the congress were unable to get into the opera-house, the seats and boxes being filled at an early hour by

non-medical residents of Madrid. The delegates of several foreign governments, of the United States among others, were refused admission to the stage and, consequently, were unable to speak when the names of their respective countries were called. Some of the Americans present thought this exclusion was intentional, but it was nothing of the kind—merely one more example of the incredible blundering which characterized every move of the congress managers. No record was kept of the addresses of the members, and consequently it was impossible to find anyone wanted, many instances being known of friends from different countries having made a rendezvous at the congress, but failing to meet. An elaborate list of entertainments to be given in honor of the congressists was published weeks before the meeting, but no arrangements were made for those entertainments until shortly before the opening, and then it was too late. The result was, that the audience of the king, the garden party in the palace grounds, and that in the Buen Retiro Garden were the only general entertainments carried out according to program. The conduct of the excursions to the Escorial and to Toledo which had been planned for the entertainment of the congressists, was turned over to the "Voyages Pratiques," a tourist concern, which charged for each of the excursions from eight to ten pesetas more per individual than one would have to pay traveling alone. Some of the receptions announced to be given by the city council and other public bodies came off, but the number of invitations was limited and few of the foreign members or delegates were present, the officers of the congress having the distribution of the tickets. The "Bureau des Logements," which had been charged with the securing of lodgings for the congressists, must have had enormous expenses to meet, for it charged the men who had confidingly put themselves in its care from 50 to 100 per cent. more than it paid the persons from whom the lodgings were hired. It did not permit the member to pay his host directly, but payment had to be made by coupons bought of the committee on lodgings, and in this way only a few of the wiser ones and those who spoke Spanish learned of the difference between what they paid and what the owner of the house received. It was announced that the railways of France and Spain would grant a reduction of 50 per cent. on the price of tickets to those attending the congress. On the strength of this announcement many foreigners sent their subscriptions to the congress months ahead, receiving a card of membership on which was printed the statement that on presentation of the same at the railway ticket office the promised reduction would be allowed. But nothing of the kind. Special cards were necessary to secure the reduction, and those were generally sent to members too late to reach them before setting out for the congress, and in many cases they were not sent at all, even in response to urgent letters and telegrams. There was, of course, no design here of making money out of the congressists (the Bureau de Logements was the only department concerning which such a suspicion was tenable), but it was simply one more example of the phenomenal lack of system and infantile mismanagement which characterized the administration of the entire congress from the moment of its conception to the closing meeting on the last day of April.

This is a strong arraignment of the officers of the Fourteenth Industrial Medical Congress, and it may seem ungracious on the part of a member of the congress to write it. But it is true and without exaggeration, and it is but right to state the facts, most of which were commented upon by the Madrid papers published during congress week. It is not a pleasure jaunt to attend an international medical congress, for with the best of management there must be some discomfort from crowded trains and overflowing hotels, and it is the bounden duty of the men who have invited the physicians of the world to gather together for scientific discussion in their country or their city to see that the inevitable discomfort is reduced to a minimum. If they fail to do so they have been recreant to their trust and have abused the confidence of their fellows in other lands who had honored them by consenting to accept their proffered hospitality. This is what the organizers of the fourteenth international congress failed to do—and it is proper to note their dereliction.

A VICTIM.

GIBRALTAR, May 3, 1903.

Suspension of Dr. Weston.—As a result of his failure to appear as a witness at the trial of Gertrude Wade for manslaughter on May 11, after a subpœna had been sent to his home, Coroner's Physician Albert T. Weston has been suspended without pay until he has satisfactorily explained his absence.

Progress of Medical Science.

New York Medical Journal, May 16, 1903.

The Relation of Cholelithiasis to Acute Pancreatitis.—J., Wiener, Jr., reports a personal case and gives brief notes of thirty-two others. He considers that, from a study of these cases it is evident that there must be a connection between the two conditions. In not a few instances positive proof was found at the autopsy that the duct of Wirsung had been occluded by a gallstone. In one case a biliary calculus had actually found its way into the pancreatic duct. In another case there was a history of several attacks of biliary colic followed by jaundice. Then came the fatal attack of acute pancreatitis. At the autopsy the common duct was found enormously dilated, and in the duodenum was found the large calculus which had undoubtedly caused the duct occlusion. Is it not fair, asks the author, to assume that in some of the other cases, in which the offending calculus was not found, it had passed further down into the bowel?

The anatomical conditions in some cases certainly predispose to an obstruction of the pancreatic duct at the papilla. Fortunately, the relations of the two ducts are often not favorable to the occlusion of the duct of Wirsung, or else there would be many more deaths to report from acute pancreatitis in gallstone cases. However, the cases in which pancreatic obstruction does occur in this manner are another potent argument in favor of early operation, not only for cholelithiasis, but also for acute pancreatitis. The thirty-two previously reported cases all ended fatally, because, in many of them, operation was too long deferred. The author was fortunate in saving his own patient, not because he made an early diagnosis, but because he advised an early exploratory incision. And this is, he believes, the crux of the whole problem. Many of the foregoing cases could have been saved had an early operation been resorted to. That the diagnosis in the early stages of acute pancreatitis is, in most cases, extremely difficult, has already been mentioned. But it is just in these doubtful cases that most brilliant results may be achieved by early resort to the exploratory incision.

Philadelphia Medical Journal, May 16, 1903.

Tetanus: A Study of Fifty-seven Cases from the Records of the Pennsylvania Hospital.—George William Norris calls attention to the following facts: Tetanus toxin is found mainly in the nervous tissues; once united with these, antitoxin is powerless in its action on already affected cells. Antitoxin is harmless, but deteriorates rapidly; therefore, it should be procured fresh, and administered in continuous and large doses with the hope of immunizing the intact nerve cells. All cases of wounds in which there is a possibility of tetanic infection should receive prophylactic injections of antitoxin. Local treatment is of great importance, hence the infected area should be excised; when this is impossible, extensive disinfection, preferably with carbolic acid, should be carried out; furthermore, as Behring has shown, antitoxin is of benefit locally as well as systematically. Every effort should be made to maintain the nutrition of the patient, for Castronuovo has demonstrated that antitoxin is of no value in tetanic animals which have been starved.

Gastric Carcinoma Associated with Hyperchlorhydria and with Attacks of Stupor.—Norman B. Gwyn reports this case. He says that the mere persistence of free HCl in gastric carcinoma is not unusual, but an acidity as high as in this case—the total acidity being 70, and a free hydrochloric amount of 55 being determined, four months after onset—is distinctly out of the ordinary. At the first observation an occasional thickening could be felt in the epigastrium and right hypochondrium. The mass continued to grow and cachexia developed. Seven months from onset there was a total acidity of 40 and free HCl of 25. The patient was first seen in March. During the fall and winter small nodules developed just below the ziphoid cartilage, seemingly subcutaneous. On four occasions within the last six months the patient showed an unusual condition of intense stupor on four occasions. The origin of this stupor is obscure. It was perhaps due to a toxæmia of some sort. The patient refused operation.

Medical News, May 16, 1903.

Notes on Blood-pressure in Man.—S. S. Goldwater declares that thus far active mental states have been spoken of chiefly with regard to their ability to effect an exaltation of arterial tension. But while psychical functionation is capable of influencing arterial tension in the manner described, an undue prolongation of mental strain may have the contrary effect. In tracing normal blood-pressures during a period of twenty-four hours, there are seen tremendous changes which are associated

with modifications of the conscious state. In the curve, based on the writer's own observations, a rise is shown as a result of a lively argument. Unquestionably a large part of the almost constant rise of pressure from the hour of rising in the morning until the hour of retiring at night, is due to a succession of similar influences.

Journal of the American Medical Association, May 16, 1903.

Theories of the Transmission of Hereditary Syphilis.—A. Schalek believes that so far as the father is concerned, that infectious material may be communicated to the ovum by external agencies, including the semen, and result in a diseased product. From the ideas he advances the following conclusions may be drawn: (1) The father's sperm cell may contain the syphilitic virus and convey it to the child without participation of the mother. (2) The maternal generative cell may contain the virus and result directly in a diseased fœtus. (3) The placental circulation permits the passage of the infectious matter either way from mother to child, and vice versa. (4) Several or all of these factors may combine, and the more of them that are present the less probable the escape of the child. (5) The probabilities of the transmission of syphilis through the mother are greater because of more ways of possible influence on the fœtus. He considers the probability of the appearance of hereditary syphilis to be reversely proportionate (1) to the time of infection of the parents, and (2) to the length and thoroughness of the specific treatment. To answer the question as to whether or not syphilis can be transmitted to the second generation, he believes that we must have positive evidence (1) of acquired syphilis of either, or of both, of the grandparents; (2) of hereditary syphilis in either of the parents with the absolute proof that no new syphilitic infection of the parents took place, and (3) of hereditary syphilis in the grandchildren. The difficulties attached to the task of acquiring a trustworthy history of a disease running through three generations, make the reliability of the reported cases very uncertain, and do not, therefore, permit any correct deductions.

A Case of Rodent Ulcer.—J. C. O'Day considers his case worthy of report because of the extensive destruction of the face and the compatibility of a fair degree of health extending over a period of ten years. His patient was a male, aged fifty-six years, married, father of five children, living and well. The family history was negative. The personal history was negative, except that prior to the onset of ulcer the patient drank considerably. Sixteen years ago a small pimple appeared over the right eye becoming pustular and painful. The patient consulted a physician, who opened it with a needle, allowing the pus to escape. The margin now began to break down until the eyelid was threatened. Every effort to arrest the destructive character of the disease not only proved fruitless but seemed to aggravate it. In spite of various methods of treatment the disease progressed steadily, attacking skin, muscle, bone, eyes, nerves, and all structures of the face. This continued six years, when the destructive tendency ceased. For the past ten years it has remained in about the same condition. Examination shows the complete loss of the superior maxillæ, including all the soft structures up to the horizontal portion of the frontal bone. The tongue and remnant of the upper lip remain. In eating, he has his food minced and made into gruel with milk. This, with the aid of a spoon, he throws back on the base of his tongue, and it is readily swallowed. Words of the full vowel sound he utters distinctly, but with a peculiar horn-like pitch. He writes readily with slate and pencil, and in this way makes his wants known.

American Medicine, May 16, 1903.

Congenital Dislocation of the Hip: Report of a Bloodless Reposition, Followed by Death, with an Analysis of Twenty-three Cases in Process of Treatment.—H. Augustus Wilson, J. Torrance Rugh, and W. M. L. Coplin, in reporting a number of cases, state that in not one case has there been any evidence of paralysis or other nerve disturbance. Pain on attempting to use the leg operated upon has generally persisted for two to four days, and after that was only present when the hamstring tendons were stretched in those cases in which some flexion of the knee persisted. This, however, soon subsided, and freedom from pain or annoyances of any kind has been the condition in all cases excepting only the inconvenience of the plaster cast and the position in which it held the leg. It was a matter of great interest to see how quickly the children learned to adapt themselves to the posture of the affected leg, and to use it in walking where only one hip had been replaced.

Heart Showing Chronic Tuberculosis of the Pericardium, with Involvement of the Myocardium.—A. G. Ellis exhibited a specimen obtained at autopsy from the body of a male negro, aged twenty-four years, who died in October, 1902. The mediastinal tissues were studded with variously-sized grayish or yellowish nodules, some of which had caseous centers. The heart and the mediastinal tissues formed practically one large adherent nodular mass. Both pleuræ were universally adherent. The pericardium was universally adherent, the external surface being studded with yellowish nodules, varying from 0.2 to 2 cm. in diameter. In a number of places these nodules extended into the heart muscle, in some instances to a depth of more than a centimeter. The involvement of the heart was the greatest in the left ventricle, but was quite extensive in the right. The liver, spleen, pancreas, and kidneys contained miliary tubercles.

The Surgical Treatment of Pruritus Vulvæ with the Report of a Case Cured by Resection of the Genitocrural, Ilioinguinal, Inferior Pudendal, and Superficial Perineal Nerves.—Barton Cook Hirst states that the treatment of idiopathic pruritus vulvæ is among the unsolved problems of gynecology. The surgical treatment seems to promise better than the application of other remedies which are ordinarily suggested. The writer describes the operation of resecting the nerves supplying the vulva. It is too early as yet to decide what the ultimate outcome of this operation will be in a number of cases, but it seems reasonable to expect a greater certainty in results than has hitherto been obtainable by any treatment for pruritus. The writer has recently cured an intractable case with the characteristic history of having consulted several specialists and general practitioners without relief.

British Medical Journal, May 2, 1903.

Remarks on the Operative Treatment of Chronic Facial Palsy of Peripheral Origin.—Charles A. Ballance, Hamilton A. Ballance, and Purves Stewart conclude that: (1) Peripheral facial palsy is remediable by facio-accessory anastomosis, but the extent of recovery appears to be limited to associated movements in conjunction with the shoulder. In most cases the previous deformity disappears when the face is at rest. (2) For reasons above stated, he would in future recommend facio-hypoglossal anastomosis rather than facio-accessory. (3) The cases suitable for operation are those in which the paralysis had lasted so long that no recovery is to be expected, say, facial palsy lasting six months without any sign of recovery. In our opinion the sooner the operation is done after this date the better. (4) A suppurative causal condition producing an infective neuritis renders the prognosis after operative treatment less favorable than in cases due to trauma.

Graves's Disease in Association with Rheumatoid Arthritis.—R. Llewellyn Jones says that the result of his experience seems not so much to suggest an affinity between the two diseases, but rather to indicate that they often co-exist. This statement seems justified by the fact that he has seen cases, which, in addition to rheumatoid arthritis, showed the four cardinal symptoms constituting the so-called complete type of Graves's disease. It is interesting and possibly significant that many of the so-called secondary features of Graves's disease occur in the subjects of rheumatoid arthritis, and, moreover, in cases in which none of the cardinal symptoms of Graves's syndrome are present. In some of the cases reported the Graves's syndrome preceded the joint affection. In the majority the two diseases, as far as ascertainable, arose together. In a few, Graves's syndrome was of more recent date than the rheumatoid arthritis. Radical treatment, if possible, of such conditions when present, could not fail to be of benefit to the general health of the patient, and in early cases the joint condition.

British Medical Journal, May 9, 1903.

A Lecture on Therapeutic Inoculations of Bacterial Vaccines and Their Practical Exploitation in the Treatment of Disease.—A. E. Wright concludes: (1) We have seen that we have in connection with every immunization process a sequence of negative and positive phase followed in the case in which the inoculation is successful by the maintenance of a higher base line of immunity. (2) We have seen that the inoculation of an excessive dose may involve a risk, in particular, the risk of an undue prolongation of the negative phase. (3) We have seen that the inoculation of a series of doses of a vaccine will, in the case in which the inoculations are uncontrolled by intermediate blood examinations, involve the possibility of the production of a cumulative negative phase. (4) We have seen that the cumulative positive phase which is a desideratum either in itself or as leading to the maintenance of a high base line of resistance, is achieved only when the successive doses are properly adjusted and when the inoculations are appropriately interspersed. Finally, when all possible has been done in the way of guarding a patient against the risks attaching to the negative phase, the success of a therapeutic inoculation

cannot be guaranteed. The success must in each case depend upon the power of response which is possessed by the individual. In the case of a particular patient that power of response may fail us. It also may in connection with particular bacterial infections. But it may be predicted that success will in some cases be achieved.

On Exaltation of Bacterial Virulence by Passage in Vitro.—E. A. Shaw says that given volume of fresh serum having the power of killing off all the bacteria in a given volume of a bacterial emulsion of known strength, and failing to kill them all off in the same volume of an emulsion of greater strength, presumably the survivors would be the ones possessed of the greatest powers of resistance, the slain being those possessed of the least; and by allowing the survivors "the fittest" to propagate their species in serum, and so continuing to eliminate the weakly and unfit, one ought ultimately to arrive at a generation of increasedly healthy, vigorous, and resistant bacteria of the particular species subjected to this selective process, that is, a generation in increased virulence.

Acute Rheumatism and Sepsis.— Joseph A. Arkwright states that an ordinary infectious follicular tonsillitis, which is said to be usually due to the streptococcus pyogenes, is apparently the commonest exciting cause of an attack of acute rheumatism, though no doubt a predisposition strong or weak must also exist, and symptoms very closely resembling or identical with rheumatic fever occur, with scarlet fever and the scarlatinal sore throat. That other local septic processes may precede and apparently cause attacks of acute rheumatism is not so generally recognized. In certain of the cases here presented an acute local septic process appears to have set up acute rheumatic symptoms. In another case the arthritis caused was more like what is usually considered a septic arthritis, but the patient was a rheumatic subject. In one case there was no history of acute rheumatism in any blood relation, but the joint pains yielded to salicylates, and the patient had an appearance suggesting the rheumatic predisposition.

The Lancet, May 2, 1903.

The Dietetic Factor in Health-resort Treatment.—A. P. Luff discusses this question and says, concerning the dietetics of gout, that it is desirable to have as little complexity as possible. In a few intractable cases of chronic gout it may even become necessary to reduce the dietary for a time to the simplest possible condition—namely, to two articles—lean meat and water. There are a few cases of chronic gout which undoubtedly improve and even recover on an exclusive diet of red meat and hot water. These are generally cases of chronic gouty arthritis which have failed to yield to the ordinary methods of treatment and which are accompanied by obstinate derangement of the gastrointestinal tract, as evidenced by dyspepsia, flatulence, acid eructations, pyrosis, and offensive stools. He has successfully treated a few such carefully selected cases of chronic gout by the employment of this, the so-called "Salisbury" treatment. It is essential before placing a patient on such diet that the urine should be carefully examined, as any advanced condition of kidney disease contraindicates the employment of such a dietary. If the evidence of kidney derangement is only slight the adoption of the dietary is not contraindicated, but the urine must be carefully examined every two or three days, as any considerable increase in the albuminuria would at once be an indication for the discontinuance of this special diet. Gouty patients suffering from organic heart disease with any failure of compensation should never be placed on this dietary.

A Case of Tuberculous Peritonitis; Spontaneous Recovery.—The patient of H. F. Bellamy was a child of eight years presenting the usual evidences of tuberculous peritonitis. A guarded prognosis was given and the usual measures ordered, stress being laid on rest in the recumbent position, fresh air, sunshine, and careful feeding. Two days later a yellow discoloration was noted in the region of the umbilicus and was considered as a mere pigmentation, such as occurs in cases of abdominal and other tuberculous conditions. This discoloration gradually spread over the body and the condition resembled general icterus. The cause of the latter was judged to be an enlarged mesenteric gland pressing on the bile-ducts. Nourishment of the patient was a most difficult task. The article of diet best borne was milk and milk puddings thickened with Roborat, a German preparation of vegetable albumin. This was well retained, and proved a sheet anchor as to nutrition. The condition of the child gradually changed for the better. It was kept out of doors all the time, meat essences were gradually added to the diet and finally the child became well enough to be taken on a sea voyage. After an absence of eight months, it returned in good health and was able to follow the usual pursuits of children of its age.

The Relation of Meconium to the Fetal Appendix.—A. Low states that the disposition of meconium with reference to the different portions of the fetal canal is as follows: (1) *Small intestine.*—Meconium begins to distend the lower half about the middle of the fourth month and continues to do so to a variable extent till the end of fetal life. (2) *Large intestine.*—Meconium begins to distend the rectum about the beginning of the fifth month, thereafter tending to accumulate in the cæcum and then gradually distending the whole of the large intestine, so that after the seventh month dark-green meconium distends the large intestine in its whole length. (3) *Appendix vermiformis.*—Meconium was noted to be present in the appendix as early as the middle of the fourth month and thereafter in nearly every case it was present in the appendix till the end of fetal life. The amount of meconium in the appendix varies; it seems to depend somewhat on the condition of the cæcum—if the cæcum is distended then the appendix is always distended, but there may be meconium in the appendix while the cæcum is practically empty.

The Lancet, May 9, 1903.

The Treatment of Bubonic Plague by Yersin's Serum, with Observations on Its Mode of Action.—D. L. Cairns details his experience gained in the two recent outbreaks of plague in Glasgow. He believes himself warranted in stating (1) that Yersin's serum is a remedy of the greatest value in the treatment of bubonic plague; (2) that its action is bactercidal, as shown by the degeneration induced in the bacilli, as well as antitoxic; (3) that this double acton of the serum is best secured by its early administration in large doses, both subcutaneously into the lymphatic area which drains toward the bubo, and also intravenously; and (4) in very mild cases subcutaneous injection alone will probably suffice, but in severe cases the combined method should be employed. For these latter the initial combined dose should be perhaps from 150 to 300 c.c., the proportion given intravenously varying with the relative severity of the general symptoms.

The Position of the Heart in Some Cases of Aortic Aneurysm.—H. Walsham notes that in many instances of aortic aneurysm the transverse position assumed by the heart is of great diagnostic value—more important than the downward displacement giving rise to epigastric pulsation. The transverse position seems to raise rather than lower the apex beat unless there be considerable hypertrophy of the left ventricle, which in aortic aneurysm is quite the exception. The cause of the transverse position is the pushing of the heart by the superincumbent weight of the aneurysmal sac. In the absence of other positive physical signs this transverse position is of great diagnostic importance. Two illustrative clinical histories are added.

Acute Amaurosis Following Infantile Convulsions.—H. Ashby and S. Stephenson report five cases and then enter on a general discussion of the subject. Their conclusions are as follows: (1) There is a form of amaurosis which occurs in infants or young children which is post-eclamptic, due to anæsthesia of the visual centers. (2) The convulsions, which may be due to various causes, are apt to be severe and accompanied by coma. (3) The amaurosis may be associated with aphasia and paresis of hemiplegic distribution; the hemiplegia may be permanent. (4) The amaurosis is for the most part transient. It is possible that in some instances there is hemianopia.

Deutsche medicinishe Wochenschrift, April 23, 1903.

A New Stain for the Malarial Parasite.—Josef Koreck gives the following stain for the malarial parasite: Argentum methylene blue, 1 g.; aceton 2 g., distilled water 10 c.c., eosin 8 to 1.5 g. The argentum methylene blue is made by adding .5 g. of collargol to 100 c.c. of a 1 per cent. aqueous solution of methylene blue. The smear is fixed by any of the usual methods and submitted to the action of the stain for a varying length of time depending upon the age of the staining solution. If the latter has been freshly prepared nearly one half an hour is necessary, but if it has been allowed to age a much shorter time will suffice. In any given instance the proper time can only be ascertained by repeated trials. The advantage of the method is the sharp differentiation given by it between the red blood cells and the parasites, so that when the latter are ill defined with other methods they are plainly brought out by this one.

Münchener medicinische Wochenschrift, April 28, 1903.

The Estimation of Indol in the Fæces by the Means of Ehrlich's Dimethylamidobenzaldehyde Reaction.—Adolf Schmidt conducts these estimations by means of the spectroscope. A given amount of the dried fresh fæces are

submitted to Ehrlich's test in the usual manner. After the reaction is complete 1 c.c. of the tested mixture is submitted to spectroscopic examination when the characteristic absorption bands are seen. This is now diluted with sufficient alcohol to cause the bands to disappear, and the amount of alcohol so used is noted. By experimentation it has been ascertained that an indol solution just fails to produce its characteristic spectrum when it contains 1.25 mg. of this substance to the liter. Hence if the amount of fæces and alcohol used to produce the above result are known the computation of the quantity of indol in the amount of fæces tested becomes simple. From the figures thus obtained the amount of indol in the entire fæces is ascertained if the weight of the latter is known. For the accurate performance of this test it is absolutely essential that the fæces be fresh and thoroughly dried before using.

Berliner klinische Wochenschrift, April 23, 1903.

The Anti-tryptic Property of the Blood Serum in Croupous Pneumonia.—M. Ascoli and C. Bezzola show that in this disease the blood serum possesses anti-tryptic properties. These are at first not marked, but become much increased at the time of the crisis, remaining high for several days thereafter, and then gradually subsiding. Observation shows that the anti-tryptic properties are in all probability due to the destruction of large numbers of leucocytes, which is known to occur shortly before the crisis. The estimation of the anti-tryptic power of the serum is obtained by the addition of it in small quantities to gelatin which has been submitted to the action of trypsin, and noting its ability to prevent fluidification.

The Relation of the Presence of Glycogen in the Leucocytes to Infection.—Alfred Wolff, from a survey of the literature and his personal observations, concludes that the presence of the iodine reaction in leucocytes during infectious processes is a sign of a degenerated condition of these cells which is brought about extra- or intravascularly by the action of ferments or other causes. Such a degeneration is not always of a bacterial toxic nature, since in the presence of bacterial toxins the reaction is not always found. No casual relation exists between the iodine reaction and the phenomenon of leucocytosis.

The American Journal of the Medical Sciences, May, 1903.

A New Method of Connecting Flexion Deformity at the Knee-joint.—Royal Whitman, in his experience with a number of difficult cases of this class, conceived the idea of reversing the ordinary process of correction; that is, of making the femur the lever, and fixing the tibia, in order to avoid the danger of subluxation; for if a part is fixed it cannot be displaced. On the other hand, extension of the femur on the fixed tibia would tend to force its lower extremity backward, and thus to lessen the degree of subluxation, if it were present. The patient is anæsthetized and turned face downward upon the table. Pillows under the abdomen accommodate the deformity. The anterior surface of the tibia must rest evenly upon the table. The operator holds with one hand the head of the tibia firmly against the table, and with the ulnar border of the other begins forcible massage upon the contracted hamstrings, after the method employed in overcoming the resistance of the adductors in the operation of reduction of congenital dislocation of the hip. In this forcible massage pressure is begun half-way up the thigh, thus exerting a certain extending force. As the resistance lessens, the trunk is lowered and the assistant begins to press the thigh gently downward toward the table, rhythmically stretching and relaxing the resistant tissues, but never with sufficient force to lift the head of the tibia, which is firmly fixed to the table by the operator, reinforced, if necessary, by the hand of an assistant. If of long standing, and especially if subluxation is present, complete correction should not be attempted in one operation. Division of tendons may be required. A plaster bandage is applied after operation. This treatment is hardly necessary in flexion from simple muscular spasm. Certain cases are unsuitable for this or any other method of straightening. Osteotomy just above the joint is then advisable. The limb is then straightened.

Anatomical Study of a Short-limbed Dwarf, with Special Reference to Osteogenesis Imperfecta and Chondrodystrophia Fœtalis.—Ludwig Hektoen describes a fairly symmetric micromelic dwarf, aged forty-five years, presumably of fair intelligence, with a fibroid thyroid without any demonstrable thyroidin, with a relatively large cranial vault, made up of 172 Wormian bones, but without any evidence of premature ossification of the synchondroses at the base of the skull; with marked curvatures of the spinal column; with old fractures of many of the ribs and of the left humerus; with great deformity of the pelvis; with curvatures of most of the long bones, which are relatively short, the articular ends being swollen into irregular globular masses; with a general and pronounced osteoporosis; and with absence of trident fingers. Cretinism or rickets, or osteomalacia in all probability, is not wholly responsible for the changes present in the skeleton. As the matter now stands, final conclusion as to the cause of the condition found in this case seems unattainable, and it must be placed on record as one example of the grave changes that may be produced in the skeleton by obscure and interesting processes, the real cause and nature of which we do not understand.

A Contribution to the Study of the Human Blood-pressure in Some Pathological Conditions.—George William Norris states that: (1) Daily and hourly variations of tension are commoner and greater in amount than in health or in other afebrile pathological conditions unaccompanied by heart disease. (2) In mitral insufficiency the pressure is usually normal; it may be subnormal, but is rarely supernormal in uncomplicated cases. (3) In mitral stenosis tension tends to be higher than in insufficiency, and when both lesions are present it tends to be higher than when the latter condition alone exists, provided that compensation is fairly good. (4) In aortic insufficiency, especially if compensation is good, the systolic pressure is above normal, often markedly so. The wave amplitude is much greater than normal. The greatest amount of daily individual fluctuation occurs in this variety of heart disease. The pressure does not fall below the normal unless the lesion is complicated by mitral disease or myocarditis. (5) Myocarditis is usually accompanied by high tension, and cardiac dilatation by low tension. (6) No constant relation exists between pulse rate and blood-pressure.

Annals of Surgery, April, 1903.

Splenopexy for Wandering Spleen.—A case is reported by J. B. Hall, who makes use of the notch in the organ as a means of fixation. The method of operating in the case narrated is thus described: was the abdomen opened by an incision four inches long at the outer border of the left rectus abdominis. The lower pole of the spleen was exposed by this incision, and the whole organ was then delivered through it without much difficulty. It was seven and a half inches long and three and a half inches wide at its center. Except for its size, it was to all appearances a normal spleen. At this stage it was evident that splenectomy could be easily accomplished. The pedicle was so long that the delivery through the incision had scarcely tightened it, and the arrangement of the vessels was such as to allow of easy separate ligation. Whilst considering the advisability of removal, however, it was noticed that the notch on the anterior border was only two to three inches from the lower extremity of the spleen, and the depth of the notch was such that the lower pole of the spleen was only connected to the rest of the organ by a comparatively narrow isthmus. This arrangement at once suggested an easy means of fixing the organ. The main body of the spleen was therefore replaced in the abdomen after rendering the parietal peritoneum raw in the splenic fossa in order to excite adhesions. Then, whilst the lower pole was held in the wound, the edges of the peritoneum were drawn tight by a purse-string suture until they closely gripped the narrow isthmus in the notch. The abdominal aponeurosis was next sutured in a similar manner until it grasped the isthmus in the notch sufficiently tightly to produce marked congestion of the now isolated lower pole. The left rectus muscle was next drawn outward somewhat, so as to overlap the projecting pole of the spleen as much as possible, and the skin incision sutured. After closing the skin incision, a prominent lump the size of half an orange remained. The patient made a good recovery.

The Surgical Treatment of Anuria.—A. D. Bevan makes the following classification of cases: (1) Obstructive (urethral obstruction, unilateral or bilateral); (2) reflex or paralytic (unilateral ureteral obstruction suppressing function of opposite ureter by reflex action) removal of one kidney with suppression on the other side, hysterical and traumatic cases, and (3) non-obstructive or nephritic (inflammation of kidney, anæsthetics, poisons, toxins, urethral fever and lesions, gradually destroying one kidney and then the other (as tuberculosis, cystic degeneration, etc.). He offers the following suggestions: (1) The clinical importance of recognizing the three forms of anuria—obstructive, reflex and non-obstructive—is to be emphasized. (2) The imperative necessity of surgical interference in the obstructive and reflex forms, and its possible value in the non-obstructive cases. (3) In the first two varieties, at least, a rapid nephrotomy on the side of pain, tenderness, and muscular rigidity is the operation of choice. If necessary, do not hesitate to make a double nephrotomy. (4) Nitrous oxide anæsthesia is probably to be preferred. (5) Time-consuming operations to relieve permanently the obstruction are to be postponed to a later period, after the patient has recovered from the anuria. (6) We should operate early by the beginning of the third day.

Society Reports.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

Sixth Triennial Meeting, Held in Washington, D. C., May 12, 13, and 14, 1903.

WILLIAM W. KEEN, M.D., OF PHILADELPHIA, PRESIDENT.

FIRST GENERAL SESSION, TUESDAY, MAY 12.

THE meeting was called to order by the President of the Congress in the Columbia theater at 3 P.M.

The Pancreas and Pancreatic Diseases.—This was the special subject for the afternoon's discussion.

Anatomy and Histology.—Dr. E. L. OPIE of Baltimore presented this, the opening paper. He said that the pancreas was provided with an accessory duct, which might take the place of the main duct when the latter was obstructed. The duodenal orifice of this accessory duct was excessively minute; during life it undoubtedly discharged its contents into the duct of Wirsung. Often the duodenal orifice of the accessory duct was obliterated. The speaker said that he had dissected the duct in one hundred subjects, and had found the two ducts present in every instance, although occasionally one or the other was so small as to be found with difficulty. In ten instances the two ducts failed to anastomose within the gland; in twenty instances the duodenal end of the duct of Santorini was not patent. In eleven specimens this duct was equal to or larger than the duct of Wirsung, so that it must have been the outlet for a large part of the pancreatic juice. He had found the head of the pancreas to be made up of two well-defined lobes. Out of 1,800 autopsies, in ten accessory pancreatic glands had been present. In two instances two accessory glands occurred in the same individual. The existence of more than one accessory gland could not be explained by the persistence of one or more embryonic structure; a more probable explanation was that at a very early period of embryonic life the lateral branch of the pancreatic duct was carried a variable distance from the pancreas and a new duct was formed. The cells forming the islands of Langerhans were found to have a common origin with that of the secreting acini. These islands were composed of columns of cells in intimate relation with a rich vascular supply. Two anatomical peculiarities of the pancreas had not yet received sufficient attention. In the first place, the organ consisted of two functionally diverse elements; on the one hand, cells supplying to the intestine important digestive ferments, and, on the other hand, cells having intercommunication with the ducts of the gland, but in intimate relation with the blood vessels. In the second place, the close relationship of the duct of the gland to the bile duct favored the transmission of morbid processes from the bile duct to the pancreatic passages.

The Physiology and Physiological Chemistry.—Prof. R. H. CHITTENDEN of New Haven discussed this topic. He said that it was well understood that the manufacture of the pancreatic juice was only one of the important functions of the pancreas. The closure of the duct of Wirsung caused no great harm; on the other hand, the removal of the entire gland resulted in a serious disturbance in carbohydrate metabolism. This was due to the fact that the pancreas had an internal secretion, and, therefore, belonged not merely to the digestive tract but to the whole chemistry of the blood and tissues. None of the other organs could vicariously step in and take up the functions of the pancreas. The secretion of the pancreatic juice appeared to be dependent upon the activity of the duodenal cells, another evidence that the functional activity of the gland was often dependent in no small degree upon the harmonious relation of some other structure. All physiologists were agreed at the present time that hyperglycæmia following the removal of the pancreas was due mainly to the inability of the organism to decompose the sugar formed in, or introduced into, the body, but as to the exact causes leading to this condition satisfactory proof was lacking. The cells of the pancreas had certain peculiarities of composition worthy of note. For instance, they contained more pentose than the other cells in the body. The pancreatic juice, like other digestive juices, was known to be modified in accordance with the nature of the food. In conclusion, the speaker called attention to the results obtained by Herter and others with regard to adrenalin glycosuria, and the reducing action upon the pancreatic cells. The fact that many organs of the body might form reducing substances capable of easy reduction, and which might reach the pancreas in the blood stream, made it probable that in this fact was to be found a new light on the origin of diabetes.

Etiology and Pathological Anatomy.—Dr. SIMON FLEXNER of Philadelphia, for lack of time, only discussed certain phases of this subject, particularly the acute and chronic inflammations of the pancreas, and fat necrosis. He said that a number of kinds of injury inflicted upon the pancreas, especially in dogs, set up a sort of hemorrhagic inflammation. If an irritating substance were thrown into the duct of the pancreas the pancreatic tissue would be injured, and this would be quickly followed by a hemorrhagic inflammation, which ordinarily terminated fatally. Solutions of chloride of zinc, of various acids and alkalies and solutions of bacterial growths, had been employed in this way. The same results followed the injection of gastric juice. Our knowledge of the etiology of hemorrhagic pancreatitis had been greatly advanced by the observations of Halsted and the experiments of Opie on the entrance of bile into the duct of Wirsung. It had a most important bearing on the etiology of hemorrhagic pancreatitis in man. Gangrenous pancreatitis was apparently a secondary condition engrafted, for the most part, upon hemorrhagic pancreatitis. The development of these hemorrhagic lesions were invariably associated with wide necrosis of areas of pancreatic tissue, and this should afford an excellent opportunity for the invasion and lodgment of putrefactive organisms derived from the intestine. Another series of pancreatic lesions had also been illuminated by experimental study. He had found that in dogs in which pancreatitis had been set up by the injection of gastric juice recovery sometimes occurred, and that later on cysts and other lesions in the pancreas were found which were apparently the result of suppuration within the gland. This seemed to support clinical observation. With regard to fat necrosis, the speaker said that certain circumscribed areas of fat necrosis of very variable size developed in the abdominal cavity under certain conditions, and their close relationship to the pancreas had long been suspected. This relationship had been demonstrated to exist by Langerhans, and more recent observation seemed to indicate that these areas were due to the presence of some of the pancreatic secretion and of a fat-splitting ferment. It was possible to prove by chemical tests that the fat-splitting ferment was there present. These fat necroses could be produced not only by perverting the secretion of the pancreas, but, as had been shown by Dr. Wells of Chicago, by introducing into the abdomen of animals some of the commercial extracts of pancreas, the so-called pancreatin. Dr. Opie had made out clearly two forms of chronic inflammation of the pancreas, an interlobular and an interacinar form, and the latter form was the one associated with diabetes. This fact had been confirmed by the observation of a great many cases.

The Symptomatology and Diagnosis.—Dr. REGINALD H. FITZ of Boston spoke on this topic. He said that morbid changes of the pancreas were frequently found after death without symptoms pointing to such lesions having existed in life. The lesions occuring in the pancreas in conjunction with diabetes were those of interstitial inflammation with corresponding destruction of

the parenchma of the pancreas; nevertheless extensive destruction of the pancreas sometimes occurred without observable modification of its function. The destruction of the islands of Langerhans in cases in which gross examination showed no extensive involvement of the pancreas, explained the occurrence of diabetes in such cases. Bronzing of the skin and enlargement of the liver without jaundice or the pigmentation of Addison's disease, pointed to chronic fibrous pancreatitis. With regard to steatarea the speaker said that a table of twenty-nine cases had been prepared to show the relation between visible fecal fat, jaundice and pancreatic disease. This table showed that jaundice was present in twelve cases and diabetes in eleven cases, suggesting that in about three-fifths of the cases of steatarea attributable to pancreatic disease, neither diabetes nor jaundice was an important factor. The author's conclusion from this study was that steatarea should be attributed to pancreatic disease only when other causes of this condition could be excluded, the most important of which was interference with the flow of bile into the intestine. It had been repeatedly noted that fecal fat had been present when persons were eating an abundance of fat; hence it was important to eliminate this possible source of error. The capacity of the patient for digesting fat and for digesting muscle fiber should be tested, having first determined the condition of the gastric functions. The possibility of testing the efficiency of the pancreas by the attempt to produce an artificial glycosuria was worthy of consideration, though there were so many conflicting factors that, at the present time, it could hardly be considered of much diagnostic aid. The examination of the urine for pentose had attracted attention. It was possible by this test to find crystals of phenylhydrazin in normal urine. The quantity of the ethereal sulphate gave some indication of the extent of intestinal putrefaction and of the secretion of pancreatic juice. Herter had found increase of indican and of the preformed sulphates in Northrup's case of malignant disease of the pancreas. Opie had suggested the possibility of finding in the urine the fat-splitting ferment. The differential diagnosis lay between acute and chronic affections, and between several varieties of pancreatic disease. The symptoms of acute pancreatitis were essentially those of peritonitis developing in the epigastrium suddenly in persons apparently in perfect health. Exploratory laparotomy had proved the most satisfactory method of treatment. The diagnosis of chronic pancreatitis was usually based on the occurrence of localized pain and the presence of a tumor.

Surgery of the Pancreas.—Prof. Von Mikulicz-Radecki of Breslau, Germany, presented the first paper on this part of the general subject, discussing injuries and inflammatory processes. He said that the operative measures for exposing the pancreas were of two kinds, the transperitoneal and the retroperitoneal. The last-named method aimed to reach the pancreas by an incision in the lumbar region. The advance of pancreatic surgery had been greatly hindered by the difficulties of diagnosis. The surgeon could not usually rely upon the signs of functional disturbance because these ordinarily did not appear until the greater part of the gland was already diseased. Another difficulty encountered in the surgery of this region was the great danger attendant upon operation on this gland. Deeply buried sutures must be used in order to control the hemorrhage, and yet this very procedure favored necrosis and, moreover, did not always prevent the occurrence of secondary hemorrhage into the peritoneal cavity. A special danger was the leaking of the pancreatic secretion. This seriously affected the peritoneum and the neighboring tissue. In ninety-one cases of resection of the stomach in which the pancreas was certainly not injured, twenty-seven died as a result of the operation. In thirty other cases, the pancreas was injured, and of these twenty-one, or 70 per cent., died, usually of peritonitis. In the majority of cases the secretion from the pancreas acted indirectly by causing local irritation of the peritoneum and by affording an excellent medium for infection. The injured part of the pancreas could be turned inward and closed with sutures so as to prevent such leakage into the peritoneum, but usually it was necessary to protect the parts by means of tampon drainage. Of eight cases of injury of the pancreas, treated by such drainage, six recovered. Wherever pancreatic tissue had been exposed the abdominal cavity should be tamponed and drained. Statistics were quoted to show that severe injuries of the pancreas, if not subjected to operation, terminated fatally almost without exception, and also to emphasize the need for exploratory laparotomy when there was reason to suspect injury of this organ. Most surgeons were opposed to early operation in acute pancreatitis. He believed the great majority of these patients died in the acute stage, so that it was possible that better results would follow an early and rational operation. Chronic pancreatitis should always be considered when making a diagnosis of cholelithiasis and *vice versa*. The results of operation in chronic pancreatitis were very encouraging.

Tumors and Cysts of the Pancreas.—Dr. Roswell Park of Buffalo treated of this part of the subject. He said that the cysts met with were: retention, proliferation, hemorrhagic, hydatid, congenital and peripancreatic or pseudo-cysts. The proliferating cysts sometimes evinced malignancy. Most of the hemorrhagic cysts were examples of hemorrhages taking place in cysts. The escape of blood and pancreatic juice into the peritoneum might very easily give rise to a tumor which, in the living subject, might be almost indistinguishable from a true cyst. Fistulæ resulting from these operations had proved most obstinate. Aspiration had nothing to recommend it. The treatment should be by incision, and posterior drainage would often prove a time-saving measure. Cancer was especially common in the head of the pancreas, and often reached a considerable size. The symptoms were far from definite. When there was a well-founded suspicion of a tumor of the pancreas an operation should be undertaken.

Dr. Charles G. Stockton of Buffalo opened the general discussion. He said that there seemed to be still reason to believe that diabetes might exist without ascertainable disease of the pancreas. The question of polyuria should not be overlooked. In cases of achylia gastrica, in which there was a disappearance of the gastric juice, including the hydrochloric acid, intestinal digestion did not appear to be affected, a point of some interest in connection with the statement that had been made, that the pouring out of the acid gastric juice into the duodenum was the normal stimulus to the secretion of pancreatic juice.

Dr. Herbert U. Williams of Buffalo said that it was very easy to determine in a moment, by the microscope, the nature of the areas formed by fat necrosis. Not enough attention had been paid to the work of Chiari on self-digestion of the pancreas. It was not uncommon to find at autopsies areas of fat necrosis, sometimes associated with hemorrhage, and he could see no difference between them and those observed in acute pancreatitis, except in degree.

Dr. Maurice H. Richardson of Boston said that at the Massachusetts General Hospital out of upward of seven thousand abdominal operations there had been only seven done for acute pancreatitis. In his experience the disease had been seldom diagnosticated before operation, and the lesion had usually occurred rather late in life in stout persons of poor physique. Acute infection compromising the whole gland permitted only of drainage and this did not check the progress of the necrosis; hence, operation was often only a forlorn hope. The surgery of benign new growths of the pancreas seemed to have a brilliant future. It was chiefly in the treatment of

aseptic lesions of the pancreas that surgery had an encouraging though limited field.

Mr. B. S. A. Moynihan of Leeds, England, being invited to speak, reported two very interesting cases, and spoke in flattering terms of the excellent original work in this field done by Americans, particularly Flexner and Opie

President's Address: "The Duties and Responsibilities of Trustees of Medical Institutions."—On the evening of the first day of the Congress a large audience assembled to hear the President's address. Dr. William W. Keen took the above for his theme. Speaking of medical colleges, he said that one of the best means of promoting harmony among the faculty and the trustees was by the latter inviting the former to be present, in a purely advisory capacity, at the board meetings. He was firmly convinced that the best interests of all concerned demanded that medical teachers and members of hospital staffs should be retired by a standing rule at the age of sixty-five years, because while admitting that some men were in full possession of their faculties at that age, and their retirement would be a loss to the institution with which they were connected, there were a score of instances for one of those just mentioned in which the retention of men at this age was greatly to the detriment of the institution. It was advisable to have a small proportion—not over 20 per cent.—of well-chosen medical men on the board of directors of a hospital, but these men should be selected for their large mental caliber and great executive ability. The remainder of the address was an earnest and eloquent plea for the best modern equipment of hospitals and a free use of patients for clinical teaching. After an experience of forty years in hospital work, he could say that he had never seen a patient injured by such teaching, and it was an excellent training for the staff, for students were the best possible whip and spurs to good, careful work.

ASSOCIATION OF AMERICAN PHYSICIANS.

First Day—Tuesday, May 12.

The President's Address.—Dr. James Stewart of Montreal contrasted the progress of the society from its inception in 1886 up to the present day, showing the marked improvement in the character of the papers read as time had gone on until now they have reached that degree of excellence when most of the papers read were of a true scientific value. In closing, Dr. Stewart felt it his duty to pay tribute to those members of the society who had died during the past year. They were: Dr. White Johnson of Montreal who had succumbed to septic poisoning; Dr. Fred Packard of Philadelphia of typhoid fever, and Major Walter Reed, who died as a result of an attack of appendicitis, November 23, 1902.

Bathycardia (low heart).—Dr. E. G. Janeway of New York read this paper. Two cases had come up recently in the doctor's practice in which a heart had been displaced downward, due to an elongation of the arch of the aorta. No disease could be demonstrated to be present below the diaphragm, which might account for the conditions present in these cases. This condition was not hard to recogni e. The signs were: lowered position, absence of cardiac dulness at the base with the apex in the sixth interspace, at times hard to demonstrate. Flatulence was liable to increase the distress in these cases; depression of the liver was not a marked sign in these cases.

Dr. Mossler was the first to describe this condition. The fluoroscope gave a satisfactory result on examination. There has been no autopsies reported in this condition. These patients always had long, flat chests.

Dr. Osler of Baltimore said that in cases of hypertrophy of the right ventrical there may be a bulging in the parasternal line which might be taken for an aneurysm. He had examined many cases of enteroptosis, but had found in them no descent of the heart from its normal position.

Post-typhoid Sepsis.—Dr. Francis Delafield of New York read this paper. In cases of typhoid fever, after the fourth week there had often been noticed a fever which was not typhoid, unless there was a relapse. Of course, there might be an infection of the bladder and other organs due to the typhoid bacillus, but in reality this was not a typhoid fever, but a true septic fever, due to the presence of the germ of typhoid. Most cases of relapse in typhoid fever took place in from three to twenty-five days after the symptoms of typhoid had disappeared. One relapse was common; a second relapse was comparatively rare. Post-typhoidal fevers owed their origin to three causes: first, the ordinary rise of temperature, which continued after the typhoid symptoms had defervested, and in the second week following the typhoid infection. These were due to asthenia. Secondly, those of importance which lasted two weeks, where it was necessary to give the patient solid food and get him out of bed. The temperature might be continuous with that of typhoid, or after an interval of three days it might rise. In these cases there was no delirium, no eruption, and no tympanites. Not a few of these had heart collapses, but in the end they would get well, provided they were taken out of bed and properly fed. This sort of fever might run to a 103° F., or even as high as 107°, with chills. There might be a severe and long-continued fever, which might terminate fatally. These occurred four weeks after the inception of the fever, and were true cases of septic fever, the morning temperature being 100°, and the evening temperature perhaps as high as 103°. There might be intervals of one or more days, and then a chill. These patients looked septic and were septic; the mind was often dull, but there was never delirium; there might be thrombosis of one or both femorals. Autopsies showed the cause of death to be sepsis and starvation. These patients should be taken out of bed and fed, when they would gain flesh in a most rapid and astonishing method. One of the office cases had gained twenty pounds in the space of ten days. In the end of typhoid there might come on an infection so severe as to resemble streptococcus invasion. These also called for solid food and exercise.

Dr. Henry Koplik of New York said it was common to have, after the fourth week, a slight rise of temperature for two or three days in children between the ages of three and twelve. Although they might be emaciated and run down after five or six weeks infection with a continuous temperature, he had always made it a practice to take the children out of bed and give them solid food. Recovery had followed in all of his cases in which this condition and method of treatment had been employed. He regarded this sort of a fever as one of inanition, or as the result of septic absorption from the intestines.

Artificial Immunity in Experimental Tuberculosis.—Dr. E. L. Trudeau of Saranac Lake, N. Y., read this paper. There were three kinds of immunity—natural, acquired, and artificial. Artificial immunity was present very often after injection of living germs, but there was also present in many of these cases a secondary infecton which massed the artificial immunity which had been set up. In acute miliary tuberculosis the bacillus was hard to find, possibly due to the fact that an artificial immunity had been acquired. Artificial immunity was present in 60 per cent. autopsies, as shown by healing in a great many cases, but we should discriminate between a healed and an arrested condition. Of course, there were the toxin and bacterial immunities; the first was obtained by the production of an antitoxin in the blood serum by means of previously prepared blood sera in other animals. The second was induced by the injection of the living germs into the living organisms. Koch's tuberculin did not protect against the living tubercle bacillus. Success in immunity was only obtained from the injection of living

tubercle bacillus. This was called Behring Isopathic Immunity. Rabbits could be inoculated and rendered immune by the injection of attenuated bacilli. Prolonged cultivation through media and animals produced attentuation of the tubercle bacilli. The essayist showed a culture, eleven years old, which was so attentuated that it could not kill rabbits. After six years guinea-pigs, which were especially susceptible to tuberculosis, could overcome the effects of inoculation. Vaccinated animals lived three times as long as those unprotected. Immunity produced by continued inoculation until rabbits did not react to the tuberculin, was the best form of immunity that had so far been accomplished. In protected animals, in whom inoculation had been practised, the infected area healed very slowly after a long time. There was formed a specific substance in the blood serum of a calf which had been immunized, but this specific substance was only protected for a period lasting over three months. Intravenous injection of attenuated cultures did not affect the lungs of rabbits after fifty days. Inoculation of virulent bacilli after 104 days in immunized rabbits produced no results in the lungs, except those which were present in chronic tuberculosis of the lungs, and these lesions had healed and defervesced after a short period of time

Studies in Mammalian Tuberculosis III, Description of a Bovine Bacillus for Man: Culture Tests for Distinguishing the Bovine from the Human Type of Bacilli.—Dr. Theobald Smith of Boston read this paper. Two points of interest were brought out in this paper: first, in 1896 the essayist had called the attention of the medical fraternity to the difference in variance of two bacilli, one in man, the other in cattle. These two were of different varieties, and were distinguished very readily by their morphologic, biologic and characters of virulence, such as methods of growth, etc. The one was called bovine, the other the human tubercle bacillus. The author had had two cases of tuberculous involvement of the mesenteric glands of children, in which the disease had evidently entered the intestines through the mucous membrane in the same manner in which bovine tuberculosis affected cattle. One of these bacilli grew with difficulty, while the other very readily grew on all the recognized media for their culture. One the author determined to be a human variety, and the other the bovine. These cultures were injected into two separate animals; the human did no harm, while the other rapidly destroyed the subject after a short space of time. The human bacillus was really an attenuated culture. In both of these bacilli there was present, after two months, a difference in their reaction toward litmus paper. The bovine showed a slow diminution from the acid to the alkaline reaction, whereas the human started with the alkaline and slowly became acid.

Not all cases of mesenteric involvement were due to bovine tuberculosis. In conclusion, the author said that bovine tuberculosis could pass through man and that involvement of the human subject with the bovine bacillus was rare.

Dr. Osler asked if there were any difference in the microscopic appearance of the mesenteric glands of bovine and human infection.

Dr. Smith answered that the bovine contained an enormous number of tubercle bacilli, and that none was found in the human glands.

Dr. Osler remarked that the lymphatic type should be more carefully looked into to see whether or not it were closely allied to bovine tuberculosis.

The Transmission of Bovine Tuberculosis by Milk.—Dr. George M. Kober of Washington, D. C., read this paper. Cases of primary instances of tuberculosis, as a result of infection through the ingestion of milk into the intestinal track, were rare, hence it was of no importance to take into consideration the transmission of bovine tuberculosis by means of milk ingestion. This was the opinion of the profession at large, but the author had succeeded in tabulating eighty-six cases of milk-borne infection of bovine tuberculosis. Carmichael, in forty-nine cases, showed that children were prone to bovine infection after weaning. Scrofula in the children of Paris had been very easily attributed to the tuberculosis in cows, as statistics of that city showed that their cattle were most commonly infected with this disease. These children were known to have been infected, especially during that period of life when milk occupied the most important place on their list of diet. The author's conclusion was that tuberculosis might be transmitted from animals to the human subject. This had been established by feeding experiments, and by the accidental infection of those working about the cattle. The author supported Theobald Smith's idea that there were two varieties of the tubercle bacilli. An interesting observation had been made which showed that the phosphates in tubercular-infected cows were more than seven times greater than in the normal healthy animal, and that this increase was probably due to the activity of the tubercle bacillus.

Dr. Trudeau remarked that Behring had succeeded in protecting cows from bovine tuberculosis by previously immunizing them with avian tuberculosis.

Dr. Smith said there was a certain adaptation of species, as in families and races, but that this should not be put down as an argument against the existence of the two varieties of the bacillus. The difference of reaction of these bacilli, of which he had spoken, to gelatin was sufficient to class them as separate and distinct varieties, and that a unity could not be made because of the existence of reciprocal immunizing properties.

Primary Tuberculosis of the Tonsil: The Tonsil as a Portal of Tuberculous Infection.—Dr. Henry Koplik of New York read this paper. He said that the tonsil was very rarely the seat of primary tuberculosis, especially when there was no other seat or focus of tuberculosis to be demonstrated in some other portion of the body. Primary tuberculosis with involvement of the glands was present in a limited number of instances; secondary involvement of the tonsils was common. Infection of the lymph nodes was frequent in children and, if primary, gave a favorable prognosis after operation. The tonsil might be absolutely normal, but a great number of them were hypertrophied. Hypertrophied tonsils in children were often infected by tuberculosis in some form or other. There was no reason why the tonsils should not be the portals for the entrance of the tubercle bacillus, but it was hard to show how this infection might take place; possibly the germ was introduced into the tonsillar tissue during the act of deglutition (Kohnheim). The author reported a case of general infection caused by the spread of the disease, which had entered through the tonsils. This case had been secondary to the involvement of the tonsil by a diphtheritic membrane.

A Skin Lesion Associated with the Rapid Growth of Long Bones (Les Vergetures de Croissance, Jules Comby).—Dr. W. P. Northrup of New York read this paper, saying that such conditions as he was to describe in his paper were very rare in literature. He could best describe the lesion as being identical with the lineæ albicantes which were so often seen on the abdomen of parturient women. An adult male was the patient who had been infected. He had come of a tall family, and had always been a healthy man. At the age of seventeen years he was of the average height, but at this time, was attacked by a typhoid fever. During the time he was in bed he evidently grew some, but for two years after the attack of typhoid fever everyone remarked how rapidly and steadily he was growing. The scars had not been present previous to the typhoid fever. Some authors had remarked that this condition was present in all acute and chronic febrile diseases which compelled the child to remain in the horizontal position at that period of life corresponding to the maximum growth, and that such children were known to grow as much as

5 c.m. in two weeks. Skin lesions over the patella were present in this case; they varied in number from twenty to fifty on the various sides of the joints. It would seem that the skin did not keep pace with the growth of the long bone; hence it was forced to stretch and lose its continuity in appearance.

Dr. Abram Jacobi of New York remarked that the cases reported were but exaggerations of a condition most common in children, following typhoidal infections, and that they were due epiphyseal hyperæmia, and were the reverse of the condition present in rickets.

Dr. Osler of Baltimore had seen these striæ in the cases of adults following typhoid fever.

Visceral Lesions of the Erythema Group of Skin Diseases (Third Series).—Dr. Wm. Osler of Baltimore read this paper by title.

Dermato-myositis.—Dr. F. Forschheimer of Cincinnati read this paper, reporting a case of the same conditions. The patient was a female aged forty years, and of a neurotic temperament. In 1899 the patient complained of an eruption on various portions of the body. In 1901, suddenly after the death of a brother, she lost all her nerve force, and since that time had suffered with irritability of the skin and mucous membranes. In the fall of this year a fistula had developed on her arm, and later various others on different portions of the body. Soon after the first pustule the patient was compelled to go to bed. At this time her left leg became swollen down as far as the ankle, but there was no pain present so long as the member was kept at rest. Four days later the same conditions of swelling and pain on movement took place in the right thigh. The pain was especially exaggerated by movement of the rectus muscle, and there were also present general hyperæsthesia and sleeplessness. Electric tests, following the attack, showed that there was present an atrophy of certain muscles. Pfeiffer had reported twelve cases of this kind and Lawrence three more. Pleyhn showed that the disease was not progressive, and that the symptoms in general had been made out by him, along with Lawrence, to be fever, enlargement of the spleen, involvement of the long muscles and those of the tongue, while the muscles of deglutition and the diaphragm were not included in the condition. There were also present an erysipaloid eruption and profuse sweats.

Observations upon Results Obtained in Infant Feeding, with Various Forms of Milk in Tenements and Institutions in New York.—Dr. L. Emmett Holt and Wm. H. Park of New York read this paper. The contents of this paper, in general, were that the various forms of milk upon which the infants of the lower East side of New York were fed resulted in diseased conditions only when the milk was bad. The goodness and badness of the milk consisted in the presence or absence of bacteria and chemical constituents which caused coagulation of the substances contained in the milk. The milks that were used were ordinary grocery store milks, condensed milk, milk from the distributing stations, and the high-class bottled milk. Contrary to the general idea, the majority of the tenement-house children were not bottle-fed; inquiry showed that not more than two or three children on a block received their nourishment from bottles, and that in a large majority of the cases some form of sterilization was practised by the mothers. Results showed, in a number of cases which had been selected and carefully followed, that in the summer time 68 per cent. was good, and 32 per cent. bad; in winter the good results amounted to 93 per cent. By results "good" and "bad" was meant the outcome of feeding on these various forms of milk at regular stated intervals, laid down by twelve selected physicians who had the supervision of the cases under observation. Curiously enough, the bad results obtained with condensed milk were not due to bacteria, because condensed milk was free from bacteria, and the water with which it was prepared was usually previously boiled. The Strauss milk in winter gave the best results, as it also did in summer time. Milk preserved with 1-20,000 gave quite severe gastric disturbances in some instances, but in good milk it did not impair the functions, and in bad milk it did no good. The conclusions arrived at by the investigators were that the feeding of infants was a most complex question in tenement-houses; that it depended for good results upon cleanliness both in preparation of the food and of the food itself, and also upon the good attention which the patients received. A most important factor was to be found in the proper dispensing of the milk to these patients, which would best be carried out by the establishment of dispensing stations where the milk could be properly prepared and rational instruction given the mothers in regard to the nursing and feeding of their babies.

AMERICAN SURGICAL ASSOCIATION.

First Day—May 12.

The address of the President, Dr. Morris H. Richardson of Boston, was entitled "The Contributions of Surgery to Internal Medicine." Dr. Richardson spoke of the difficulty of interpreting living conditions from the dead, even in the rather unforeseen event of autopsy being allowed. This was particularly to be noted in appendicular and gallstone surgery. Again, even in the event of being able to obtain a necropsy, it has frequently been shown that the first post-mortem interpretation of conditions might be absolutely incorrect, so much so, as to lead to the possibility of fatal errors based upon a technique derived from such findings. Surgery had taught the internist the reason for symptoms; what constituted the normal and what the abnormal position of the viscera. The author cited a number of cases at this point in which he had opportunity at the time of operation to study and observe the variabilty in the position of the lower line of the stomach in young active subjects upon whom he was operating for the repair of perforating wounds. Nor did he assume that the stomach was the only viscus in which this variation of position without the presence of symptoms resulting from it, because there was ample ground for believing that the liver and other viscera frequently varied in like manner. It was only at the operating table that such problems could be answered, and inasmuch as surgery was now so safe, it would seem that the internist must at last yield to the demands of the surgeon and be given the undeniable boom of a positive diagnosis from his hands. There was nothing more important in these conjectures than the relation of the physical signs which existed before the operation, and those found as a result of exploration, because by the amassing of a countless number of such data we should eventually be able to establish diagnosis without abdominal section, which to-day were impossible. To this end it became necessary for the surgeon to make a most thorough and conscientious physical examination of every patient, both for the sake of the impending operation and its result, as well as for that of future work. It would not be long before most abdominal lesions would fall into the category now occupied by the gall-bladder and the appendix, which were now so generally recognized as purely surgical diseases.

The Toilette of the Peritoneum in Appendicitis.—Dr. George R. Fowler of Brooklyn read this paper. He spoke first of those conditions in which the peritonitis was confined to the appendix, and subdivided this according to the presence or absence of adhesions of pus. The other group upon which he dwelt was that in which there was a general infection of the peritoneum. This should be treated by a pre-removal of the primary source of infection. He would irrigate the region by the use of tubes which are so arranged that the flow of the water is toward the lumen rather than away from it. Several

gallons of this solution should thus be used, and in occasional cases drainage through the tank might prove of value. Under any conditions he deemed the saturating of all gauze used in these cases in which pus might flow, with one to 2,000 bichloride an admirable and life-saving technique, because if any pus chanced to leak through the gauze and thence into the cavity of the peritoneum, it would be less septic after it had been exposed to the mercury than without it. In those cases which were diffusedly sceptic, he advised local cleaning, but considered even eventration and scouring as most unsurgical. For drainage, glass or smooth rubber tubes were much preferable to gauze.

Operations upon the Stomach with Special Reference to the Toilette of the Peritoneum.—Dr. A. Vanderveer of Albany said that the importance of this topic had grown with the progress of success of operations upon the stomach. This had forced upon him long ago the conclusion that an avoidance of excessive traumatism, or, indeed, even of the slightest injury to the peritoneum was of paramount importance, both for the immediate as well as for the subsequent success of the case; thus it became necessary to determine means of establishing positive diagnosis, because only by such accuracy would it be possible to inflict the minor injury upon the peritoneum. Naturally the first step in this procedure consisted in making as small a wound as possible. As the operation advanced, it became desirable to avoid soiling the peritoneum by any fluids of the body with the possible exception of blood or healthy bile, because all the aforenamed acted as pronounced irritants. Along the same lines he felt it desirable to use even the bland and non-irritating salt-solution with the very greatest care. The peritoneum should be treated, he said, as a friend, and thus, as in the case of friendship, one should not overreach or overdo the friend's obligations, so with the peritoneum, if one expected to get the kind return from it which good treatment would assure, it must be treated with the most deferential respect.

Toilette of the Peritoneum in Tuberculous Peritonitis.—Dr. A. J. Ochsner of Chicago read this paper. He said that the literature showed a truly marvellous proportion of recoveries in apparently hopeless cases arising from this condition. In his own hospital there were frequently brought in patients almost moribund, with abdomens so tremendously distended that the diagnosis could not be made. Years ago he, in company with others, had been in the habit of merely opening them, possibly inserting a drain, for a time and letting well enough alone. Later on, however, the aggressive surgical rapacity of the times had prevented him from playing so passive a part, and he, with others, had attempted and executed the resection of as much of the tuberculous material as was possible. Some five years ago he noticed that whereas in the old days all the cases got well, under the modern method of treatment all died. He therefore concluded, from a study of forty cases, that those in which there was the greatest amount of exudate were the most hopeful that great care should be used in making intraabdominal investigation in order to produce the least possible degree of traumatism, because undoubtedly many died from miliary tuberculosis as a result of such minor wound; that the manipulation of the infected ovaries and uterus was less harmful than that of diseased intestine

On Septic Phlebitis of the Roots of the Portal Vein and on Pylephlebitis, Together with Some Remarks on the So-called Peritoneal Sepsis.—Dr. Arpad A. Gerster of New York said that this interesting and little understood condition was in many cases caused by detachment of emboli of the feeders of the portal vein, and that appendicitis was the most frequent etiological factor. The condition, unrecognized and untreated, was preëminently fatal, it being probably the gravest of all possible complications. The gross pathology of the disorder consisted in the formation sometimes of continuous thrombi of a resisting and elastic-like texture or in a series of interrupted or continuous thrombi of a tubular pipe-like type which were often found to be filled with seropurulent secretion. Because of the anatomical arrangement of the region, the portal vein was peculiarly subjected to all sorts of greater and lesser traumata, which naturally were prone to dislodge portions of the thrombi. Most important of these he considered to be muscular violence. The recti-muscles in the act, for instance, of coughing, might easily create such pressure as to drive emboli into the liver. Depending entirely upon the character of the thrombi and upon the nature of the circulation in the liver, which undoubtedly varied somewhat in different individuals, death might be caused by a filtration through the organ and into the systemic veins of toxins, of bacteria or even of grosser products. He believed that under the latter conditions pulmonary embolism might ensue from portal thrombosis. The conditions introduced depended naturally not alone upon the anatomical conditions presented, but upon the amount and virulence of the organisms or their products which were injected into the system. In this most instructive manner, he explained the death of patients who were operated upon by competent surgeons by apparently faultless techniques. In these appalling cases, the complication was brought about by the fact that in the previous one or two attacks of acute appendicitis which they had had, the portal system had undergone in a portion of its path thrombotic formation, and these by the manipulation of the surgeon at the time of the interval operation were dislodged, passed into and through the liver to kill the patient by fulminating sepsis.

The Toilette of the Peritoneum in Appendicitis.—Dr R. H. Harte of Philadelphia read this paper: He said that the frightful gravity of the condition, the extreme prostration and weakness of the patient at the time of operation demanded the most thorough and rapid technique. Fortunately for the future of the operation, it was now well established that over 90 per cent. of the perforations occurred in the ilium within twenty-five inches of its junction of the cæcum. An observance of this rule had enabled operators, by making their incision in the right rectus below the umbilicus, to reduce their mortality from over seventy to a trifle over sixty per cent. So certain was this rule in its application that an operator would be justified in maintaining that a mistake in diagnosis as to perforation had been made if no signs of peritonitis presented themselves either over the cæcum, the ascending colon or the last two feet of the ilium. The lesions in themselves were usually exceedingly small and hard to find and it was therefore a great step in advance to know positively the territory to which they were habitually limited. He advised a simple and rapid infolding of the part by a quilted Lembert stitch, all dark necrotic spots being treated as though perforated. It was rare that the perforations were large enough to make it possible for such infoldings to interfere with the lumen of the gut. But in the event of such being the case, it was desirable to simply sew the gut to the belly wall, thus making an ileosotomy or colostomy as the case might be rather than to attempt a resection of the part. Evicceration he considered most dangerous as a means of treating extravasation and peritonitis, regarding thorough irrigation and drainage as much to be preferred. So far as this part of the technique went, it was axiomatic that the operation itself should be done with all possible speed, whereas the irrigation should be continued as long as might be necessary to remove all particles of extravasated material and to leave a free amount of normal salt-solution in the cavity.

Toilette of the Peritoneum in Typhoid Operations.—Dr. S. H. Weeks of Portland, Me., readthe conclusions of his paper only. He said first that no one method was suitable for all cases; that, of course, in the absence of pus

no drainage was necessary. In circumscribed pus cavities, irrigation should be used, but the utmost gentleness must be employed in its exhibition lest the adhesions be broken. It was then customary with him to pack the cavity with sterile gauze. A number of his cases in which he had formerly neglected to search for concretions had been obliged to undergo a secondary operation for the recovery of these masses. He therefore deemed it of very great importance to remove them during the primary operation. In the event of finding the intestines floating in a sea of pus, he had come to the conclusion that the employment of thorough irrigation with hot saline solution was better than wiping the parts with dry gauze.

Toilette of the Peritoneum in Gunshot Wounds of the Stomach and Intestines.—Dr. Tully Vaughan of Washington, D. C., presented this paper: He said that there were two distinct classes in which drainage was indicated. The first were free from peritonitis. One group under this class had not suffered from the extravasation of visceral contents; another group had; while in the third group the extravasation was hemorrhagic in character. The second class considered embraced those in which peritonitis had developed and it might conveniently be subdivided into those groups where the lesion was local and where it was general.

The Treatment of the Peritoneum in Spreading and Diffuse Peritonitis.—Dr. Joseph A. Blake of New York read this paper. He divided the conditions as follows: (1) into abscess with the formation of adhesions; (2) into abscess formation without limiting adhesions; namely, spreading, but yet not entirely involving the peritoneum; (3) the entire involvement of the peritoneum. There were two important principles, he said, which should guide in the treatment of these conditions, viz., the removal of the nidus and an effort to help the peritoneum to withstand the infection. Obviously an early operation was the best and only means of accomplishing this end. The subject of drainage divides itself into two classes, viz., those in which the cause can be removed, and, second, all others. Drains, he said, were not by any means ideal, for no matter what type one employed, they might lead to the formation of intestinal obstruction of a transient or permanent type. The varying positions of exudates could not be accounted for by gravity alone, and were, perhaps, to be explained in part by the suction action of the diaphragm. Years ago he had been in the habit of instituting the freest kind of drainage in these cases, but lately he had come to the conclusion that too much had been done along these lines. In support of this position, he related that in a large number of cases which had survived, the period of convalescence had been eighteen days shorter in those in whom there had been no drainage. Furthermore these cases reached a normal temperature in six days, whereas those which he had drained, had an elevated reading for twelve days. His résumé of treatment consisted in advocating early operation, free and copious lavage, and closure without drainage whenever practicable.

In the discussion of these papers, Dr. Munro of Boston said that he was unable to agree with Dr. Gerster as to the rarity of the cases which he had so ably described, because in Boston, they had found a much larger proportion than Dr. Gerster. Perhaps the reason for this lay in the fact that they expected to find the thrombosis of the portal vein in cases of subacute rather than in the so-called interval class. He held the retroperitoneal lymphatics to be responsible for a majority of the deaths rather than the liver. In support of this he said that the liver was rarely enlarged, which it would be fair to expect it to be in the event of its transmitting a fatal toxæmia or bacteræmia to the system. He agreed with the author that spontaneous cure was possible in portal phlebitis, but added that in his opinion it was frequently associated with retroperitoneal lymphangitis.

Dr. Gerster, in closing, advised a splitting of the veins and a turning out of all thrombi. This constituted the new and important addition to the toilette of the peritoneum which he desired to make.

Subdural Implantation of Rubber Tissue in Operation for Inveterate Neuralgia of the Fifth Pair, without Removal of the Gasserian Ganglion.—Dr. Robert Abbe of New York read this paper. He said that it was now proven beyond a doubt that all operations upon the extremities of the three divisions of the fifth nerve were of such short-lived value to the patient that their justification and employment had become with him a thing of the past. In like manner, he had years ago made up his mind that the disease, save possibly in the rarest of cases, lay not in the ganglion itself, but was actually a neuritis of the deepest portions of the nerve trunks. He had, it was true, resected the ganglion with most admirable results, but the danger to the patient from the hemorrhage, which might be most appalling, together with the high mortality which his autopsies had shown him to arise from the laceration and compression of the frontal lobe at the time of the operation had made him hesitate to continue. Accordingly, acting upon the belief that the lesion lay entirely in the nerves, and that it progressed centripetally, seven years ago he decided to place a piece of rubber tissue just distal to the ganglion between the severed portions of the second and third branches of the nerves. The success of this operation was as perfect as any which had been obtained with a complete removal of the ganglion, and it was needless to say, infinitely safer and preferable. At this time the patient was still alive and well, and in his large series of cases which he had done on similar lines, he had a number which had passed the three-year limit. He had found it very helpful to tie the external carotid artery just before opening the skull. This he was now in the habit of accomplishing through a vertical incision just in the region of the hair line which he followed in trephining, enlarging the opening with a rongeur as much as might be necessary. This he preferred to the bone flap operation which was so disfiguring.

Dr. George R. Fowler of Brooklyn, in opening the discussion, said that years ago he had tied the external carotid, but that now he preferred to compress both arteries with tapes. It was desirable, he said, scrupulously to avoid pressure on the internal jugular vein.

Dr. George R. Brewer of New York said that eighteen months ago while attempting to remove a gasserian ganglion he had encountered a terrific hemorrhage, which he tried in vain to quell for more than forty minutes. He then decided to section the second and third divisions and interpose the rubber dam. He obtained primary union, and in this, as well as in another done voluntarily a year ago, the result had been all that could be wished for. He believed that a retardation of the arterial supply by means of compression of ligation of the carotids was of very little use, because the hemorrhage was venous and came from a branch of the cavernous sinus.

Dr. Abbe, in closing, said that most cases of trigeminal neuralgia were due distinctly to a neuritis which had its origin in the disorders of teeth or infection of the maxillary antrum. If the operation were undertaken before the disease had hopelessly ruined the ganglion, it was absolutely safe to predict a positive cure by the simple and safe introduction of his rubber barrier.

Single Ulcer of the Urinary Bladder Non-tuberculous and Non-malignant, with Report of Cases.—Dr. George E. Armstrong of Montreal gave the history of a case upon which he had operated under the supposition that it was one of tuberculous ulceration. He found, however, a single perforated ulcer, the walls of the bladder being otherwise absolutely normal. On looking the matter over he found that such lesions of the bladder had been ascribed to infection, to thrombosis, or to syphilis. But he believed there was ground for thinking that his was not

an example of any of these commonly recognized types.

A Case of Enchondroma of the Spinal Column.—Dr. H. R. Wharton of Philadelphia read this paper. He reported a case in which he had removed a large cartilaginous growth from the right side of the lower spine. It was an exceedingly rare condition, three others only having been reported.

AMERICAN GYNECOLOGICAL SOCIETY.

Joseph E. Janvrin, M.D., New York, President.

First Day—Tuesday, May 12.

Address of Welcome.—Dr. I. S. Stone of Washington delivered this address, to which Dr. Janvrin responded.

Discussion: What Shall Be the Treatment in Cases of Pregnancy Complicated by Fibroid Tumor?—Dr. Henry C. Coe of New York read this paper. He stated that the gynecologist who regarded every case of fibroid from a surgical standpoint would naturally take a more serious view of this complication than he who was disposed to be more conservative. Moreover, the wider one's obstetrical experience, other things being equal, the more he would be inclined to assume an expectant attitude, knowing that nature often overcame obstacles which at first sight seemed insuperable except by the aid of the accoucheur. He said that fibroids complicated pregnancy by interference with the normal development of the pregnant uterus; by causing distressing symptoms; or by jeopardizing the life of fœtus or mother. Each case was one by itself, and its treatment varied according to the patient, tumor, experience, and bias of the surgeon. He classified cases of pregnancy complicated by fibroid as: Those in which pregnancy would doubtless go to full term with the prospect of a normal delivery. Those in which the patient had to be kept under constant observation in view of the necessity of possible interference. Those in which there was considerable risk to mother or child, or both, before and during labor. Cases in which surgical intervention was absolutely indicated. Hence the treatment should be entirely expectant; non-surgical, with possible anticipation of the date of normal delivery; surgical, either conservative or radical. Up to the fourth month the uterus should be emptied in the case of large interstitial, or broad-ligament tumors, or when they were situated in the lower uterine segment, or in case of impacted intrapelvic growths. Small tumors should be enucleated per vaginam if possible, though pregnancy would usually be interrupted. Intrauterine polypi, if accessible, should be removed. He believed that the indications for abdominal section for the conservative treatment of fibroid, during the first trimester, were limited. Pedunculated subperitoneal tumors could be easily extirpated without disturbing the uterus. This was entirely justifiable in the case of movable fibroid of considerable size. Impacted growths should be freed under anæsthesia (when there were no adhesions), and kept out of the pelvis until they were kept out of the way by the growing pelvis. Between the fourth and seventh months the conditions were different, since the interests of the fœtus were more important. Location of the tumor, as well as size and variety, were important. Pain and pressure-symptoms furnished indications for treatment. In large interstitial growths the uterus could be emptied, though danger of hemorrhage was greater. Enucleation of Tessier fibroids by the abdominal route, after the middle of pregnancy, admitted of considerable discussion. Impacted tumors, pressing on bladder, ureter, or bowel, might call for radical operation. Twisted pedicle, degeneration of the tumor, peritonitis, etc., might require interference without reference to pregnancy. After the sixth month, a viable fœtus should be obtained, if the mother's life was not actually jeopardized. After the middle of the eighth month, the indications were clear to delay as long as possible, and then to perform an elective section near or at term, or at the beginning of labor, as might seem best. Conservatism should be practised here as in other gynecological operations, but not carried to extremes. The question of marriage and subsequent risks of pregnancy in women with fibroids, should be discussed. The propriety of performing a conservative operation (myomectomy), for the removal of the tumor, should be considered. Under proper limitations this would be quite justifiable.

Myomectomy or Hysterectomy?—Dr. Joseph Taber Johnson of Washington presented this communication. He said that cases of pregnancy complicated by fibroid tumor, were fortunately the rare exception. His own experience was limited to two cases, equally successful, so far as the mother was concerned. In one of these he performed a supravaginal hysterectomy, the uterus containing a five-months' fœtus, as well as a large fibroid tumor. In the other case, the operation was terminated as a myomectomy, the woman being four months pregnant. She was delivered five months later of a live child. Both mother and child did well. The speaker said that his inclinations were upon the side of the conservative operation which had for its object the saving of the child. When the tumor was so situated as to threaten the safe continuance of the pregnancy, and to jeopardize the life of the mother during labor, some kind of operative interference was demanded in the interest of humanity and of good surgery. Formerly supravaginal hysterectomy was the operation of necessity, but with the evolution of a safe and more comprehensive abdominal technique, myomectomy should become more and more the operation of choice. The treatment depended upon the size, variety, and location of the tumor, and the stage of the pregnancy. There were occasional cases with such urgent symptoms as to require supravaginal hysterectomy as a life-saving operation. Every case had to be managed according to the exigencies which arose as pregnancy advanced. As these complicating tumors were not amenable to medical or electrical treatment during pregnancy for obvious reasons surgical relief was necessary in the class of cases in which this remedy was not worse than the disease. As many of the minor methods of treatment could not be used on account of existing complicating conditions, the major operation was imperative. As to whether that should be hysterectomy or myomectomy—would depend upon the case. An interstitial or submucous fibroid complicating pregnancy had to be treated by hysterectomy if any operation was required. In the case of a subperitoneal tumor, especially if it were pediculated, myomectomy was comparatively safe. The speaker cited various cases giving the results of operations in these cases, and concluded by declaring that in cases of pregnancy complicated by fibroid tumors, when any operation was required, and the tumor was so situated as to make it possible, myomectomy should be considered the operation of election.

Pregnancy and Labor Complicated by Myomata.—Dr. George Tucker Harrison of New York read this paper. He said that no general rules could be laid down with reference to treatment. Each case had to be carefully studied in all its circumstances before recourse to operative intervention. It could not be denied that the dangers incident to this complication of pregnancy as a cause of dystocia were formerly vastly overrated. The site of the myoma was a matter of prime importance. Small subperitoneal myomata interfered with conception only under rare circumstances, and did not disturb the course of pregnancy. Large subperitoneal myomata more frequently formed an obstacle to conception by disturbing the normal relations of the adnexa. The existence of a myoma in itself did not furnish an indication for operative intervention; it was only when symptoms were caused by it, which jeopardized life and health, that operative interference was justifiable. If, on account of the severity of symptoms, the continuance of pregnancy was undesirable, it might be necessary to have recourse to enucleation per vaginam. If it was a cervical myoma, supra-

vaginal amputation might be indicated, or myomectomy. During labor, if the tumor was high up, the surgeon should observe masterly inactivity. When the tumor was wedged in the pelvis, cautious attempts at reposition could be made. When the myoma presented an absolute obstacle to the birth of the child, the Cæsarean section was indicated. The speaker cited some interesting cases. The plan of treatment during pregnancy, as a rule, was an expectant one. The majority of cases of women affected with myomata could be expected to pass safely through the perils of childbirth, and the puerperal state, but it was part of wisdom to be prepared for any emergency.

Dr. E. Reynolds of Boston emphasized the fact that no surgeon should operate on a fibroid in pregnancy when this could be avoided, on account of the vessels at term.

Dr. J. D. Emmet of New York said that some myomata had to be removed, while others did not interfere with the course of pregnancy

Dr. William R. Pryor of New York believed in great conservatism in cases in which the fibroid uterus was pregnant. Fibromata were particularly soft, accommodating themselves to the situation. He illustrated his method of operation and said that the important part of the technique was to avoid the cervix and to inflict all trauma on the fibroid only. He advocated the administration of mammary extract in the puerperium, beginning the treatment as soon as the patient could take general diet, and continuing it for six weeks.

Dr. Reuben Peterson of Ann Arbor declared that these tumors could be removed with safety from a patient five or six months pregnant. He described a case in which he operated. The patient was five months pregnant, but the tumor was not softened.

Dr. Engelman believed in the administration of mammary extract, since it favored the process that pregnancy tended to. He had seen the disappearance of softening fibromata.

Dr. Freeman also related cases in which the tumors became gradually smaller. These tumors generally cared for themselves. Retrogressive changes often took place.

Dr. James Clifton Edgar of New York agreed in this statement that these tumors often took care of themselves. Out of sixteen or seventeen thousand cases of which he had the oversight, he remembered only about half a dozen in which fibromata or myomata caused dystocia.

Dr. George Tucker Harrison of New York called attention to the frequency of myomata in the colored race. He said that we might expect a retrograde metamorphosis in these tumors in the puerperium.

Combined Bisection of Tumors and Uterus with Enucleation of the Former in Abdominal Hysterectomy for Large Fibroid Tumors.—Dr. George H. Noble of Atlanta reported a procedure which greatly expedited the removal of large fibroid tumors filling the pelvic cavity and extending laterally above the pelvis to the walls of the abdomen. This method also gave the operation at all times excellent control over the blood supply of the part. The operation had as its underlying principle the bisection of tumor and uterus, together with subsequent partial enucleation of each half of the tumor separately. He described a special retainer which he used to keep the intestines and omentum well up out of the way. In case of large fibroids in the body of the uterus the tumor was bisected, the uterus was bisected, and the bisected tumor was enucleated. The halves were rotated, in the process of enucleation, on their outer (upper) cut margins, the inner (lower) margin describing a semicircle in transit. The two halves of the tumor then lay on opposite sides of the patient's body, the flat cut surface looking downward and the convex enucleated surface looking upward. Both sections were connected by long pedicles to the uterine stump. The advantages of combined bisection of the tumor and uterus with partial enucleation were: saving in time, decreased loss of blood, increased working space, easy manipulation and safety against injury to the uterus and uterine arteries. The advantage of time saving was apparent, since prolonged operations contributed largely to shock. The speaker exhibited some fine plates and a very ingenious diagram.

Dr. Pryor said that by bisection, both mobility and symmetry, could be established. He called attention to the fact that growths caused distortion and fixity.

Dr. Stone said that the surgeon should always be on the lookout for abnormal division of arteries, and consequent danger of hemorrhage.

Relation and Co-relation of Gynecological and Nervous Affections.—Dr. Chauncey D. Palmer of Cincinnati presented this paper. He said that the intimate history between the nervous system and other parts of the body in disease was only in accordance with the general law of morbid action. The most varied phenomena, apparently trifling, yet serious at times, might result from the same pathological entity. The morbid changes to which reference implied were: hysteria, neurasthenia, neuralgia, chorea, epilepsy, catalepsy, hystero-epilepsy, certain paralyses, migraine, convulsions of certain kind, including tetanus; also mental aberrations, and vasomotor changes. While many hysterical women had no anomaly of the sexual organs, a certain proportion to a certain degree had some imperfection in the development of their sexual apparatus, especially the uterus. Hence the justifiability of an oophorectomy in some such cases. Should the sexual organs be diseased in hysterical women, we could not say that the hysteria was secondary. Even then psychical causes were at work, more potent than the local disease. Errors in diet, in general hygiene, in lack of rest, etc., in girlhood, lead to physical anomalies, and give rise to abnormal mobilities of the nervous system. The functions of ovulation and menstruation played then more than their oridnary rôle in the inauguration of nervous phenomena. Insanity had been promptly relieved by ninety-seven gynecological operations; and it had immediately followed them. Such sequelæ then noticed were probably more common than after other operations. Probably the ovaries were more frequently the *fons et origo morbi*. The sexual organs played a small part in the production of mental disorders. But 25 per cent. of insane women had any gynecological disease. No amount of pelvic or general physical disease could cause a psychosis, unless conditions favorable thereto were to be detected in the brain or in the nervous system.

Dr. J. D. Emmet said that much hysteria was associated with laceration of the cervix and disorders of the pelvic organs.

Dr. Johnstone said that the blood condition should be considered and the toxæmia arising from its impure condition. Absorption from both the genital and intestinal tract should be prevented.

Bence Jones' Albumosuria, with Peculiar Nervous Phenomena.—L. Napoleon, Boston, reports a case of albumosuria. The patient suffered severely from neuralgia. There has often been a feeling of "giving away" of the left leg, and the bones of the left pelvis while walking or going upstairs. Neuralgic pains in the left shoulder, which radiated to the left hand were most annoying. At times there was numbness, and a feeling of "pins and needles," in the left arm and hand. There have been cramp-like pains in the left thigh, leg, and foot. The left knee-jerk and the plantar reflex were decidedly increased, and ankle clonus was marked. In the blood examination, the erythrocytes were always above 4,000,000. The mononuclear leucocytes amounted to 56.75 per cent., and the polymorphonuclears to 39 per cent. Hæmoglobin was very low, being at one time 39 per cent.—*The American Journal of the American Sciences*, April, 1903.

AMERICAN PEDIATRIC SOCIETY.

First Day.—Tuesday, May 12.

President's Address.—Dr. J. P. Croger Griffith of Philadelphia, as president of the society, gave expression of his appreciation of the honor conferred upon him and said that he had not chosen to present any medical subject since the session was so curtailed for time. He said that while the knowledge of having helped so many little patients and the consciousness of work well done was in itself a source of gratification to the physician, any work which made treatment better was more far reaching. This society had accomplished much to advance pediatrics. Since its organization fifteen years ago, three hundred and ninety-two articles had been presented to the society, many of which were of international as well as of national value, individual and collective work on the disorders of the digestive tract, diphtheria and infantile scurvy had been of especial value. It was estimated that one thousand five hundred and thirty-five articles had been contributed to medical literature during the past fifteen years by members of the society outside of the pediatric records. Thirty works had been added to text-book literature, several members had contributed sections to the composite text-books and two pediatric journals had been established Dr. Griffith said that there was a tendency to become too practical, financial interests and other things should not interfere with scientific research, the members were urged to devote more time to scientific investigations, both for the maintenance of the reputation of the society and for the advancement of this branch of medicine.

Synopsis on Some of the Renal Lesions in Infancy.—Dr. C. F. Martin and Dr. F. M. Fry of Montreal had prepared this paper which was based on a study of one hundred cases of nephritis in infants under three years of age. Sixty-five were artificially fed, thirty-five were breast fed, the specific gravity of the urine varied, the highest was 1.028—the lowest 1.001—the average was 1.006 Ascites was present in nineteen cases, albumin was present in variable amounts, only two having albumin without casts. There was an excess of uric acid in thirty-six cases.

Report of a Case of Chronic Nephritis in a Four-year-old Boy Having Only One Kidney.—Dr. A. C. Cotton of Chicago read this paper. The child had been a normal healthy baby, had had measles, and six months later had pneumonia lasting five weeks, followed by a relapse lasting six weeks. He never fully recovered from this last sickness, but began to develop œdema of the ankles and around the eyes. Urination was frequent. Diuretics, the hot pack and saline enemeta were given from time to time, the patient grew slowly worse with intervals of apparent improvement and died of uræmic intoxication. During the course of the disease urine analysis showed a progressive diminution in the amount of urea, the amount of total solids closely followed that of urea. Albumin was constantly present in variable amounts, granular hyaline and occasional waxy casts had been found. On autopsy clear serous fluid was found in the pleural, pericardial, and peritoneal cavities. The right kidney weight sixty-five grams, the capsule was stripped easily but left an irregular surface, the cortex was pale, markings indistinct. The left kidney was rudimentary, consisting of a small triangular body with base uppermost, one centimeter long and one and a half centimeters broad at the base. An artery and a vein could be traced from this body to the aorta. The right ureter was normal, the left terminated in the rudimentary kidney and contained no demonstrable lumen.

A Case of Edebohls' Operation.—Dr. T. M. Rotch of Boston read this paper, in which he reported the case of a child nine years old who had a severe nephritis. Edebohls' operation was done and the child died two weeks later. Dr. Rotch said that the subject of renal disease was in its infancy, and that as yet there was no proper nomenclature to designate the various pathological conditions. The marked beneficial results that have been attributed to this operation had attracted much attention, but many of these may have been functional cases and would have recovered without operation. As yet the limitations of the operation were unknown.

Dr. George M. Edebohls, when asked to discuss this case, said that at present he had nothing to add to his article published in the Medical Record, March 28, 1903. He stated that it would require four or five years before positive results could be pronounced.

Dr. B. K. Rachford of Cincinnati said that most cases of nephritis in children tended to complete recovery, while in adults the tendency was for the process to become chronic, and for this reason the value of the operation should be determined by the results obtained in adults. If operation was resorted to in cases of less that six months' standing in children, it was impossible to determine whether recovery or death was due to the operation or the natural cause of the nephritis.

Dr. Rotch said that chronic nephritis existed in children as well as in adults, and some die of it, but not frequently. Further study would be necessary for a discrimination of cases favorable or non-favorable for operation, but the nephritis of childhood and that of adults formed two distinct classes each of which must be studied separately.

Dr. C. G. Jennings of Detroit reported a case of chronic renal disease in a child, with persistent severe pain and tenderness over the left kidney. The urinary findings were those of a chronic interstitial nephritis. At operation no microscopic pathological changes were seen. The capsule was split and stripped from the kidney. The child made a complete recovery in two months.

Dr. Cotton said that chronic nephritis in children was not as rare as was formerly thought; he had had four bad cases come under his notice during the past year.

Exhibition of a Case of Club-feet Operated on by Professor Lorenz.—Dr. Samuel S. Adams of Washington, D. C., presented this case, which had previously been subjected to five operations of tenotomy. The deformity was extreme; the child standing on the outer side of the small toes. Professor Lorenz corrected the deformity by pressure with his hands, occupying twenty minutes to each foot. The feet were put in plaster casts for three months before the child was allowed to walk without support, the casts were to be reapplied for several months longer.

A Case of Abscess of the Lung—Dr. Adams, in presenting a second case, described a child two years old who gave physical signs of fluid in the left lower chest and of the consolidation in the left upper chest. The patient had an irregular febrile temperature. About a drachm of pus and bloody serum was obtained from the left upper chest with an aspirating needle. A diagnosis of empyæma was made, but at operation no pus was found in the pleural cavity. The child died twenty-four hours after operation. On autopsy the left lung was found adherent from base to apex, and contained several small abscesses in the upper lobe. The right lung was normal. The abscess was due to a streptococcus infection.

Dr. Colton said, in discussion, that cases were not rare in which pus was found by the aspirating needle, but not found at operation, and *vice versa*, the pus being walled off by the adhesions of a fissural pleurisy.

Brutalities in the Convict Camps.—It is reported from Atlanta, Ga., that revelations made to the Ware County Grand Jury in regard to horrors of the Georgia convict camps have reached Governor Terrell, and promise to cause such a sensation that the rease system may be overturned.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

GENERAL SESSION.

SECOND DAY—WEDNESDAY, MAY 13.

The Medical and Surgical Aspects of the Diseases of the Gall-bladder and Bile Ducts.—This was the special subject for discussion.

The Medical Diagnosis of Affections of the Gall-bladder and Bile Ducts.—Dr. JOHN H. MUSSER of Philadelphia presented this paper. He said that of the primary affections there were, inflammations (catarrhal and infectious), morbid growths and parasite invasions, such as with the echinococcus and the round worm. The secondary conditions were inflammations of the gall-bladder, cholelithiasis and obstruction and enlargement of the gall-bladder. He would especially plead for the early recognition of these primary states, for if this were done the secondary conditions would, in time, become things of the past. He was disposed to predict that fifty years hence there would be little seen of these secondary conditions. The blood was the best test of the degree of jaundice present in a given case. The recognition of suppurative cholangitis was based upon the probabilities of infection somewhere in the biliary passages—a preceding history of gallstones or of parasite invasion. The fever was of a peculiar character, being usually either remittent or intermittent. The occurrence of tenderness about the twelfth dorsal vertebra was an aid in the diagnosis of the suppurative diseases of the biliary passages. He had found leucocytosis in all of the cases he had seen. The serum reaction was of value in enabling one to determine the possible cause of such affection. He had seen six cases of cholecystitis occurring in typhoid fever during the past few months. None of these had led to the suspicion of perforation of the bowel having occurred. In making the diagnosis one must distinguish between congestion of the liver, multiple abscess of the liver, pyelophlebitis, subdiaphragmatic abscess, diaphragmatic pleurisy, pneumonia, pancreatic disease, perforation of the bowel and intestinal obstruction.

Surgical Differential Diagnosis of Diseases of the Gall-bladder and Bile Ducts.—Dr. GEORGE E. BREWER of New York City presented this paper. He said that the diseases ordinarily encountered in diseases of the gall-bladder and bile ducts were, calculous disease, inflammatory disease, and new growths. One or more stones in a patent gall-bladder usually produced no symptoms, and the only physical sign was a tumor of the gall-bladder. The existence of a number of gallstones had been occasionally detected by the presence of a peculiar bruit, and occasionally a stone could be distinctly palpated. If a calculus were temporarily impacted in the neck of the gall-bladder, or the cystic duct, pain would be produced. It varied in intensity from a slight feeling of discomfort to a colic, the intensity of which was only equaled by the pain of the second stage of labor. The attack often ceased suddenly by vomiting, which, by relaxing the spasm, allowed the calculus to fall back into the bladder. If the stone became permanently impacted, or the duct became permanently obstructed in any other manner, a gradual increase in the size of the gall-bladder occurred by an accumulation of fluid within its cavity. In the absence of infection this fluid was sterile and gave rise to no discomfort except that resulting from pressure. A tumor of this character developed slowly, and was situated immediately behind the abdominal wall at the free border of the ribs; it developed downward and somewhat toward the median line, and moved laterally with a pendulum motion. The gall-bladder had been occasionally found near the median line, and congenital absence had been once observed by himself. The passage of a gallstone through the cystic duct gave rise to painful sensations. It was formerly held that the transit of such a stone was practically the sole cause of biliary colic. Kehr, and a number of others, held that the pain in gall-bladder disease was practically always the expression of an inflammatory process. All were agreed that acute paroxysmal pain in the upper abdomen was the most constant and characteristic symptom of cholelithiasis. The diagnosis of stone in the hepatic duct was often very difficult. The diagnosis of stone in the common duct was less obscure, the chief symptoms being jaundice, pain, and fever. Acute temporary common duct obstruction from stone produced a rapidly developing jaundice. Pain in common-duct disease strongly pointed to stone. If fever were present, it was apt to be intermittent and associated with chills. When present with jaundice and colic, it was almost pathognomonic of stone in the common duct. This fever was most probably of septic origin. Inflammation of the gall-bladder was present in the large majority of the cases applying to the surgeon for relief. Cholelithiasis was rarely found in young subjects, only about 2 per cent. of the cases occurring in persons under twenty years of age. Half of all the cases of common-duct obstruction were due to stone. The temperature chart in biliary affections was characterized by angularity rather than by curves. Jaundice was absent in from 80 to 90 per cent. of all ccases. Special attention was directed to the presence normally of three lymph nodes, and to the fact that enlargement of these nodes might readily produce a typically progressive jaundice resembling that seen in carcinoma.

The Etiology and Pathology of Gallstones.—Dr. C. A. HERTER of New York City read this paper. He said that the chief elements of a gallstone were cholesterin, bilirubin, and calcium. Very little was known of the origin of cholesterin except that hepatic bile contained a small proportion of cholesterin, and that this was derived, in all probability, either from the blood or from the hepatic cells themselves, and that this cholesterin, entering the gall-bladder, became increased in quantity. It had generally been supposed that this was due to an inspissation of the contents of the gall-bladder, but it was far more likely that the increase in the cholesterin found in the cystic bile was due to the actual production of cholest rin by the epithelial cells in the gall-bladder. In health this increase was very slight, but in disease this increase might become so great as to assume a pathological significance. He had conducted some experiments to see if it were possible to increase the cholesterin by the production of an artificial cholecystitis. In twenty observations upon normal dogs it was found that the cholesterin of the bile gave an average of 0.12. In twelve dogs in whom mercuric chloride was injected into the gall-bladder, it was found that the average amount of cholesterin was 0.298. When strong phenol was used, the average was 0.334, but, when diphtheria antitoxin was injected the quantity of cholesterin did not differ materially from the normal. It was concluded from these observations that the introduction of concentrated irritants into the gall-bladder was quickly followed by a material increase in the cholesterin in a very large proportion of the cases. There was but little doubt that this cholesterin was derived from the epithelial cells of the gall-bladder. In human cystic bile obtained from forty autopsies it was found that the average percentage of cholesterin was 0.13, not very much in excess of the normal. The average from six cases of acute miliary tuberculosis gave 0.167 per cent., and in eight cases of acute lobar pneumonia it was 0.248. He was inclined to believe from the last item that there was a marked and very regular increase of cholesterin in the cystic bile, occurring in the course of acute lobar pneumonia. He was inclined to think that the explanation was to be sought in an inflammatory and infectious condition of the bile itself. With regard to the origin of the calcium, the speaker said that normally the calcium of the cystic bile was about that of the normal blood, or a little higher. It was probable that the calcium was derived largely from the blood or from mucus and epithelial cells. It was

found that the same irritants which increased the cholesterin very markedly did not augment the calcium in a corresponding degree. It was probable that any condition of cholecystitis was liable to be attended by an increase in the amount of calcium in the bile, and this was significant, because if it reached a certain point the calium was liable to combine with bilirubin and precipitate a compound known as bilirubin calcium, a perfectly definite chemical compound which formed the nucleus of a great many stones. In 1890 Dr. Welch had found in the centers of many gallstones the presence of the streptococcus pyogenes or the colon bacillus. Since that time it had been found by other observers that, in a very large proportion of cases, probably one-half, there was a bacterial nidus for gallstones. The artificial production of gallstones had been first accomplished in 1897. It was found that it made very little difference what organism was employed provided it was a pathogenic organism of only moderate virulence. It was also found necessary to retain the organisms in the gall-bladder. The natural flow of the bile had more to do in protecting against infection than had any inherent antiseptic properties it might possess. Stagnation of the bile was, therefore, an essential factor. With regard to the constitutional origin of gallstones, the speaker said that he had recently made some experiments upon dogs. These animals had been kept upon a diet consisting almost entirely of fat, and at the end of three months minute masses of bilirubin calcium were found in the gall-bladder, and in one instance there was a distinct concretion. He had never before met with such a concretion in over 100 gall-bladders examined by him in other dogs. In conclusion, he emphasized the fact that by means of irritants it was possible to increase largely the quantity of cholesterin without the presence of an infection. He believed there was substantial evidence to indicate that constitutional conditions might play a not unimportant part in determining the production of cholelithiasis.

Diseases of the Gall-bladder and Bile Ducts with Special Reference to Diseases of the Stomach and Intestines.—Professor Ewald of Berlin, Germany, presented a communication on this subject. He said that in most cases cholecystitis was the result of catarrhal affections associated with bacterial invasion. Colic implied contraction, and occurred when the stone was movable. Renal colic could be differentiated from gallstone colic without much difficulty, and the pain associated with hernia of the linea alba was also easy of recognition if such conditions were borne in mind. In most cases of nervous gastralgia there were hyperacidity and hyperchlorhydria. The latter could occur reflexly from the intestine, as, for example, by a tapeworm. With regard to tumors of the gall-bladder the speaker said that a gall-bladder filled with bile never became as large as a hydrops. Aspiration of the gall-bladder was a dangerous procedure, and, moreover, was not necessary because the character of the tumor could be much better determined by an abdominal incision. Carcinoma of the gall-bladder was complicated in 95 per cent of the cases by cholelithiasis. He had found the internal treatment of cholelithiasis very unsatisfactory. He looked upon the surgical treatment of this disease as being in very much the same position as that of appendicitis. Not all cases of appendicitis were necessarily treated surgically, and the same was true of of cholelithiasis. At the operation stones might be left behind, or it might be impossible to remove all of them, and even after operation one could not be sure that there would not be a recurrence.

A Study of 534 Operations upon the Gall-bladder and Bile Passages.—Dr. William J. Mayo of Rochester, Minn., presented this paper. He said that the gall-bladder had been slow to receive from the medical public the attention which it deserved. This was partly because the subjects of this disorder were apt to be elderly and poor subjects for surgical operations, and the disease, as a rule, did not declare itself with tragic suddenness. In St. Mary's Hospital, in the year 1902, there were 345 operations upon the appendix, 143 on the gall bladder, 98 on the ovaries and tubes, and 77 on the stomach. The operations on the gall-bladder representing the basis of this paper were done on 518 patients with 19 deaths, or a mortality of 3.5 per cent There were 510 operations for gallstone disease with a mortality of 3 per cent. That the large majority of adults with gallstones never suffered was true, yet if these stones once became active the chances of securing relief was not good, even though there might be long intervals of freedom from pain. A gall-bladder containing stones was always infected, and when the organ once became restless a chance for reconciliation was improbable. In some of the cases marked contraction of the gall-bladder or adhesions indicated that at one time the disease had been active. The mortality in the uncomplicated cases operated upon was low, and the operation itself was of the simplest character. Cholecystostomy not only effectually cured the condition, but by permanently lifting the fundus gravity drainage ensued in the future. However, the safety with which cholecystectomy could be performed at the present time made it probable that this would become the operation of the future. If the stones were impacted the colic would be replaced by a constant distress, which was less acute but more continuous. In such cases, as a rule, the stones could be dislodged and brought out through the gall-bladder by an ordinary cholecystostomy. In 183 operations for impacted stones, there were six deaths, or a mortality of 3.25 per cent. In ninety-eight cholecystectomies the mortality was a little over 3 per cent. Kehr, Robson, and others of large experience in gallstone surgery united in declaring that they had not known of recurrence of gallstones, and this had been his own experience, although he had known the opening to cicatrize before all of the stones had been discharged. Not infrequently stones passed out through the common duct and into the bowel, but they had never met with a case of this kind in which others had not been left behind. The surgery of the common duct had become a fairly safe field To the late Dr. Davis of Alabama we owed the most important contribution to this subject. He called attention to the necessity for freely draining the bile to the surface, and to the fact that suture of the duct was unnecessary and was occasionally harmful. If the cystic duct were open so that the bile could flow freely to the surface, suture of the gall-bladder might be harmful. The incision through the abdominal wall, modified by Robson, rendered the removal of the common-duct stones easy. In a few cases incision of the duodenum and direct extraction might be necessary. Professor Kehr had explained the usefulness of hepatic drainage, and had shown us how to cure some cases which had heretofore been considered hopeless. In his series of operations there were fifty-eight for stones of the common duct, and of this number three died. The relative proportion of common-duct stones was 11 per cent. of the whole, but even this was too high, for gallstones should be diagnosed in most cases before common-duct symptoms clinched the diagnosis and forced operation upon the patient. Cases of chronic cholecystitis were very interesting because of the danger of overlooking the condition at operation, owing to the absence of gallstones, although the gall-bladder would show evidence of disease. Sixteen of their cases came to a second operation. The average stay in the hospital was about three weeks. The sutures closing the abdominal incision were left in place for two weeks, thus allowing the patient to get up early, a matter of no small importance in old people. If there was a tendency to hemorrhage the patient was given a preparatory course of chloride of calcium. In severe cases bile drainage to the surface was essential, and for this purpose the cystic duct, if obstructed, supplied an easy escape. Malignant disease of the gall-bladder and bile ducts was met with twenty-

four times, or 4 per cent. of the total number of cases. In five cases the gall-bladder was removed for cancer. Three of the patients were still alive, one nearly two years after the operation, but with a recurrence. The speaker was of the opinion that gallstones were the chief and primary factor in the production of malignant disease. One case in twenty-five of this series of operative cases had malignant disease. It was probable that in the future many cases of cancer would be removed in the early stage, with a permanent cure.

Surgical Treatment of Obstruction of the Common Bile Duct by Stone or Tumor.—Prof. Hans Kehr of Halberstadt, Germany, was the author of this paper. After reading the introduction in the German language, a translation of the paper was read by the Secretary of the Congress. The author stated that acute obstruction by calculus demanded special discussion because it was not uncommon, and in all but a very small number of cases, laid the foundation for obstruction of the duct. He was of theopinion that the pressure of the bile dammed back by inflammatory processes, was the chief factor in forcing stones through the duct. Not infrequently one had to deal with several stones. At the time of the colic one could not determine whether the stones were large or small, whether they remained in the common duct or passed there. The expectant treatment was the only rational one in the presence of acute obstruction of the common bile duct. It was the duty of the physician by means of rest, hot applications, and the administration of sodium salicylate and other drugs to assist nature in bringing about the natural elimination of the stone. The stools should be carefully examined for the presence of calculi. If stones were found; if icterus entirely disappeared, and if absolutely no tenderness remained in the hepatic region, there was, of course, no ground for an operation. There were exceptional cases of acute obstruction of the common bile duct in which the icterus did not subside, and in which fever and rigors developed and the appetite diminished. Even in such cases sudden improvement might occur, or, on the other hand, through cholæmic hemorrhage, a fatal termination might be precipitated. In such cases the question of operation should be seriously considered. However, this particular indication presented itself very rarely, as in 800 cases he had found it necessary to operate in the presence of acute obstruction in only four instances. Where there were frequent attacks of gallstone colic, even though stones were constantly passed after such attacks, experience showed that the gall-bladder was usually filled with stones, and hence surgical treatment was in order. In these cases the nature of the colic, the accompanying fever, the addiction to morphine, and the condition of the patient in the intervals would help to settle the question. On the other hand, in chronic obstruction of the common bile duct the indication for operation was very frequent. Cases of common-duct obstruction without icterus, colic, or fever were met with, although stones were passed. Again, in some seemingly desperate cases a spontaneous cure might occur, but it was not advisable to wait for the natural process of cure, not only because it was very rare that this occurred, but because the delay incident to this was attended by dangers greater than that of the operation. In the last few years he had lost scarcely 3 per cent. of uncomplicated common-duct obstruction cases, yet an operative mortality of 20 per cent. need not be considered excessive in a class of cases in which 80 per cent. would sooner or later succumb to the disease. No one could make him believe that a course of treatment at Carlsbad accomplished more than the conversion of the disease into the latent form. A long course of drinking Sprudel Wasser was often more dangerous than opening the belly. In most of his operative cases it had been necessary to incise the common duct for the removal of the stone. The operation of cholecystenterostomy he looked upon as one of necessity only, and he had never performed it. It was his rule now to leave the duct open for drainage. He strongly recommended drainage of the hepatic duct, and freely conceded that this was a procedure of American origin.

Dr. Frank Billings of Chicago opened the general discussion. He said that the most common symptom, even of cystic gallstones, was pain, yet in the early stages this might not amount to more than tenderness. Frequently on making pressure over the region of the gall-bladder there was a pain or tenderness reflected toward the epigastrium. Other conditions would cause pain in this region. He had recently seen two patients who had been operated upon for gallstones when there were no such stones present, and the pain was really a symptom of the gastric crises of locomotor ataxia. When the diagnosis of gallstones had once been made he felt sure that it was no longer a medical disease.

Dr. George Dock of Michigan said that most of the conditions simulating gallstones could be separated by an exhaustive examination. There would be a loss of valuable time, and perhaps of life by temporizing with cases of stomach disease because of confounding them with cholelithiasis.

Dr. Henry Sewall discussed the physiology of the flow of bile. He said that germs once in the common duct must find ready access to the gall-bladder. The principal use of the gall-bladder probably was to serve as a flushing tank for the common and cystic ducts, and accordingly it might be suspected that extirpation of the gall-bladder might predispose to gallstones. Duodenal catarrh extending into the gall duct must at least lead to stagnation of bile. The amount of cholesterin formed must depend largely upon the general health.

Dr. E. G. Janeway of New York City said that when a question arose as to a permanent condition, such as carcinoma of the pancreas or a tumor there and a stone, which was not completely obstructive, the character of the food taken by the patient should be under the control of the physician. He was led to mention this because he had known of a recent case in which it had been assumed from the darkening of the stools that there was flow of bile, whereas further inquiry showed that this discoloration was due to the patient's having eaten very freely of spinach.

Mr. B. S. A. Moynihan of Leeds, England, said that formerly operations done there upon the common duct had been attended by a very high mortality. This had, however, been greatly reduced, a fact which was largely attributed to the use of a vertical incision continued upward on to the costal margin. About one-third of the liver with the gall-bladder was pulled out of the wound; thus making the common duct straight with the cystic duct and on a level with the skin. This detail of technique had given them, in England, very great satisfaction, and had markedly shortened the operation. They were doing cholecystectomy at present very much more frequently than formerly in preference to cholecystostomy.

The evening of the last day was given up to a "smoker" at the New Willard Hotel, at which Dr. E. A. Locke of Boston, Mass., gave a lantern demonstration of twenty-one cases of Paget's disease (osteitis deformans), and Dr. Richard C. Cabot of Boston, Mass., gave a demonstration of the ring bodies in the blood of anæmic patients.

Estimation of Putrefactive Products in the Urine and Fæces by the Means of Ehrlich's Aldehyde Reaction.—R. Baumstark utilizing the method above described has endeavored to estimate the amounts of indican in the urine and indol in the fæces under both normal and pathological conditions. Since the amount of these substances present under normal conditions is subject to wide variation, it is difficult to apply the results obtained in pathological work with any amount of accuracy. In general, however, it may be said that an increase was found in those conditions which showed marked intestinal fermentation. The diseases thus studied were: chronic constipation, diarrhœa, hyperchlorydia, peritonitis, anæmia, and chlorosis.—*Munchener medicinische Wochenschrift*, April 28, 1903.

FOURTEENTH INTERNATIONAL MEDICAL CONGRESS.

Held in Madrid, April 23-30, 1903.

Section in Surgery.

Surgery of the Posterior Mediastinum.—Dr. J L. Faure of Paris said that the upper portion of the posterior mediastinum was at the present day almost the only inaccessible region of the body, the only practical operation in this part being the simple evacuation of an abscess. It was usually taught that the posterior mediastinum was to be reached by resection of the middle ribs followed by stripping off of the pleura, but this was very unsatisfactory, and, moreover, gave access only to the medium part of the mediastinum. The author's plan was to resect the upper ribs, especially the first, as well as the lower. This permitted a wide opening into the entire extent of the posterior mediastinum, the shoulder falling outward and the apex of the lung dropping away from the spinal column. That this was a feasible procedure was shown by the fact that Dr. Faure had been enabled by it on two occasionsto exsect some twelve centimeters of the thoracic portion of the œsophagus which had been invaded by neoplasms, the operation being attended by no unusual difficulties. The author advised, when practicable to make the operation to the right side of the spine, for on the left side the arch of the aorta would be in the way, and furthermore, in the upper part, the thoracic duct would be in danger of being wounded. On the right side, on the other hand, the cross of the azygos offered the only obstacle, and that could easily be divided between two ligatures.

Radical Cure of Femoral Hernia.—Dr. Otto V. Lassen of Randers, Denmark, said that a simple cicatrix yielded readily to continuous pressure, while muscular tissue firmly united, or a strong aponeurotic tissue like Poupart's ligament, or the linea alba furnished a strong defense against the pressure of the abdominal contents. The methods formerly employed of dissecting up a muscular or aponeurotic layer and fixing it to the crural canal were not very satisfactory, for the nerve might be involved, or the muscle might degenerate and so weaken the defense. The author's method was, after treating the sac in the ordinary way, to clean a part of the pectineus aponeurosis and raise from it a strip about 2 cm. long and 1 cm. wide. Then a curved needle, armed with not too fine catgut, was passed between several of the exposed muscular bundles, and this muscular mass was raised and attached by five or six sutures to Poupart's ligament, at the point where it forms the anterior wall of the canal, and to the falciform fold, so as to close the opening completely, nothing but muscular tissue being seen at the bottom of the wound. The muscular bundles were thus merely raised from their bed and no nerve connections were severed. This method was applicable to all varieties and sizes of femoral hernias. Dr. Lassen had performed this operation forty-five times. Of these forty-five cases he excluded fourteen, dating from less than two years, and, therefore, presumably not yet safe from relapse. Of the remaining thirty-one cases, dating back from two to six years, he had been able to follow up twenty-one. He had examined those patients very recently and had found a relapse in one only, an old woman suffering from chronic bronchitis causing an incessant cough.

Esthetic Treatment of Hernia.—Dr. H. Morestin of Paris presented a communication with this title, in which he contended that it was often possible to conceal the cicatrix following operation for inguinal or femoral hernia by making the incision, whether transverse or vertical, in the hairy regions. Complicated and difficult procedures for the radical cure of inguinal hernia were hardly practicable, though a short incision made at a distance from the field of operation, but the suppression of the hernial sac and folding of the aponeurosis of the obliquus externus will easily be affected in this way.

Surgical Treatment of Hour-glass Contraction of the Stomach.—Dr. Juan Bravo y Coronado of Madrid reported a case of this description, from a study of which and of other cases reported by Eiselsberg, Hartmann, Roux, and others, he felt justified in formulating the following conclusions: (1) Surgical intervention is necessary for the relief of hour-glass contraction of the stomach, (2) The particular operation demanded may vary with the underlying cause of the contraction. (3) The usual operations are (*a*) gastroplasty, (*b*) gastrogastrostomy, (*c*) circular resection, (*d*) gastroenterostomy. (4) The last-named operation may be regarded as the one of election by reason of its simplicity and its general application, for it removes most of the symptoms usually produced by an hour-glass stomach, and at the same time relieves those caused by gastric ulcer when this coexists. (5) When a pyloric stricture exists at the same time with an hour-glass contraction the indication for gastroenterostomy is absolute, none of the other operations mentioned being admissible. (6) A study of all cases to date shows that the results of gastroenterostomy are superior to those of all the other operative methods, especially to those of gastroplasty.

Plugging Bone Cavities.—Dr. M. Silbermark of Vienna read a communication on the method of Mosetig-Moorhof for treating bone disease—caries and osteomyelitis—by filling as a dentist fills carious teeth. The operator removes all the dead bone and a portion of healthy bone surrounding the disease focus. The cavity so formed is thoroughly dried by hot compressed air and then carefully and completely filled by a plug.

Multiple Hydatid Cysts of the Abdominal Cavity.—Dr. Apostolo N. Psaltoff of Smyrna reported a case of this nature in which he performed splenectomy, partial hepatectomy, and ablation of a very large hydatid of the mesentery, the whole operation being completed in one séance. The patient made an excellent recovery.

A Rapid Sterilizer and Water Heater.—Dr. Ramón Martín Gil of Malaga described an apparatus for the rapid heating of water in large quantities, two quarts of sterilized water at a temperature of 105° C being produced every fifteen or eighteen seconds. The apparatus could be used as a steam sterilizer for clothes and bandages or as a sterilizer of instruments by hot water at varying pressure, according to the temperature. The apparatus could be employed for domestic purposes as well as in the operating room.

Treatment of External Tuberculosis by Heat.—Dr. Spiro Clado of [Paris] presented a communication on this subject. He recalled a memoir which he had published in collaboration with Verneuil in 1891, since which time he had treated many cases with results which confirmed the conclusions in the former paper regarding the efficacy of the method. In some cases, when the tuberculous focus was superficial,the treatment by heat was curative by itself, in other cases when the diseased area was less accessible the method offered a valuable adjunct to other and more usual measures. For example, in tuberculosis of the skin, in certain cases of osseous and articular tuberculosis, in accessible tendinous cysts, and in tuberculous laryngitis, the author had obtained many perfect cases. In other cases in which the diseased foci were deeper, heat applied before and after operative procedures had rendered signal service.

Post-operative Mortality.—Dr. José Ribera y Sans of Madrid said that deaths following operations might be arranged under five groups, as follows: (1) Death due directly to the operation. (2) Death due to some complication, so-called traumatic complication, either infective or non-infective. (3) Death resulting from some complication in the part of the organ operated upon, such as loss of cerebrospinal fluid in operations on the head, pneumothorax in operations on the chest, or intestinal occlusion following abdominal operations. (4) Death due to disease of some organ other than that ope-

rated upon or to a bad general condition. (5) Death due to some intercurrent disease unconnected with the operation itself. While death in the fifth class of cases might be called unavoidable, this was not the case in the first four groups, and study of them was therefore necessary.

In many instances, for example, death was directly attributable to the fact that the operation was deferred too late, as in hernia, when delay had permitted the formation of intestinal occlusions or adhesions leading to strangulation. Again death due to the coexistence of disease in other organs might be averted by a more exact diagnosis following a careful examination of the patient; in such cases treatment should be directed to the affected organ before operative intervention was had.

Treatment of Cutaneous Tuberculosis.—Dr. H. Morestin of Paris said that the ordinary treatment of tuberculosis of the skin, of whatever form, should be extirpation, followed by an autoplastic operation. The Italian method of autoplasty was especially indicated after operations on the upper extremity, the Indian method after those on the cheek, a sliding graft and fixation after those on the chest or abdomen, and ordinary grafting in other cases. The technique of the operation for removal of the tuberculous lesions necessarily varied according to the nature and seat of the disease, and the author related several cases in illustration of the methods employed. In all cases, however, surgical treatment of cutaneous tuberculosis was the method of election.

Spinal Cocainization.—Dr. M. da Costa Alemão of Coimbra, Portugal, related a number of observations on this method of inducing surgical anæsthesia. His results obtained after injections of ordinary solutions of cocaine having been very unsatisfactory, he resorted to solutions in cerebrospinal fluid as originally proposed by Guinard. This consisted in making a rather strong solution of cocaine hydrochlorate (each drop containing 5 milligrams of the salt), and adding two drops of this to 3 or 4 c.c. of cerebrospinal fluid withdrawn at the time of operation, and then reinjecting the mixture. He found that by this simple procedure the cocaine solution was almost entirely deprived of its toxic action (headache, nausea, etc.), while the analgesic action was not affected. He reported a number of cases illustrating the efficacy of this method.

Treatment of Urethral and Œsophageal Strictures by Linear Electrolysis.—Dr. J. A. Fort of Paris presented an exhaustive communication on the subject, giving in extenso the history of fifty cases. These were divided into two groups: the seventeen cases in the first group were seen between 1889 and 1902 inclusive, the thirty-three in the second group were treated during the present year. In the first group were five cases of stenosis of the œsophagus and twelve of urethral stricture, four of the latter being complicated by gleet; all were cured. The second group comprised twenty-three cases of simple urethral stricture, eight of urethral stricture complicated by gleet, and two of œsophageal stenosis; of the latter one was cured, in the other, a cancerous stricture, there was such marked improvement that it was possible for the patient again to take nourishment in the natural way. The urethral strictures were all relieved, but in some cases the patients passed from under observation before sufficient time had elapsed to warrant the assertion that a definite cure had resulted. From his experience with these and many other previously reported cases the author felt himself justified in concluding that linear electrolysis was preferable to internal urethrotomy in the treatment of urethral stricture and to gastrotomy in that of stricture of the œsophagus, provided, of course, that the latter was not absolutely impassable.

Indications for Surgical Intervention in Affections of the Stomach.—Dr. S. Cardenal of Barcelona presented a communication with this title, of which the following were the conclusions: Surgical intervention is indicated (1) in all gastric diseases in which are unmistakably and definitely present the symptom complex called by the author the pyloric tripod (pain, vomiting, and, above all, gastric retention), even when no positive nosological diagnosis has been reached; (2) in every case of certain diagnosis of gastric neoplasm, especially when demonstrable on direct examination, even when the functional symptoms are few or absent; (3) in all doubtful cases in which the patient is rapidly emaciating, even when the gastric symptoms are obscure and in the absence of a positive diagnosis, since that is the only means of arriving at a definite knowledge of the condition present and of obtaining positive indications for medical and surgical treatment.

Renal Hæmaturia of Six Months' Duration Without Apparent Lesion.—Dr. Alberto Suaşez de Mendoza of Madrid reported this case. The patient was a woman, thirty-four years old, married, childless, who suffered for six months continuously from hæmaturia, being finally reduced to an extreme degree of exhaustion and anæmia. Interrogation revealed a history of syphilis contracted two years after her marriage, when she was twenty-seven years old; this disease was treated carefully for two years and was believed to have been definitely cured. The most careful examination revealed no cause for the nephrorrhagia. Israel having had the most favorable results from a simple incision into the kidney in a similar case, the author performed the same operation, but without any effect upon the renal hemorrhage. Finally, the patient's life being seriously threatened by the continual loss of blood, the author resorted to nephrectomy. Microscopical examination of the kidney revealed absolutely no lesion capable of explaining the occurrence of the hæmaturia. Subsequently the patient suffered from an obstinate syphilide, cured finally by calomel injections. In view of this fact, the author expressed regret that he had not made a faithful trial of antisyphilitic treatment before extirpating the kidney.

An Enormous Vesical Calculus.—Dr. Mendoza also reported a case of stone in the bladder in a woman thirty-two years of age. The calculus was removed by hypogastric section and was found to be of very large size, measuring 24 cm. in its largest diameter, and weighing 265 grams.

Epiploitis in Herniotomy.—Dr. J. Ortiz de la Torre of Madrid read a paper with the following conclusions: (1) Suppurative epiploitis may occur as a complication of resection of the epiploon in hernia. (2) The diagnosis of the condition is simple, coming on as it does ten or twelve days after the operation with fever, pain, and swelling of the remaining portion of the epiploon. (3) Its course is very slow and is apt to be attended with the formation of abscesses, the pus passing in the direction of the intestine or the abdominal wall, and resulting in the formation of adhesions and the walling off of the original focus of disease action. (4) The only treatment indicated is that directed to relief of the pain, the expectant plan being followed in regard to the suppuration. (5) As a preventive measure it would be desirable to devise some method whereby the bleeding from the cut edges of the epiploon could be arrested without a resort to buried sutures. Angiotripsy, for example, would be an ideal method for the avoidance of infection.

Leucocytosis in Appendicitis.—H. Goetjes says that a maintained total count of from twenty to thirty thousand signifies the presence of pus complications which might cause a hyperleucocytosis can be excluded. A normal or subnormal total count gives a bad prognosis when present in an appendicitis which shows marked clinical symptoms. These statements apply only to those cases in which the appendix condition is circumscribed. If a diffused peritonitis is present the significance of the total count becomes much reduced, except that the higher the figures the more favorable the prognosis.—*Munchener medicinische Wochenschrift April* 28, 1903.

AMERICAN MEDICAL ASSOCIATION.

Fifty-fourth Annual Meeting, Held at New Orleans, La., on May 5-9, 1903.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

THIRD DAY—THURSDAY, MAY 7.

Sarcomatous Degeneration of Myomata.—Dr. T. S. CULLEN of Baltimore read this paper. He said that sarcomata might develop in all the varieties of myoma. They were developed from both the connective tissue and from the muscle fibers. Two varieties were from the muscle fibers, spindle and round cells. In some cases it was practically impossible to trace the development from myoma. He did not think it advisable to split the uterus when it was to be taken out if it could be removed as a whole when sarcomatous degeneration was present.

Dr. CLARK, in discussing this paper, said that it gave evidence that the indication for radical treatment in myoma was greatly increased. He did not know how far we dared to preserve the uterus, after what the author had just said.

Dr. CULLEN, in conclusion, said that he did not know the exact percentage of cases in which degeneration took place, but thought that it was between 1½ and 2 per cent. He advocated early operation in all cases of myoma, and that myomectomy should never be done unless there was a patent tube.

Ectopic Gestation: Inhibited Tubal Peristalsis a Cause; Report of a Case, with Remarks.—Dr. O. G. PFAFF of Indianapolis read this paper. He said that the peristaltic function of the tube was not generally appreciated, while too much stress had been laid on the importance of the ciliary wave. A great many cases occurred in which the tubes had not been previously infected. The tube was an excretory canal and, like the ureter and gall-bladder, had the power of peristalsis. The ciliated epithelium did not always have propulsive force. The ciliated cells acted as a soft, velvety bed, upon which the ovum rested, and the latter was moved along the tube by its peristal ic action. A case was reported in which the tube had become bound down and peristalsis could not take place at the time of ovulation, and there resulted a tubal pregnancy.

Dr. CARSTENS of Detroit said that one of nature's methods to prevent tubal abortion was to cause adhesions of the tube to the rectum, bladder, or pelvic wall.

Dr. DUDLEY said that it was known that many women became pregnant with the tube bound down, and that the cilia played a more important part than was formerly recognized. He thought that the diaphragm also played an important part in the movements of the ova to the uterus. Tubal pregnancy depended upon the patency of the tube.

Dr. Pfaff, in closing, said that tubal pregnancy might take place even in a healthy tube

Non-absorbent Gauze: The Proper Material for Tamponades for Hemorrhage, with Special Reference to Obstetrics.—Dr. R. W. HOLMES of Chicago read this paper. After the author had gone into the history of the various kinds of gauze which had been used to stop hemorrhage taking place after the delivery of a woman, he remarked that the absorbent gauze which was now in vogue for the prevention of this calamity and for its treatment was entirely improper for carrying out the idea intended for it. The original gauze of Lister was non-absorbent. It was one of the normal functions of the uterus after delivery to bleed, and the hemorrhage was best stopped by means of some sort of a non-absorbent gauze, as it had more capillarity than absorbent gauze. It had one-sixth the capillarity with water as had absorbent gauze Paraffin, when incorporated in gauze, delayed coagulation; hence, gauze prepared with it was of little or no use. The writer had used gelatin gauze on several occasions with success. Chianisol was the best hæmostatic to use along with non-absorbent gauze.

Dr. BACON of Chicago remarked that absorbent gauze was not a drainage; wicking should be used if one wished to obtain drainage. The impregnation of gauze with a hæmostatic was more important than the use of some non-absorbent material. In postpartum hemorrhage the fundamental thing was to stimulate contraction of the uterus and thereby hasten the coagulation of the blood.

Dr. W. P. MANTON of Detroit said that absorbable gauze answered every purpose, as it permitted the blood to coagulate in its meshes, and thus assisted coagulation elsewhere.

Dr. EFFA V. DAVIS of Chicago held that the chief thing was rather the prevention of hemorrhage, and this could be most easily done if one were careful to look into the history of the patient as regards the richness of her blood and as to whether there had been present before pregnancy a chronic inflammation of the walls of the uterus.

Acute General Staphylococcus Infection through the Puerperal Breast.—Dr. W. P. MANTON of Detroit read this paper. He said that since the advent of aseptic methods, general infection through the puerperal breast had been a rare occurrence, although normal human milk contained pus-forming bacteria. The object of the author's paper was to direct attention to a treatment which had been in vogue for some time, and which had been lauded in all the textbooks on this subject, viz., the massage of the breast in engorgement and beginning mastitis. This procedure was liable to produce general staphylococcic infection. The author reported a case of this kind with abscess formations in the breast after massage, and in which there developed later abscesses in the other parts of the body. These abscesses contained the same bacteria that were found in the abscesses in the breast. This was the only case that had been reported in the literature. Distension and turgescence of the breast should be treated by other means than massage.

Dr. JAIMESON of Detroit said that he had never seen a similar case, and believed that it was unique.

Dr. BACON of Chicago said that distinction should be made between beginning lactation and infection. In the latter condition there was always an elevation of temperature, so that the diagnosis should be most simple. Massage should not be made toward the nipples, but outward toward the axillary and subclavian arteries; in fact, he believed that massage was indicated in but few of the cases of this variety.

Dr. Manton said, in closing, that he was sure that general infection after these cases was more common than was generally supposed.

Destructive Sterilization by Cataphoresis in Cancer of the Uterine Cervix.—Dr. G. BETTON MASSEY of Philadelphia read this paper. He said that a large proportion of failures to cure uterine cancer, especially that of the cervix, was due to the implantation of the cancer cells in the cut surface of the wound made in the primary operation. This difficulty had been obviated by the invention and application of the thermocautery and other such operating electrical and thermic instruments, together with the method of driving into the tumor and the surrounding tissues a nascent salt of mercury The time required to destroy an averaged-sized cancer of the cervix with a current of five to six hundred milliamperes was from a half hour to two hours. The slough made in this burning operation would come away in any where from ten da s to two weeks. The best results were obtained in the employment of cataphoresis by a combination of both zinc and mercuric salts The after-treatment was expectant.

Dr. MOODY of Alabama said that the essayist's paper was worthy of more consideration than the section was evidently giving it. Where tumors could not be removed with the knife, this method would be of great value, in

his opinion, in the alleviation of many of the great and annoying symptoms experienced by these patients.

Dr. Massey, in closing, said that his method had been tried in seven cases recently, with one absolute success in a case in which he had had the opportunity of treating the patient before she had undergone any sort of cutting operation. The other cases were of a secondary nature, and all of them had been subjected to the knife and had come to him for treatment of a recurrence of the primary condition. He was very much surprised that, in view of the many failures that surgeons had had, that his method of treatment should not be taken seriously and given a fair trial, for such it deserved. One case which he had treated by his method had died from septic peritonitis at the end of six days.

Advisability of Vaginal Exploratory Puncture and Cœliotomy in Doubtful Diagnosis of Diseases of Female Genital Organs, with Cases.—Dr. C. B. Theinhaus of Milwaukee read this paper. He said that when cases were very doubtful, especially in hard tumors, the diagnosis between fibroids and malignant tumors was not always easy. Where there were fluctuating tumors the diagnosis must be made between long-standing pus accumulations, with perhaps a slight rise of temperature in the afternoon, cysts and extrauterine pregnancy. The author mentioned a case in which, on first examination, he thought that he had to do with a fluctuating tumor on the posterior portion of the uterus. He diagnosed it as a fibroid and advised immediate exploratory puncture. The patient objected and would not consent until about three months later, when, on making the puncture in the cul-de-sac of Douglas, he found that the large fluctuating mass was not fluid, but was a very soft, round-cell sarcoma, and that operation with a hope of cure was useless. In every case in which the diagnosis was doubtful, exploratory vaginal puncture should be done as soon as possible to clear up the diagnosis. At this time the operator should be prepared to do any operation which might be indicated, even to the extent of opening the abdominal wall and doing any sort of an operation that the case demanded. The operation was not original, but had been first done by Summers of New York City.

Dr. Stacey of Texas said that the operation was a good one for the occasional operator.

Dr. Craig of Boston thought that if there were pus present as high up as the author had said, he would reach with his exploratory puncture to the vaginal wall, and there would be a clear indication—in fact, a positive one—for abdominal work, and not, as the author had said, for operation by the vaginal route.

Dr. Carstens said that he believed in all that the essayist had said in regard to the procedure, but he would call the operation vaginal cutting and not puncture, for he believed that the incision should be a large one, anywhere from three to four inches, according as the condition demanded.

Dr. Theinhaus, in closing, said that it was never good practice to drain pus through the abdomen; in every such instance vaginal drainage should be employed.

Conservative Surgery of the Sclerotic Ovary.—Dr. H. O. Pantzer of Indianapolis read this paper. He said that ovaries of this variety were generally removed by operators of to-day because of the fact that they were considered to be entirely functionless and necessarily harmful while they remained, inasmuch as they were the source of painful and other disagreeable symptoms. On the contrary, the author believed that not all of these ovaries should be removed, but that conservative operations could undoubtedly be done on them with great benefit and relief of symptoms, besides permitting the retention of the function of menstruation and a possible subsequent pregnancy on the part of the patient. The author had had a case of a very much run-down woman in whom the abdominal walls were thin and poorly nourished, so that on vaginal examination it was possible to make out that the ovary on the left side was large and sclerotic. The broad ligament on the right side was contracted, and had pulled the uterus toward it, causing a slight backward displacement of that organ. The ovary on that side was also enlarged and hardened. The patient, though married for some years, had never become pregnant, but was most desirous, as was her husband, of having a child. The writer decided upon operation, and after he had got into the abdominal cavity decided to attempt to retain a portion of the right ovary. The left ovary was extirpated, but a wedge-shaped piece was taken out of the right ovary and part of its surface was pared off. The operator did not cover the raw surface, but simply dropped the ovary back into the abdominal wound, and closed the incision. The recovery of this patient was slow, but progressive. Two years later she became pregnant, and was delivered at full term of a nine-pound child.

Dr. Dudley, in discussing this paper, said that ordinarily one considered it good surgery to remove all such ovaries, inasmuch as the normal functionating tissue was supposed to have degenerated into scar tissue. But the conservatism practised by the essayist should show the profession at large that not in all cases could this dictum be held as true.

SECTION ON SURGERY AND ANATOMY.

THIRD DAY—THURSDAY, MAY 7.

Sunshine and Fresh Air Versus Röntgen and Finsen Rays in the Treatment of Tuberculosis of Bones and Joints.—Dr. De Forest Willard of Philadelphia read this paper. He said that these factors, together with good food, were invariable agents when combined with fixation of the joint in the contest with tuberculous infection of the hard tissues. Patients lying in bed should be subjected, on all possible occasionsl to the direct influence of the sun's rays, and to this end all hospitals should be provided with solaria and roof gardens. The diseased joints should be exposed to the direct rays of the sun, the patient's head and eyes being protected suitably. It might be well to cover the areas with blue glass, so as to enable the easier passage of the ultra-violet actinic rays. Local medications of the iodine group should be freely employed. Tent life, or any form of out-door existence, was advantageous in these classes of patients, although he thought that the improvement, often noticed to be so out of proportion to one's expectations, was due largely to taking the patient from an environment of starvation. It was just as important, he said, to establish sanatoria for the segregation and treatment of cases of tuberculosis of the hard tissues as of the soft. The sun's rays employed directly were more effective as curative agents than when concentrated by lenses. The electric rays were desirable in the absence of sunlight. The actinic and the *x*-rays were both apparently helpful in the treatment of tuberculosis, but five years at least would be required before we were able accurately to know their worth.

Epithelioma Under the X-Ray: A Preliminary Report.—Dr. J. Clark Stewart of Minneapolis presented this paper. He described in detail a remarkable case of extensive involvement of the hand, which lent itself very well to histologic investigations. From the numerous sections cut, he had made the following observations: Fat degeneration was marked in all sections immediately after the beginning of the treatment. This never occurred in epitheliomata when undisturbed. This deposit, as shown by osmic acid, was most marked in the nuclei and in the periphery of cells surrounding the pearls. The second important change noted was the rapid and extensive vascularization of the part which normally contained no vessels worthy of mention. This should not be confused with the formation of granulation tissue. These vessels were first filled with red-blood cells; later they were displaced and the vessel was packed by leucocytes. The final result, just prior to entire destruction, was the formation of a fine reticulum filled with polymorphonuclear

leucocytes and refuse which had undergone hyaline and other degenerations. The further history of the case showed a very important thing, *i. e.* that while the growth was destroyed, where it was directly exposed to the rays, it grew with such rapidity in places where it had been protected simply by the thickness of the skin as to necessitate extensive maiming operation.

Dr. H. A. Christian of Boston, in opening the discussion, said that too much credence should not be placed upon the supposed presence of fat when the demonstration consisted solely in the use of osmic acid, because it had been shown that many other substances turned in the presence of this reagent.

Dr. Edward H. Nichols of Boston said that the cases reported as having been discharged cured must be received with caution, because the mere skinning over and melting away did not by any means signify a cessation of the process It was probable that the action of the rays consisted simply in their mild caustic power. Furthermore, it should not be forgotten that there were numerous cases recorded in which undoubtedly the rays had actually caused epitheliomata. Thus it would be seen that they might alike do great good and incalculable harm.

Dr. John Ridlon of Chicago felt that very little of value could be found in the treatment of tuberculous joints by the *x*-and other rays; in any event they could never become anything more than superficial assistants to the standard treatment of fixation and extension.

Dr. F. B. Lund of Boston said that facial epitheliomata were known in many cases to be non-malignant. It was not, therefore, surprising that many of them might be cured by various rays, just as they would have been cured by agents possessing a similar caustic power. He urged that these new therapeutic agents did not justify the laying aside of the knife for the treatment of malignant skin lesions any more than in the case of the caustic pastes. At best they might only be considered aids not agents.

Dr. Willard said that all he desired to show was that light and its health-giving associates, food and air, were very essential, both locally and constitutionally, in the treatment of tuberculosis of the hard parts.

Varix of the Inferior Mesenteric Vein Complicated by Chronic Ulcerated Colitis.—Dr. John E. Summers, Jr., of Omaha, detailed the history of his operations upon this most extraordinary case. It was that of a man who had suffered for years from chronic ulceration accompanied by prolapse of the sigmoid. For a long time he contented himself with dilating the sphincter and washing out the colon with astringents. This failing, he did a left inguinal colostomy, and was astonished to find an enormous varix of the vein and all its branches. He therefore closed the wound without opening the bowel, and made an exploratory laparotomy above to determine, the cause of the varix, but failed to find it. He, however, performed gastroplication and Morrison's operation with some improvement. Upon the case relapsing, he did a right inguinal colostomy, with the intention of putting the parts at rest, and irrigated feebly. The patient promptly gained twenty pounds in weight. Having learned on the fifth day how to wash himself out, this procedure caused him very little trouble.

Congenital Dislocation of the Radius.—Dr. Charles A. Powers of Denver read this paper. The subject was a boy of thirteen in whom the upper left extremity had been congenitally shorter than the right. The forearm was fixed in pronation, supination being impossible. The left radius was dislocated upward, forward, and outward on the anterior aspect of the humerus. The literature did not give great encouragement as to operation.

Acute Epiphysitis of the Head of the Femur Causing a Condition Simulating Congenital Misplacement.—Dr. John P. Lord of Omaha read this paper. He said that his experience led him to believe that there were more of these cases than was generally supposed, many of them being mistaken for coxitis. This should, however, not be the case, because every case of epiphysitis which had gone on, as was so often the case, to an almost complete destruction of the head and neck showed scars from previous rupture or operation. *X*-ray photographs of the part showed the deficiency of bone and enabled a positive differential diagnosis between coxitis, epiphysitis, and congenital dislocation to be made. The most important point in the treatment of this well-nigh hopeless condition consisted in maintaining abduction at any cost.

Necessity for More Care in the Treatment of Skull Fractures.—Dr. W. H. Earles of Milwaukee presented this paper. He said that one could not be too careful in the treatment of these cases, and that the assumption should be that every case of contusion of the scalp was a fracture. Lack of cleanliness in fractures of the cranium was fraught with the utmost danger.

Epispadias: Report of a Case Treated by Modification of Caulwell's Operation.—Dr. James Bullitt of Louisville read this paper. He said that Caulwell's operation had not gained the prominence which it deserved, and that it was a pity it should have been neglected by the textbooks hitherto. In technic it was simple, consisting in transplanting the new urethra to its normal position by a free and careful dissection of the mucous membrane and a separation of the corpora cavernosa. Should the wounds heal by first intention, the work was completed in ten days.

Dr. Parham of New Orleans said that Cantwell's operation was without doubt the best and easiest, the corpora cavernosa being frequently separable without the use of the knife.

Dr. Fenner of New Orleans had noted with surprise, in performing this operation, the ease with which the technic could be carried out. An unfortunate experience had shown him the absolute necessity of using absorbable ligatures. The perineal buttonhole should invariably be made.

Cicatricial Ankylosis of the Jaws: A Contribution to Its Operative Treatment.—Dr. Rudolph Matas of New Orleans presented this paper. He said that while such conditions did not involve life, they impaired physiologic usefulness. He reported the case of a man twenty-seven years of age, in whom cicatricial osseous trismus had resulted as the result of repeated mercurial stomatitis in early childhood. Not even a knife-blade could be passed between the teeth. The individual had subsisted entirely upon liquid food, but had learned to use tobacco, having, indeed, suffered from the formation of several osteophytes, which were composed largely of tobacco derivatives. The development of the lower jaw had been so retarded that it was of the infantile type. He had operated from without, producing at the first sitting a marked condition of macrostoma, and substituting for the lost musosa of the mouth skin from the cheeks, which was stitched to the margins of the gums. The relief not being complete, a long skin flap was added from the neck. The left condyle of the jaw was excised and cuneiform excision of the angle of the jaw was practised. The recovery, though not cosmetically successful, was functionally good.

Further Contribution to the Surgery of Undescended Testicle.—Dr. Arthur D. Bevan of Chicago read this paper. He said that cryptorchidism was a much more common condition than usually supposed. The cases probably numbered one in 500, producing mental and physical symptoms. It was one of the most important conditions one could be called upon to treat, and was almost always accompanied by hernia. Among other reasons for operating was that if left in its exposed position malignancy from traumatism, as well as pain from the same cause, was very likely to ensue. His most recent investigations had taught him that the spermatic vessels could be ligated without damage to the testicle. The explanation of this was to be found in the freedom of

the anastomosis with the vessels of the vas. Recently he had found a few cases in which he had been unable to keep the testicle in the scrotum without considerable tension. Under these conditions it was absolutely safe to cut everything except the vas and its vessels. These never were too short. It was always the spermatic vessels which caused the trouble. He advised operation from the sixth to the tenth year.

Dr. Bartlett of St. Louis said that because of the sterility of these individuals it was probably better to remove the organ entirely, unless they were operated upon after puberty, because to them the only function of the testicle was its internal secretion.

Dr. Rodman of Philadelpha believed that if boys were operated upon at an early age the organ might not alone be saved for its internal secretory function, but for that of reproduction as well.

Surgery of the Urinary Tract in the Female.—Dr. J. B. Murphy of Chicago discussed pyelonephritis and hydro-and pyonephrosis. Some important points in the surgery of the kidney were that we possessed four times the necessary amount of kidney tissue to do the needed work. When a portion of the excess was removed, the remainder was stimulated to grow, there being a most remarkable vital relationship between the two organs. He made an eloquent appeal for conservatism in the treatment of abscess of the kidney, saying that it should be given precisely the same treatment as collections of pus elsewhere. He believed that wholesale excision of kidneys had been too widely practised. Pyonephrosis was invariably a sequel of hydronephrosis, which itself was merely a symptom. The cause should be removed. Clinically, it could be divided into three regions, viz.: (1) Obstruction in the the upper one-fifth of the ureter; (2) obstruction in the middle three-fifths, and (3) obstruction in the bladder attachment of that tube. The treatment of renal cysts should be based upon a recognition of the fact that they are lined with epithelium. He preferred opening the pelvis to the trans-renal route. He would do vertical anterior colpotomy with section of the bladder for the removal of stones and papillomata when lodged low down in the ureter.

Dr. Matas of New Orleans said that the most important aim of surgery was to preserve the organ when so doing was not dangerous to the organism. He suggested the use of retrograde drainage by passing a tube from the back through the split kidney, down the ureter, and through the bladder and urethra.

Dr. Martin B. Tinker of Baltimore said that Americans should be proud that their surgeons were the first to do nephrectomy; that they had removed the first stone and done the first decapsulation.

Tuberculosis of the Mammary Gland.—Dr. A. H. Levings of Milwaukee said that although this condition was an extremely rare one it seemed probable that a number of the cases of so-called carcinoma were probably of tuberculous nature. The condition was most frequent during menstrual life in single women. It was often primary, and might involve both sides.

Officers Elected.—The following officers were elected for next year:

Chairman, Charles A. Powers of Denver, Col.; *Secretary*, E. Wyllis Andrews of Chicago, Ill.; *Member of House of Delegates*, W. J. Mayo, Rochester, Minn.

SECTION ON SURGERY AND ANATOMY.

FOURTH DAY—FRIDAY, MAY 8.

Clinical Report of Fractures of the Upper Third of the Femur.—Dr. Seton of New Orleans presented these remarks. He thought that too much attention was ordinarily given to extension, and too little to fixation. The mistake that had been made in the past, when plaster of paris had been used, was in not carrying the cast far enough up on the body. Too much plaster was applied to the distal fragment—too little to the proximal. He had found that by adding a shell of silicate bandages, better results could be obtained. He advised the application of the plaster-of-paris dressing as soon after fracture as possible.

Dr. Grant of Denver hesitated to apply so absolutely unyielding a dressing as plaster of paris until after the primary swelling had subsided.

Dr. Brandon of Tennessee advocated a sort of three-angle splint for fracture of the femur in children, which was similar to that commonly used for adults.

Dr. Draper Maury of New York reported having made seme experiments in connection with the use of dextrine in the proportion of 10 per cent. by volume with plaster of paris as an improvement upon the "glass" bandage. If applied as a shell of one or two thicknesses of crinoline over the ordinary plaster cast—which had been made much lighter than usual—it would create a cast of almost adamantine hardness; of about two-thirds the usual weight and of nearly one-third greater durability. It was somewhat slow to dry, and a convenient method of expediting this was to heat it with a common painter's gasoline torch. The porosity was reduced by the dextrine, but this could be more than compensated for by the cutting of fenestra at frequent intervals.

The Closure of Wounds.—Dr. Miles F. Porter of Fort Wayne, Ind., read this paper. He made no claims for priority in the method which he detailed in full, but felt that the question was still so very unsettled and of so very great importance as to demand the attention of all. Under all conditions, save when tension and sepsis existed, through-and-through sutures should be discarded for adhesive plaster strips. These, he said, could easily be kept sterile for an indefinite period by keeping them in an atmosphere of formalin. Stitch abscess formation was due to three factors—the injury of the tissues, the presence of germs, and the failure to obliterate dead spaces. All these conditions were ideally met by the use of adhesive zinc oxide plaster strips. A well-rolled wad of absorbent gauze placed on either side of and parallel to the wound obliterated the spaces—in the absence of undue tension—there were no traumata made by needles—no foreign matter of questionable sterility was placed in the tissues. The method was particularly useful in operations about the face, as hare-lip. Perfect coaptation, as shown by the invariable soaking of the gauze dressings in the several hundred cases in which he had used it, was not incompatible with perfect drainage.

Dr. Morton of California said that it was the abdominal fasciæ which gave strength to the part; which, rather than the muscles, held the viscera in. No number of gauze wads could, in his opinion, coapt the severed fasciæ. Therefore the method could never appeal to him as being based on practical grounds. In wounds of the extremities, however, particularly in amputations where drainage was so necessary and after removal of varicose veins, it was admirable.

Dr. Porter, in closing, said that he wished it to be distinctly understood that he used and advised the method only in those wounds in which there was no infection and no great degree of tension.

Operative Treatment of Ophthalmic Goiter.—Dr. T. C. Witherspoon of St. Louis presented this paper It was a valuable report on the after-history of the nine cases upon which he had operated since 1895, together with a description of methods used. In all but one he had performed hemisection of the most prominent lobe of the thyroid. In that single case he had done Jonnesco's operation—removal of the upper and middle cervical sympathetic ganglia. The result had been poor, and he was discouraged from making further trials with this technique by the failures of others. So little was known of the pathology of exophthalmic goiter that it was very difficult to say when to operate. Every surgeon had asked himself this question in vain. Some very grave cases improved markedly under strictly medical care. He

had noted, however, that this gain was always transient—that the case fluctuated only, gradually going from bad to worse, unless some surgical steps were taken. This being the case, it seemed but fair to suppose that the only hope which could be held out to these unfortunates lay in advising early operation. The technique of hemisection of the gland he described as follows: He advised longitudinal free incision along the anterior border of the sternomastoid rather than the inferior transverse U-shaped incision of Kocher, because the latter gave only limited room, and this was a desideratum because the misplaced and dilated thyroid vessels were very troublesome to tie in any case. The superior thyroid could usually be secured without much trouble, but the inferior vessel was sometimes most difficult of access. The most important aid in effecting ligation lay in splitting the capsule in the line of the skin incision, and in separating it from before back, and from without in. Thus, the recurrent laryngeal nerve was exposed and avoided, and the vessels secured between the gland and the capsule. He felt that anyone who attempted to remove the mass encapsulated would, sooner or later, lose his patient. These cases could stand no hemorrhage whatsoever, so he considered any blood-saving technique as of ultra importance. The isthmus, to which was usually ascribed great hemorrhagic properties, he had found of very little annoyance—it required but ordinary treatment in its sectioning. He considered the use of one-tenth per cent. cocaine for infiltration a safer anæsthetic than chloroform or ether.

Dr. Grant of Denver, in opening the discussion, said that he agreed with the author in opening the capsule before attempting to tie the arteries. Patients suffering from Graves' disease had but little resisting force, and particularly if their hæmoglobin was below 50 per cent. they should never be given a general anæsthetic. He always prepared his patients by absolute rest in bed, and, if indicated, by the exhibition of strychnine.

Dr. Rixford of California said that the problem of operating in these cases was complicated by the fact that there seemed to be two types of the disease—that in which the goiter was primary, the symptoms following, that in where the symptoms appeared before the tumor. Operation seemed to give the brighter outlook in the first class, since they are usually more or less simple adenomata. The skin of these patients was very tender and absorbed very quickly. Hence strong antiseptics were contraindicated and, because of a low resisting power, sepsis was very apt to be fatal. For cosmetic reasons he preferred the transverse incision, but if the tumor were large, it called for the vertical opening. He felt that the outlook for this operation was good.

Dr. Horsely of Texas said that there were two very distinct views held concerning the origin of exophthalmic goiter. By one the symptoms were considered the result of sympathetic nerve disturbance, by the other they were ascribed to adenomatous dysgraciæ. Naturally, no truly scientific surgical work could be done, until this moot pathological point were settled. He thought that we should be most careful not to hope for too much from operative intervention, that the apparent improvement might be due wholly to the nervous shock inflicted by the operation.

Dr. Witherspoon, in closing, said that all cases should be operated on in the event of medicine failing to give help—that the operation of choice was hemisection of the thyroid rather than removal of the sympathetic ganglia.

Subcutaneous Injections of Paraffin for Deformities of the Nose.—Dr. F. G. Connell of Colorado read this paper. He spoke of the widening of the field in which this treatment might be used, and of its almost absolute safety as regards life. The desiderata were to avoid too much heat and tension. He advised the use of 1 per cent. cucaine of a screw instead of ordinary plunger for the syringe, the introduction of a limited amount at a time, and the leaving alone of the patient for at least twenty-four hours after operation. He concluded that Corning of New York was the first to advise the use of non-absorbable oils, that the work was still in experimental stage, that its introduction for the correction specially of certain nasal deformities would be wide, and that general anæsthesia was, as a rule, unnecessary.

Dr. Norton of California said that he had found sperm oil a very useful medium for keeping his paraffin melted, and at an even temperature of 109° F. He thought that the amount which it was safe to introduce depended entirely on the degree of tension which was produced, and this was to be estimated by the whitening of the skin over the site of injection. He showed an admirable series of photographs of microphotographs of sections of paraffin, which had been allowed to stay in the tissues from one to five months. The series, each removed one month apart, showed that the paraffin by the sixth month was not alone encapsulated, but entirely absorbed. It thus was proved to be the analogue of the primary blood clot which undergoes organization.

Dr. Mayo of Minnesota said that in order to be able safely to inject enough paraffin to do any good it might sometimes be useful to undercut dense scar tissue with a cataract knife, or, as McDonald had said, to stretch the part a few days previously by the forceful injection of salt-solution.

Abscess of the Spleen.—Dr. Walter M. Spear of Rockland, Me., presented this report. He detailed a case of this condition, which his investigations led him to consider to be more frequent than was generally supposed. The patients generally gave a history of malaria or typhoid fever. He concluded that the condition was not to be diagnosed save by exploration, but that it occurred with sufficient frequency to justify its being considered in all doubtful cases. The only treatment lay in splenectomy.

The Choice of Anæsthetics.—Dr. Mellish of Texas read this paper. He said no one was justified in using one anæsthetic to the exclusion of another. He believed that this question could be settled only by the skilled anæsthetist, but that, in general, chloroform should never be used when the anæmia is as low as 50 per cent., because ether is less destructive to the red blood cells. Gas, or gas and oxygen, was the anæsthetic which approached more nearly than any other our ideal, but in some cases absolute relaxation could not be obtained by its use. Compression of the phrenic nerve would often stop vomiting during the operation, and for its after control water should be given freely both just before and after operation. It should always be given liberally by rectum, for it affords the surest way of eliminating the drug. Ether was dangerous in arteriosclerosis; chloroform in anæmia and myocarditis.

Dr. Moore of Minnesota said that he had used chloroform for twenty years in 95 per cent. of his cases and had had no deaths. This proved that it was not the drug but the skilless giver who killed the patient.

Dr. Tinker of Baltimore said that in any discussion on anæsthesia the local methods of introducing it should have important consideration. At the Hopkins they had been convinced of its adaptability and safety. There were three conditions necessary to its successful employment—the patient, above all, should wish for it—the operation should be done slowly, 1 per cent. cocaine should be introduced into nerve trunks of all nerves leading to the part—$\frac{1}{6}$-gr. morphine should be given one hour before; $\frac{1}{6}$ before beginning the operation, $\frac{1}{6}$ during it.

Dr. Ochsner of Chicago said it was important in treating threatened death from chloroform to first compress the ribs heavily, so as to expell all contained chloroform, then to begin artificial respiration. Otherwise the first effects of raising the arms was to give the patient a big dose of chloroform by suddenly diffusing it throughout the lungs.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

One Hundred and Seventy-ninth Regular Meeting, Held on Friday, March 6, 1903.

JOSEPH D. BRYANT, M.D., PRESIDENT, IN THE CHAIR.

Nasal Deformity Corrected by Paraffin Injections.—Dr. ROBERT F. WEIR presented a young man upon whom he had operated by this method. As the result of a badly depressed fracture, the condition known as saddle-nose had been produced, and in order to correct this deformity the paraffin injections were made directly underneath the skin, with an excellent result. The paraffin was dissolved in three parts of olive oil. The speaker said that the paraffin was now being very extensively applied, not only in deformities of the nose, in which locality he had employed it five times, but also in other regions of the body. It had been injected for the purpose of improving the appearance of scars and depressed cicatrices, even in the small depressions following smallpox. It had also been used as a plastic artificial vitreous after enucleation of the eyeball, to support an artificial eye, and more recently it had been employed to produce narrowing of the outlets in certain cases of fecal or vesical incontinence. The procedure was still of such recent origin that it was impossible to say whether the correction of these deformities would be permanent, or whether the paraffin would in time become absorbed or undergo some change. In making the injections, a moderately large-sized hypodermic needle was necessary. In order to prevent the paraffin solution from solidifying too rapidly and thus choking up the needle, a drop or two of hot water should be drawn into the syringe after the paraffin, and the loaded syringe be kept in warm water at or above 104° until needed for use.

Dr. CHARLES STEDMAN BULL said he had used the paraffin in two cases in the orbit in which the eyeball had been removed, in order to make a better stump for an artificial eye, and in both instances it had worked extremely well. For the purpose of making the injections, he had used a hypodermic with a large barrel and a good-sized needle. It not frequently happened that after enucleation of the eyeball the orbital contents shrunk to such a degree that the artificial eye was not satisfactorily supported, and became very conspicuous on account of its false position and appearance. It was in that class of cases that the paraffin was now being used with much success.

The President, Dr. BRYANT, said he would be much interested in watching the ultimate result of the paraffin injections in the nose and elsewhere. Personally he had had no experience with this ingredient. In correcting deformities of the nose, he was very well pleased with the results he had obtained by the use of thin plates of celluloid, which could be properly bent and introduced underneath the skin.

Dr. WEIR said that in a case of fecal incontinence, which he recently had under his care, the patient obtained good control of the fecal outlet after half a dozen paraffin injections. The injections were made into the structures surrounding the anus.

Fracture Diastasis of the Humerus with Deformity Relieved by Operation.—Dr. WEIR presented a child, three years old, who, early in October, 1902, fell and sustained a fracture of the lower end of the left humerus. Following the accident, the child was unable to extend the arm, and upon examination, a bony projection could be made out just above the elbow. There was evidently a fracture diastasis with impaction and forward displacement just above the joint, and this was subsequently demonstrated by an *x*-ray picture. This would permit flexion only to an obtuse angle. Two weeks after the accident, the parts were laid open by an incision, and the fracture exposed and broken up with considerable force, the parts were then placed in their normal position and sutured together with chromicized catgut. The limb was put up in a strongly flexed position and the child made an excellent recovery. The motions of the limb were practically fully restored.

Dr. BRYANT said he thought an open operation was not only justifiable but often indicated in cases of fracture near a joint, like the one shown by Dr. Weir; otherwise, it might be difficult to secure proper apposition of the fragments, and the result would be unsatisfactory.

Some Unusual Cases of Appendicitis.—By Dr. ROBERT F. WEIR (see page 801.)

Dr F. P. KINNICUTT said he thought the suggestion of Dr. Weir's to add adrenalin chloride to the salin solution was a valuable one. What we wished to produce ofttimes by the saline injection, was to increase arterial tension, and the adrenalin should prove useful for that purpose. Three years ago, Dr. Kinnicutt said, he saw a case of primary carcinoma of the appendix. The patient was a girl of nineteen years, who had had a number of attacks of appendicitis; she was operated on in a quiescent stage by Dr. McBurney, and a condition very similar to that described by Dr. Weir was found. The specimen was sent to the Pathological Laboratory of the College of Physicians and Surgeons, and proved to be carcinoma. The operation was done three or four years ago, and the patient has remained perfectly well since. Shortly after the operation mentioned a primary carcinoma of the appendix was found in one of the subjects in the dissecting room of the College of Physicians and Surgeons.

Dr. WILLIAM M. POLK said that in order to eliminate the danger of leaving sponges or pads within the abdominal cavity, he had adopted a method which was first suggested to him by Dr. William T. Bull, and used, instead of pads and sponges, rolls of gauze which were three or four yards in length and about four inches in width, and made up of several thicknesses of gauze; the excess, which was not used within the wound, was held in roll outside by means of an artery forceps. Some years ago, Dr. Polk said, he removed an appendix in a patient at Bellevue Hospital which had become elongated by having been stretched over a post-peritoneal sarcoma which sprang from the lumbar glands. The appendix in that instance measured thirteen and one-half inches. In another case he recalled, bands about the appendix had furnished an opening through which a loop of small intestine, about two inches in length, had passed and become constricted, giving rise to symptoms very similar to those in the case reported by Dr. Weir. Last October, the speaker said, he had operated on a case in which a cystic condition of the appendix existed The appendix was three and one-quarter inches in length by three-quarters of an inch in width.

Dr. WILLIAM T. BULL said that, speaking from memory only, the longest appendix he could recall, was seven inches; he had seen perhaps, two or three of that length. Many years ago, at the New York Hospital, he saw an appendix which extended entirely across the brim of the pelvis from its usual point of origin at the cæcum to the sigmoid flexure, to which it was adherent. There was a direct communication between the lumen of the appendix and that of the sigmoid flexure. The organ was seven inches long. Six weeks ago, Dr. Bull said, he saw a third long appendix in a patient who presented unusual clinical phenomena. It was a first attack, and during the three days' illness preceding the operation the constitutional symptoms had been very slight; there was very slight pain and local tenderness, and the temperature had not risen above 99½° F. There had been, however, persistent vomiting, and it was because of that symptom that the operation was advised. The appendix was found to be seven inches long. It was slightly inflamed, and there was a moderate degree of stenosis at the cæcal end, while its tip extended upward very close to the usual seat of the

pyloric office of the stomach. Its situation and length apparently, had some bearing on the unusual clinical features of the case. Dr. Bull said he had no recollection of ever having seen a particularly short appendix, and only on one occasion had he failed to find the organ. That was a case in which the operation was done in the interval after the first attack of appendicitis, which was very severe and had lasted three weeks, and during which the appendix had probably been discharged through the abscess. He had never seen an instance of marked cystic dilatation of the appendix. In discussing the possibility of leaving a foreign body in the abdominal wound, the speaker mentioned a case in which a good-sized towel was left in the abdominal cavity. Its presence was discovered twelve days after the original operation, and after its removal the patient made an uneventful recovery.

Dr. Beverly Robinson thought that strychnine would be a more valuable addition to a saline solution than adrenalin, as we had a better knowledge of the action of the former than the latter. Many years ago, the speaker said, he had called attention to a possible danger attending the use of saline infusion *alone* in pneumonia, and Dr. Tyson of Philadelphia had recently brought up the same point in regard to hypoderm clysis alone,* namely, the danger of overdistending the right heart. The same danger attended the use of large quantities of saline solution in the veins by the surgeon, unless it was given after a severe hemorrhage in which there was collapse.

Dr. Bryant said that a few years ago he removed a cystic appendix, the diameter of which measured between one inch and an inch and one-half; its length was seven inches. It extended upward and backward, on the outer side of the ascending colon. The symptoms it had given rise to were chronic in character, but otherwise not unusual. In regard to the presence of a short appendix, the speaker recalled a case in which he had operated for a tumor in the iliac region, and at the usual site of the appendix he found nothing excepting a slight elevation less than a quarter of an inch long.

Dr. Kinnicutt said, in his experience there was invariably a rise of temperature after an intravenous saline infusion. He mentioned a case of poisoning by illuminating gas, recently treated in his wards at the Presbyterian Hospital, where an infusion of 800 c.c. of saline solution, introduced into the same opening through which the patient had been bled, was followed within an hour by a temperature of 108° F. This temperature did not occasion any particular discomfort so far as could be judged by the patient's appearance or the physical signs, and it dropped within an hour to 101° and the patient recovered. Regarding the significance of abdominal muscular rigidity, the speaker said there were undoubtedly cases of localized and even diffuse peritonitis in which this symptom was absent, although they were exceptional. He recalled such a case, which was in the wards of the Presbyterian Hospital two years ago. The patient was a woman, who was watched with the greatest care day by day. She was evidently suffering from sepsis, but its focus could not be made out. Drs. McBurney, McCosh, and others saw her, but it was decided not to operate. She died in the course of a week, and at the autopsy a gangrenous appendix was found. This evidently had been the cause of her septicæmia, but it had given absolutely no signs that could be made out during life; there had been neither muscular rigidity nor other symptoms pointing to the abdomen.

Dr. George L. Peabody said that the case reported by Dr. Kinnicutt showed that appendicitis might exist without giving rise to any of the usual symptoms of that disease. He thought the converse was also true, *i.e.* that the typical symptoms of appendicitis might be present, and still, upon operation, the appendix be found normal. He inquired whether any of the members had ever seen such a case?

Dr. Weir said he had not. In earlier years, before the present method of distending and examining the appendix were in vogue, it occasionally happened that a case was operated on in which the organ was apparently normal, but in those cases the lesion of the appendix was probably overlooked. The practical test was that subsequent to the operation, the patients remained free from the symptoms pointing to the appendicular trouble.

Dr. Polk said he could recall more than one case in which the gross appearances of the appendix were apparently normal, but upon distending it, a small ulceration and slight thickening of the mucous membrane were found near the tip of the organ.

Dr. William T. Bull said he supposed Dr. Peabody had referred to cases of acute appendicitis, and not to those which were operated on during the interval between attacks. The speaker said he could recall one case of supposed acute appendicitis which was operated on and proved to be typhoid fever, and he knew of one or two other instances in which the appendix was apparently perfectly normal, in spite of the symptoms.

Dr. Robinson said he knew of one case in which the abdominal symptoms had led to a laparotomy which revealed nothing.

A Case of Endarteritis Obliterans of the Central Retinal Artery.—Reported by Dr. Charles Stedman Bull. The patient was a man fifty-two years old who, in October, 1901, had an attack of right hemiplegia involving the arm and leg, from which he had made almost a complete recovery. In August of the following year he awoke one morning and found himself entirely blind in the right eye. He was positive that he had seen perfectly well the night before. He regained the vision of this eye in about four days, and he had no further trouble until March 1, 1903, when the sight in the same eye was again lost, excepting in a very small field in its supero-nasal quadrant. The ophthalmoscopic picture in this case, Dr. Bull said, was quite unique, as it showed total obliteration of all the branches of the central retinal artery. The sight of the other eye was not disturbed. The patient's heart action was feeble, but perfectly regular; there was no valvular lesion and no murmur. The urine had a specific gravity of 1016; it was a light straw color and about thirty-four ounces were passed in twenty-four hours. It contained about 2 per cent. of sugar and a trace of albumin; no casts. In 1901, at the time of his first attack of hemiplegia, this patient probably had an embolus of a cerebral artery which was not large enough to block completely the caliber of the vessel. The first attack of blindness was probably due to a thrombus in the central artery of the retina due to narrowing of its caliber by endarteritis. The subsequent attacks were probably due to recurrent attacks caused by the progressive arteriosclerosis, ending in the present picture of complete endarteritis obliterans.

Presentation of Specimens.—Dr. Weir showed the stomach and upper part of the duodenum from the case of perforated duodenal ulcer to which he had referred in his paper. The patient entered the Roosevelt Hospital forty-eight hours after his first sharp attack of pain, which was referred to the upper part of the abdominal cavity. He gave an indefinite history of having suffered more or less pain in the abdomen for two years. His temperature on admission was 104°. The physical signs were strongly suggestive of pneumothorax, and the case was regarded as such by the attending physician; Dr. Weir made a diagnosis of perforated duodenal ulcer, or possibly of a strangulated diaphragmatic hernia. For, upon auscultation, a sound was heard resembling that produced by air passing through a narrow orifice. An operation revealed a duodenal ulcer, through which gas and biliary fluids were escaping. This was duly sewn up and anterior and posterior drainage resorted to, but the patient only survived three days. There was no lesion of the stomach.

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Dr. Weir said he mentioned this latter fact because Moynahan, who had recently written on this subject, had made the statement that he had never seen a duodenal ulcer which was not associated with a gastric ulcer.

Dr. KINNICUTT said that in a series of six cases of duodenal ulcer that had been under his observation and coming to autopsy, there was only one in which a gastric ulcer also existed.

Dr. ROBINSON said he had a case under observation which he suspected was one of ulcer of the stomach. An analysis of the stomach contents showed that about the normal amount of free acids was present. He inquired whether an approximately normal degree of acidity was to be expected in a case of gastric ulcer?

Dr. KINNICUTT, in reply to Dr. Robinson, said, according to the investigations of Ewald and other German observers, which were very thorough, the degree of acidity of the gastric contents was a very unreliable factor in cases of *duodenal* ulcer. In other words, there was no increase in the acidity in many cases.

Dr. PEABODY said that at some stage in the course of a gastric ulcer there would be increased acidity, but the latter was not infrequently found to be normal.

Echinococcus Cyst Attached to the Omentum.—Dr. POLK showed this specimen, in connection with the following history. The patient was a woman, sixty-six years old, with an intraabdominal tumor, which was situated about midway between the umbilicus and the crest of the right ilium. The patient had long suffered from fibromyomata of the uterus, for which a hysterectomy had been done. At one time at that operation, Dr. Polk said he had felt this tumor in the abdomen, and came to the conclusion it was a detached fibromatous growth which had drifted away from the uterus. Subsequently, it began to cause the patient some pain, and as she was anxious to have it removed, an operation was undertaken for that purpose. The tumor was found within the folds of the greater omentum, and after considerable difficulty in separating the old adhesions, it was removed. It was sent to the department of pathology of the Cornell University Medical College for examination, and Dr. James Ewing reported that it was an old sterile echinococcus cyst. It was globular in form, measuring 9x7x6 cm., and surrounded by a dense capsule, which in places was calcified. The contents consisted of brownish, gelatinous masses, somewhat resembling the daughter echinococcus cysts, but soft and gelatinous (almost diffluent) in consistency. The gelatinous contents failed to show any scolices, hooklets, or cholesterin crystals, but were composed of a mucinous material without structure, mixed with red cells. The capsule had four distinct layers: externally, there was a well-developed vascular layer; next came a layer of dense connective tissue becoming denser from without in and showing numerous calcific areas; next was a faintly lamellated layer of homogeneous material, and finally, a thin irregular layer of granular material. The first two layers were contributed by the host, the two latter by the parasite. Between these two portions were collections of enormously pigmented endothelial macrophages. The diagnosis of sterile echinococcus cyst rested on the gross appearance of the contents, the structure of the wall, which was typical, and the lack of evidence pointing to any other origin.

A Case of Chronic Productive Inflammation of the Omentum without Apparent Cause.—Specimen presented by Dr. POLK. The patient was a woman, aged forty-two years, who came under his observation in October, 1902. She complained of constipation, and a persistent pain on the left side of the abdomen from the free border of the ribs to the crest of the ileum. In appearance, the patient, though well nourished, was somewhat cachectic. Upon examining the abdomen, a flat, cake-like tumor was found extending from above the umbilicus nearly to the crest of the ilium. From the symptoms and the patient's appearance, the growth was regarded as probably malignant. The symptoms were as follows: In June last, while moving some furniture, she had a sudden severe pain upon the left side of her abdomen. The next day she was confined to her bed, and ever since she has had constant pain in this region. About the 1st of August she noticed a lump, and this gradually increased in size and in tenderness. On the 9th of September the pain became so severe, she called in her physician, who kept her in bed until September 30, when she entered the hospital. Her bowels, previously regular, became slightly constipated. She gave no history of syphilis, of tuberculosis, of gastric ulcer, of appendicitis, or disease of the gall-bladder, or pelvic organs, concerning all of which she was closely examined. She was admitted to Bellevue Hospital on September 30, and a careful examination revealed the tumor as described above. The diagnosis of probable carcinoma of the omentum was made. On October 11 she was operated upon, when it was found that a yellowish, flat, cake-like mass involved practically the whole of the greater omentum, and a small portion of the lesser; the lesser omentum, where it overlapped the greater, was attached to this tissue. This was the sole point at which any adhesions existed; in fact, the mass was entirely free from any evidences of old or recent surface inflammation; the vascular appearances were similar to those of the surrounding viscera. The mass was apparently about 5½ inches wide by 2½ inches thick at its junction with the transverse colon, and tapered thence to a thin, wedge-like margin at the border of the greater omentum. It did not implicate the wall of the intestine, but was in contact with it; there was, to all appearances, no thickening of the wall of the intestine. As it extended along pretty much the whole of the transverse colon, it was concluded to remove this part of the gut along with the growth; eleven inches, of the transverse colon was consequently taken out, the section being made an inch and a half beyond the point at which the thickening of the omentum ceased. The cut ends of the intestine were sutured together, and the abdomen was then closed with a small drain; this was removed at the end of four days. At the end of a week there was evidence of an intestinal sinus; this gradually closed, so that at the end of six weeks the patient was discharged in good condition. Her physician reported two days ago that she was in excellent condition. The following report regarding this case was received from Dr. Otto H. Schultze of the Pathological Laboratory, Cornell University Medical College: The specimen was found to consist of a section of transverse colon, with omentum attached. The latter presented a firm mass, about five inches in width, a little over four inches in length and about one inch in thickness. The mass was traversed in all directions by bands of grayish-white tissue, varying in width up to two m.m., which separated the adipose tissue into smaller and larger areas. The bands consisted of dense, fibrous connective tissue, and scattered throughout this tissue were smaller and larger areas of round-celled infiltration. Various stages of development, from young connective tissue cells to less cellular and more fibrous connective tissue, were presented. Many mast cells were present. The smaller vessels showed a swelling and proliferation of their endothelial cells; the larger vessels showed a proliferation of their sub-endothelial connective tissue in addition. In the intervening islands of adipose tissue minute areas of round-celled infiltration were present in varying number. Tubercle bacilli could not be demonstrated in sections stained by Weigert's method. Diagnosis, chronic productive inflammation. The point of interest to the reporter of the case consists not only in the nature of the growth and the mistake in the diagnosis which was made, but that, in spite of a careful examination of the various regions of the abdomen from which a chronic

productive inflammation might originate, he failed to find evidences of disease. Nothing was found in connection with either the stomach or the colon to indicate that the inflammation had originated within either of these structures.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending May 16, 1903.

	Cases.	Deaths.
Measles	392	16
Diphtheria and croup	366	44
Scarlet fever	380	18
Smallpox	..	..
Varicella	98	..
Tuberculosis	335	151
Typhoid fever	50	11
Cerebrospinal meningitis	..	..

A Stain for the Gonococcus.—Wahl describes a method which is so simple and rapid as to make it adaptable for office use. The stain used consists of:

Concentrated auramin solution (alcoholic) ....2 c.c.
Alcohol, 95 per cent.....1.5 c.c.
Concentrated thionin solution (alcoholic) .....2 c.c.
Concentrated methyl-green solution (aqueous) .3 c.c.
Water.....6 c.c.

This stain is ready for immediate use, and the smears should be immersed in it for from five to ten seconds. The gonococci are stained a reddish violet to black, the nuclei of leucocytes are a pale bluish green, the plasma is either colorless or light yellow, according to the thickness of the smear, and epithelial cells are yellowish green. Most cells occasionally are stained a lilac color, which, however, is always pale and cannot cause confusion with the gonococci. Urethral bacteria other than the gonococcus are either very pale or are not stained at all, a point of great assistance in differential diagnosis. A point of importance in practical work is that thin smears are not necessary, so that threads and mucous strings need not be flattened out but may be stained with the organisms *in situ*.—*Centralblatt für Bakteriologie, Parasitenkunde und Infectionskrankheiten.*

Sponge Eduction.—W. P. McIntosh describes sponge eduction for the production of healthy granulations in wounds. Sponge grafts for surface work and eduction sponges (nipple-shaped portions of sponge for filling up cavities and lost portions of the surface deeper than the skin surface) should be cleansed by soaking in equal parts hydrogen peroxide and saturated solution of boric acid. The sponge should be fine-grained and stiff, and should be cut transversely to the pores; the sections should be one-twentieth to one-sixteenth of an inch in thickness, should, of course, be perfectly sterile and, after being applied, be held in place by two strips of zinc oxide plaster and kept constantly wet with boracic-acid-hydrogen-peroxide solution by means of a medicine dropper, the patient being given the solution with directions to drop it on every few minutes. The sections of sponge should be put on so that the granulations can grow up into the tubes of the sponge. They must be changed every few days. There is no process equal to this method for changing an ugly depraved sore into a healthy granulating wound, for healing abscess cavities and for restoring lost finger tips to the extent of half an inch or more. There is no pus in these wounds. We can truthfully say that the wound heals by first intention.—*The Mobile Medical and Surgical Journal*, March, 1903.

On a New Method for the Application of Widal's Test for the Diagnosis of Typhoid Fever.—Arthur J. Wolff describes this method as follows: A loop from the fæces of the suspected case is smeared upon the surface of an agar slant in a prepared tube, and sent to the laboratory. From this one or more bouillon cultures are prepared. The bouillon must react from 1 to 2 per cent. alkaline with the $\frac{n}{01}$ acid, using phenolphthalein as the indicator. The infected bouillon is now incubated at the usual temperature for twelve hours, when the examination may be made. A sample of the blood is taken at the same time with the fæces. This is mixed with the bouillon culture and placed upon the stage of the microscope. If there is enough agglutinative material present, the typhoid bacilli, if they are there, will soon form clumps, which will be seen full of colon bacilli in active motion. If this reaction does occur, the case has advanced at least to the second week. If there is no reaction, another sample of the bouillon culture is tested with the blood from an advanced case of typhoid, whose agglutinative power has been tested by the ordinary method with a pure culture of Eberth's bacillus. In thirty-five tests of cases in the earlier stages, every case that gave a positive reaction turned out to be typhoid, while in a large number of other tests, from which no reaction was obtained, there was not one which gave even a doubtful reaction.—*The American Journal of the Medical Sciences*, April, 1903.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending May 16, 1903:

SMALLPOX—UNITED STATES.

			Cases	Deaths.
California, Los Angeles	Apr.	25–May 2	2	6
San Francisco	Apr.	26–May 3	..	..
Colorado, Denver	Apr.	11–25	53	..
District of Columbia, Washington	May	3–9	1	..
Florida, Jacksonville	May	3–9	3	..
Georgia, Atlanta	Apr.	29–May 6	1	..
Illinois, Belleville	May	3–9	5	..
Chicago	May	3–9	14	4
Galesburg	May	3–9	4	..
Indiana, Indianapolis	May	3–9	7	..
Iowa, Des Moines	May	3–9	4	..
Kansas, Wichita	Apr.	26–May 9	1	..
Louisiana, New Orleans	May	3–9	18	..
Maine, Biddeford	May	3–9	1	..
Maryland, Baltimore	May	3–9	4	..
Massachusetts, Holyoke	May	3–9	1	..
Michigan, Detroit	May	3–9	12	..
Flint	May	3–9	1	..
Grand Rapids	May	3–9	4	..
Port Huron	May	4–11	1	..
New Hampshire, Manchester	May	3–9	2	..
Nashua	May	3–9	3	..
New York, Buffalo	May	3–9	3	..
Rochester	Apr.	30–May 7	1	1
Pennsylvania, Johnstown	May	3–9	3	..
McKeesport	May	3–9	..	1
Philadelphia	May	3–9	26	2
South Carolina, Georgetown	May	18–1	Patient from Charleston.	
Tennessee, Memphis	May	3–9	2 cases imported.	
Utah, Salt Lake City	May	3–9	3	..
Wisconsin, Milwaukee	May	3–9	2	..

SMALLPOX—FOREIGN.

Belgium, Brussels	Apr.	18–25	..	7
Ghent	Mar.	28–Apr. 25	..	6
Brazil, Rio de Janeiro	Apr.	5–12	..	3
Canary Islands, Las Palmas	Apr.	4–18	44	..
Colombia, Bocas del Toro	Apr.	21–28	present	..
Great Britain, Birmingham	Apr.	18–25	7	..
Dublin	Apr.	18–25	8	1
Liverpool	To Apr.	25	69	6
London	Apr.	18–25	9	..
Newcastle-on-Tyne	Apr.	18–25	2	..
South Shields	Apr.	18–25	2	..
Sunderland	Apr.	18–25	7	..
India, Bombay	Apr.	7–14	..	67
Calcutta	Mar.	28–Apr. 18	..	7
Madras	Mar.	28–Apr. 3	1	..
Italy, Palermo	Apr.	18–25	1	..
Mexico, City of Mexico	Apr.	12–26	21	11
Russia, Moscow	Apr.	4–11	5	4
Odessa	Apr.	11–18	4	..
Warsaw	Apr.	4–11	..	8

YELLOW FEVER.

Brazil, Rio de Janeiro	Apr.	5–12	..	29
Colombia, Panama	Apr.	30–May 7	3	1
Costa Rica, Limon	Apr.	23–30	2	..
Ecuador, Guayaquil	Apr.	11–18	..	2
Mexico, Tampico	May	2–9	2	2

CHOLERA.

India, Calcutta	Mar.	28–Apr. 11	..	206

PLAGUE.

Australia, Perth	To Mar.	23	16	8
Rockhampton	To Mar.	28	2	..
Townsville	To Mar.	28	3	..
Brazil, Rio de Janeiro	Apr.	5–12	..	2
India, Bombay	Apr.	7–14	..	1,360
Calcutta	Mar.	28–Apr. 11	..	1 779
Karachi	Mar.	29–Apr. 5	195	161

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Original Articles.

PRIMARY AND RECURRENT MAMMARY CARCINOMA TREATED BY THE *X*-RAY.

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WHATEVER early expectations may have been, later experience has shown that the treatment of cancer by the *x*-ray is, in many instances, a long and difficult one. True, cases of the rodent ulcer type get well most rapidly; again instances of sarcoma and of recent recurrent nodules or of infiltrations in the scars of operations, disappear in a few weeks and also certain primary carcinomatous tumors of the breast disappear in a reasonable time. But the process of ascertaining the true limitations of the *x*-ray in cancer, in general, is a slow one. And to add to the difficulties of the problem there are those whose opinions are entitled to great confidence who claim that the high-frequency, high-potential electricity associated with a certain class of *x*-ray administrations, exercises, if not the whole, at least the preponderating influence toward the cure, when this is effected.

To arrive at an impartial view of what may be expected of the *x*-ray treatment, it would be essential to report all cases, both favorable and unfavorable, and this, so far as my own experience extends, I intend to do at an early date, but at the present moment I present a few cases in which the *x*-ray has relieved, or caused the evidences of disease to disappear and thus apparently cured. But although a doubt as to whether the *x*-ray itself or whether the high-potential, high-frequency current accomplishes the result may be said to be arising, still the fact itself is well established that cancerous disease, when not caused to disappear altogether exhibits, at least for a longer or shorter time, a retrogression under *x*-ray treatment. There are, however, exceptions even to this statement, for I have watched an advanced and inoperable carcinoma of the neck, and in another instance equally advanced and inoperable carcinomatous glands of the axilla steadily growing in size in spite of and in the face of most faithful treatment. And, again, in a case of extensive ulceration of recurrent and inoperable carcinoma I have observed recurrent cancer areas steadily disappear, while at the same time the case went on to a fatal termination, due to the existence of cachexia and of secondary septic infection. Or, again, I have caused local cancer to disappear and yet known death to ensue from distant and unexpected metastases. If then we would still claim that the *x*-ray is as nearly a cure for cancer as any other method of procedure yet found, we must also, at the same time, admit that from a comprehensive point of view it is certain that it is meeting with cases of certain stages and types which it cannot under present management and conditions overcome.

While all admit that the more superficial the growth, the greater are the chances of cure, be the case one of epithelioma, of primary or recurrent carcinoma or of sarcoma, my own experience furthermore leads me to believe that the newer the new growth is, the more certainly will the *x*-ray act favorably upon it. But as a modification to this view I would suggest that the more preponderant the "scirrhus" or fibrous character the slower is the action of the *x*-ray.

When an open ulcer with much secondary septic infection exists, the case is almost sure to progress unfavorably.

There is also reason to believe that the connective tissue stroma in some cases of scirrhus is caused to grow, while at the same time the cancer cells degenerate and decrease. Much time, therefore, will yet be required before we may differentiate what cases of cancer may be successfully combated by the *x*-ray, and until we can decide what the limitations as to treatment are. In the meantime, looking the field over—taking conservatively into account both successes and failures in my own as in the reported result of others—I think there is ground for the belief that in the *x*-ray we possess a relief or cure for cancer, especially in its early stages, which in its ultimate results compares favorably with operative treatment. It would seem to me that a case of primary carcinoma of the breast may as hopefully, and with as little ultimate danger to the patient, be submitted to the *x*-ray as to any other procedure. I believe that properly selected cases of primary mammary carcinoma or other cancer may be submitted to the *x*-ray before resorting to an operation with a certainty that no valuable time will be lost. For if the *x*-ray does not succeed in effecting a cure, the patient is at least in a better condition for operation than before, for the reason that the outlying areas of infection are cleared up and the actual remaining disease is more accurately localized to a given and known position.

It is now pretty generally accepted that the *x*-ray should be employed after an operation in order to prevent a recurrence. It may reasonably be asked if the *x*-ray is effective to prevent a recurrence or to cause a recurrence to disappear, why is it not equally effective in the first instance and before an operation. I trust that some of the cases I here report may help substantiate this view.

I am fully aware of what it means to advise a patient with a primary carcinoma of the breast or elsewhere to delay operation. Could the operation positively preclude a recurrence or, again, could the *x*-ray present a certainty of cure, there could, of course, be no hesitation as to the advice to give. With wider experience before us, as to the capabilities of the *x*-ray the time of doubt should soon be over, and at the present moment there exists no other course than frankly to lay before the patient or the patient's family "the present state of the art" of *x*-ray therapy and of surgery, and if the *x*-ray course is chosen, to follow it only so

long as the patient makes decided progress toward recovery. If no progress is made, an operation, if one were ever possible, may still be done and the *x*-ray continued later on. At this point some one will remark, "but valuable time will be lost." This I do not believe. For in breast cases I have observed that infected, indurated, swollen, and sensitive lymphatic vessels and lymph glands have become, to all intents and purposes, normal, even though, in several instances, I have thought it wise to have a rebellious (to the *x*-ray) scirrhous lump removed finally by the knife.

I may say here in general that one class of cases which all have found to be the most resistant to *x*-ray treatment and altogether incurable by its aid is precisely that class of cases which have advanced to a stage where no surgical operation is possible. On the other hand the *x*-ray has already cured some of these inoperable cases.

One fact at least stands forth most clearly, and that is that cancerous disease in its incipiency, when not too deeply located, is decisively arrested in its growth and caused to disappear.

Case I.—Miss L. M., aged forty-five years. Diagnosis: Primary carcinoma of breast. Referred to me by Dr. Wm. F. Fluhrer, May 11, 1902.

In view of the extreme interest attached to the outcome of this class of cases I quote from Dr. Fluhrer as follows: "May 5, 1902. Dr. Wm. J. Morton, Dear Doctor: If you continue to think favorably of the curative power of the Röntgen rays in the treatment of cancer, I would like to refer to you for treatment a patient with scirrhus of the breast, early stage. I was about to appoint a day for a radical operation, but . . . published results dispose me to make a trial of the *x*-rays, especially as my experience has made me very pessimistic concerning the ultimate outcome of all operative procedures in these cases." In accordance with the above expressed intention to operate, the patient had already engaged a room at a hospital in this city.

History: A sister died of cancer.

The patient first noticed a tumor in the left breast three months ago. A bunch of external lymphatics running toward the axilla were sore to the touch and enlarged. There is an enlargement of a gland in the axilla and a "steady, aching pain in the left arm."

The actual tumor measures $2\frac{3}{8}$ by $2\frac{6}{8}$ inches, measurement of normal gland at the same point on the right breast $1\frac{3}{8}$ by $1\frac{6}{8}$ inches.

Treatment *x*-ray, high tube, three times weekly, 9 inches distance from target.

May 23: Seventh treatment. Tumor smaller and mass feels harder. The soreness in the lymphatic areas has continued until to-day when it, at least for the time being, has entirely disappeared, also the pain and discomfort of the arm has disappeared.

May 26: Soreness on pressure on inner side of breast remains absent, but on outer side again present. Tumor feels harder.

June 11: X-ray dermatitis to the extent of exfoliation of the epidermis and serous effusion established. Nipple and areola quite sore. Soreness and pain within breast long since entirely ceased.

June 16: Dermatitis subsiding, but skin quite sore and purple red, and areas of exfoliation and serous effusion exist. The dermatitis involves the entire breast and chest above the breast up to the chin and the entire axilla. This dermatitis could not have been carried a step further without danger. The patient was now *x*-rayed from behind.

Dr. Fluhrer examined the tumor and reports that, according to his judgment, it is reduced one-third in size.

June 27: No dermatitis. The skin appears clean white and new and all scales have rubbed off.

No evidence of tumor can be discovered, but the tumor region is still sensitive to pressure.

August 16: Measurement of tumor mass $1\frac{3}{8}$ by $1\frac{6}{8}$ inches; namely, the same as the corresponding mass in the right breast. No lymphatic channels or glands are enlarged, sore, tender or painful, and it is recorded that the case "looks very hopeful."

October 22: During the summer, treatments were given only twice weekly, and might possibly have been discontinued altogether in August, had I not believed it unwise to accept the evidences of disappearance of the disease as apparently final.

The patient was now again examined by Dr. Fluhrer, who stated there apparently was no tumor or trouble remaining. I thought wise to continue treatment once a week however.

November 2: The disappearance of the disease was again confirmed by Dr. Fluhrer who also referred her to Dr. Chas. Putnam, who agreed in the report.

Treatments are now discontinued and patient is well to date.

Total number of treatments to November 2, seventy-four, extending over a period of about six months. Disease, however, probably at an end so far as can now be known at end of August, three months, with twenty-five treatments.

I append in present conclusion of this case a letter from Dr. Fluhrer confirming the result thus far attained. I have previously in another publication referred to the fact that the breast treated by the *x*-ray is inevitably developed and becomes larger and firmer as referred to below:

"My Dear Dr. Morton: I have this morning carefully examined Miss M. The formerly affected breast is slightly larger and slightly firmer in texture than the other breast. There is no evidence whatever of the tumor in the breast which was previously present. The lymphatics along the edge of the pectoral muscle are no longer thickened. The glands in both axillæ can be felt. On the side of the formerly diseased breast they are very slightly more perceptible, but appear to have the normal softness of texture on both sides. The patient presents no evidence of cancer.

Case II.—May 5, 1902: Miss V. R., aged twenty-five years. Ulcerated primary carcinoma of right breast, far advanced. Referred to me by Dr. B. Onuf with the above diagnosis; clinical diagnosis also confirmed by others. Disease began two years ago, two weeks subsequently to a trauma. She had received an accidental blow upon the breast, followed about two weeks later on by a second one on the same spot. First noticed a hard lump on the outer and lower aspect of the breast. This lump steadily grew larger and now measures $2\frac{3}{4}$ by $2\frac{1}{2}$ inches in diameter, extending deeply into the breast; it is firmly adherent below to the fascia and causes extensive retraction of the tissue. Extending from the tumor toward the axilla is located a further and continuing mass of indurated tissue, three inches long and one inch in diameter, evidentally corresponding to infected lymphatic vessels. The axillary glands are involved to a great extent, some of them being agglutinated into a large mass; they cause her much pain, and are sore upon pressure. A discharging ulcer, the size of a silver dollar, exists at the site of the initial tumor and a discharging fissure at the nipple. The right arm is painful and much swollen with brawny œdema. Pain involves

the entire shoulder. She suffers sharp pain, generally at night, and loses sleep. Has lost thirty pounds in weight during the last year. Has concealed the existence of the disease by reason of modesty and fear of an operation.

Treatment.—*X*-ray, high tube, three times weekly, fifteen minutes usual technique.

May 21: Treatment gives relief from pain for at least twenty-four hours—in fact, has now very little pain either in breast or in axilla.

June 4: Severe dermatitis with serous effusion and exfoliation of epidermis.

June 16: Dermatitis disappeared and skin again sound. Feels more comfortable than for a long time. Main masses smaller and uses arm without fatigue.

August 8: A succession of attacks of dermatitis with subsequent desquamation had been set up. The ulcer has now entirely healed, and the initial tumor beneath it has disappeared. The mass corresponding to the infected lymphatic vessels is very much smaller, but still persists, as well as a small gland in the axilla. Sound normal skin, loose and flexible, covers the seat of the disease. The patient appears to be in excellent health, has a good color and good appetite, and suffers no pain anywhere. The œdema of the arm and hand has entirely disappeared and the patient has perfect use of the arm and without pain.

Treatment continued in November and December as usual.

Duration of treatment to December 6 is seven months. The number of treatments 93.

We have here a case of neglected primary carcinoma of the breast advanced to the stage of ulceration and profoundly involving lymphatics and lymphatic glands, and which shows most conclusively the healing effect of the *x*-ray.

Case III.—Mrs. E. P., aged seventy years. Diagnosis: Primary carcinoma of the breast.

May 14, 1902: Last August first noticed a small tumor on the outer and under side of the right breast. This tumor has grown steadily in size until it is now the size of a large goose egg, but with no especial pain. The nipple is retracted, and also there is a deep retraction of the skin over the central portion of the tumor. The tumor is of the scirrhous type; the entire mammary gland is apparently involved, and the tumor is rigidly adherent at its base, appearing to be attached firmly to the ribs. There are glandular enlargements in the right axilla. The patient has firmly declined an operation, saying she will die with her tumor rather than have the breast and surrounding tissue removed.

X-ray treatment, three times weekly, begun.

In about one month the tumor had reduced in size in a very marked degree, and now took on a longer and narrower shape, detaching itself out, as it were, from the remainder of the breast. By the end of the second month the tumor was scarcely the size of a small hen's egg, was freely movable as regards the attachment to the ribs or rib, but some retraction of skin still remained. The attached nipple and areolar region was now also freed and no enlarged glands in the axilla could be felt. At the end of the third month (forty-six treatments) only an extremely hard mass about one and one-half inches in length by one inch in width remains. This mass is freely movable, but retains some adherence to the skin immediately over it. It could be surgically removed by a very simple enucleation from its surroundings, and this I advised as the shortest way out of her trouble. The patient took this view into consideration. It is my opinion in this and in similar cases that the cancerous and malignant nature of the new growth has disappeared, and that only a connective tissue stroma remains, which it may be impossible to cause to disappear by the *x*-ray.

December 4: The patient has taken desultory treatments during September, October, and November, amounting to fifteen in number, and presents to-day about the appearance above described, except that the remaining hard and slowly reducible nucleus is still smaller. The patient refuses even the minor operation above proposed.

January 2, 1903: Dermatitis well established with serous effusion over the remaining tumor, which is now about the size of a walnut. Have desisted from treatment to await further absorption.

Case IV.—Mrs. L., aged seventy years. Diagnosis: Primary carcinoma between left breast and axilla.

March 24, 1902: Last summer patient first noticed a small kernel which has steadily grown to its present size. Examination now shows a flattish tumor six inches in diameter the central portion of which consists of a very hard disk-like mass measuring three inches across with irregular nodular edges and retraction and involvement and attachment of the skin to the tumor at the center. Most of the tumor was adherent at its base. The central portions of the skin were retracted, forming a saucer-like depression. The growth was sensitive to pressure and subject to "twinges" of pain. Patient has refused to submit to any operation.

Treatment.—*X*-ray, three times weekly, fifteen minutes, technique as described.

At the end of a month all of the comparatively soft and outlying parts of the tumor around the central hard mass had entirely disappeared, while at the same time the central hard portion had reduced one-half an inch in diameter. All pain and soreness had also ceased.

No shield was employed, and the axilla, side and front of the chest soon became intensely brown. From this point on there was nothing to observe except the steady but slow diminution in size of the central scirrhous mass, originally measuring, on October 8, three inches in diameter. After a fairly continuous treatment of six months this central mass still measured two inches in diameter and was much thinner from its surface to its base. It had also become detached at its base and was consequently now movable. The retracted center had flattened out. It was now evident that the greater part of the patient's disease had disappeared, and that she was free from danger of its spreading, but also evident that the remaining nucleus yielded, while surely, it is true, still slowly.

The patient felt her age, and was feeble, and the journey to come for treatment was for her a long one. She had reached a stage where the remaining nucleus could be simply removed without resort to the extensive operation involving other areas which otherwise would have been deemed necessary. For the *x*-ray had already removed more than two-thirds of the mass and with equal certainty, if there ever was an inferential certainty, cleared up all involvement of surrounding lymphatics.

In November, without my knowledge, the patient was operated on by Dr. J. W. Wright of Bridgeport, Conn. Unfortunately, the tumor, by an inadvertence, was thrown away without microscopical examination. Dr. Wright, in a letter to me, states that the tumor was a carcinoma and, microscopically, seemed to be degenerated in spots. My feeling in this case, as in other similar ones, is that a primary carcinoma like this one

should be *x*-rayed firstly and operated upon lastly, if necessary, thus substituting a minor and unimportant surgical operation for what is acknowledged to be a most severe one, and, what is more probable, offering a greater security to the patient against a recurrence than the grave primary operation.

Some weeks after the operation the patient died from exhaustion of old age and intercurrent conditions, but it does not appear that her death was due to cancer.

Case V.—Mrs. M. E. H., aged forty-five years. September 9, 1902—Diagnosis: Primary carcinoma of breast.

Eight years ago had both ovaries removed for ovarian tumor and one year later the uterus was removed for malignant disease. Soon after the second operation she noticed a tumor in the right axilla, which for the last two years has pained her excessively. For the last six weeks she has noticed a fulness and soreness in the right breast, and a sensitive tender ridge-like swelling extending from near the nipple toward the axilla. The breast gives considerable pain. On examination a small tumor is felt on the outer aspect of the breast, attached to the gland, and running from it the sensitive chain of lymphatic vessels alluded to. The enlargement of the lymphatics was about as large and as long as one's little finger. The tumor in the axilla would seem to be a fatty tumor, and the patient was so advised, but the other tumor and the lymphatics were treated by the *x*-rays.

October 20: Patient has received about nine treatments. Severe dermatitis established. The painful ridge of lymphatics has resolved to two small lumps, each still quite sore to pressure. The sense of "fulness" of the breast and the pain have altogether disappeared. The tumor of the breast no longer exists.

Since the dermatitis was still quite severe, the patient refrained from treatment, and on returning three weeks later reports no further trouble remaining. On examination one breast appears to be as normal as the other. Disease entirely disappeared.

Case VI.—October 1, 1902: Mrs. H. J., aged forty-five years. Diagnosis: Primary carcinoma of breast. Referred by Dr. J. McCroskery. Upper margin of the mammary gland of the right breast, the seat of a hard tumor adherent to gland tissue, and measuring, inclusive of the gland at a given level, $2\frac{1}{4}$ inches as compared with a similar measurement at the same level of the left breast, of $1\frac{3}{4}$ inches. Lymphatic vessels sensitive and enlarged and an enlarged gland in the axilla. On the under side of the breast and in the skin exists a kernel as large as a pea.

Patient suffered pain quite steadily and has been losing flesh.

Treatment *x*-ray; usual technique.

October 14: Soreness of lymphatics and tenderness on pressure over tumor and spontaneous pain have disappeared.

November 20: Measurement of tumor slightly less than two inches across. The kernel in the skin has entirely disappeared and the enlarged gland in the axilla has disappeared.

December 2: Patient has gained six pounds during the last month.

December 13: No pain. No tumor or enlarged glands can be found. Patient referred back to Dr. McCroskery, who reports that he can find no tumors and wholly confirms the disappearance. Dermatitis with serous effusion and exfoliation of the epidermis was produced three times during treatment.

Duration of treatment ten weeks, and total number of treatments, thirty-three.

January 31, 1903: No sign of disease. The gland measurements are identical. The breast treated is, however, somewhat larger and firmer than the other breast, as is usual as a result of the *x*-ray treatment in these cases.

Case VII.—Mrs. A. A. N., aged thirty-five years. November 6, 1902. Diagnosis: Primary carcinoma of breast.

First noticed one year ago a small lump about as large as the end of her thumb in the right breast, outer and lower aspect. This grew slowly until two months ago it began to get larger and now is the seat of "crawling" and, at times, stinging pains. Examination reveals a hard, nodular tumor, attached to the gland and forming a part of it, one inch in diameter, and, extending toward the axilla from the tumor, a lengthened, elongated, sensitive mass, evidently affected lymphatic vessels, measuring two inches in length. Glands of the axilla are quite sensitive.

Treatment.—*X*-ray, high tube, corresponding to a nine-inch mark, fifteen minutes three times weekly. No shield. Breast, axilla, and thorax fully *x*-rayed.

December 9: Pain ceased after the second treatment. The elongated lymphatic mass has entirely disappeared, thus bringing into prominence day by day the individual hard tumor, which itself has now almost disappeared. Axillary glands no longer sensitive. Dermatitis with itching and burning well established.

December 16: Dermatitis subsiding. The epidermis is peeling off in large flakes, as in the case of a sun blister.

The tumor can now only be found with difficulty, and consists simply of a small hard kernel.

January 7: Careful examination to-day with patient in recumbent position, reveals no sign whatever of the previous tumor, or of the lymphatic enlargements. Patient's treatments reduced to twice weekly for the present.

Owing to the full development of the right breast, namely increase in firmness, hardness, and roundness, it is necessary to administer *x*-ray to the left breast to even up the symmetry of the bust.

February 20: Patient remains well and is treated merely to make sure of the present result.

Case VIII.—Mrs. M. L. D., aged forty-eight years. Diagnosis: Primary carcinoma of breast.

December 6, 1902: First noticed two days ago a hard tumor in the breast about the size of a walnut. No pain. Consulted Dr. W. H. P. Pratt of Brooklyn, who kindly referred her to me.

Examination.—Tumor, left outer aspect of left breast, measuring two inches by two inches in diameter, very hard, surface not smooth but nodulated, apparently movable only as a part of the mammary gland and apparently becoming fast to the skin. Complains that her clothing pinches the shoulder, and there is evidently tenderness in the axilla.

December 18: It is very remarkable to observe how rapidly the tumor is diminishing in size. It now measures scarcely one inch in diameter. She still complains of tension in the shoulder and arm.

January 8, 1903: This morning appears for the first time an *x*-ray rash in the shape of small papules not yet confluent.

January 15: Severe dermatitis has followed since last record, but is now subsiding, except for a spot denuded of epidermis just over the tumor.

Referred back to Dr. Pratt, who reported that the case was a "transformation scene," that he could not have believed that such a tumor could

have thus far disappeared except on the evidence acquired by his own fingers. The main bulk of the tumor has disappeared, which is all that and more than could be expected in the short time of one month. A small kernel undoubtedly remains and treatment is continued.

April 1: Left breast firm, hard, and larger than right. Absolutely no sign of a tumor can be discovered and the patient is apparently cured.

Case IX.—Mrs. C. M., aged sixty-two years. Diagnosis: Primary carcinoma of the breast.

November 3, 1902: Kindly referred to me by Dr. Fuhs of Brooklyn as "a tumor which should be removed by surgical operation." This opinion was confirmed by Dr. Rushmore of Brooklyn. In August noticed a retraction of the skin forming a considerable depression of the contour of the breast, and soon noticed a second retraction near to the first one. These depressions are much increased on raising her arm above the head. October 28 noticed a "lump" near the retractions and nearly beneath them. No pain or soreness on pressure. Has lost seven pounds in weight.

Examination.—Tumor situated on the inner aspect of the breast, measuring 1½ inches in length by ¾ of an inch in breadth, nodulated, hard, attached to gland at its base. Enlarged gland in axilla.

Treatment.—*X*-ray.

November 17: Tumor somewhat smaller and harder and more defined.

December 1: Tumor reduced to one inch in length.

December 22: Tumor decidedly less than one inch in length. Dermatitis fully established. No sensitive glands in axilla.

January 5, 1903: Tumor, say, ½ inch in length and very hard to palpation. Retractions still persist but are less marked.

February 10, 1903: No sign of the disease can be found, except possibly a small remaining kernel and some retraction of the skin, forming a depression like a dimple.

This tumor was undoubtedly of the fibrous or scirrhous type and yielded slowly, and may be possibly yet far from total disappearance. As in case 18, treatment must be continued, but reasoning by anology with other cases, all signs of disease will finally disappear.

Case X.—August 20, 1902: Mrs. J. L. S. Diagnosis: Recurrent carcinoma ,of one breast and a primary carcinoma in the other breast.

Disease began two and one half years ago. Patient first noticed an intense itching and prickling, as of needles, in and about the left nipple. In about six months a small lump appeared near the nipple. She consulted her family physician, who told her she was "hipped," and to go home and disregard the lump. In the following Spring she consulted him again, since her symptoms persisted, and he decided to "take it right out." The operation was performed by removing the entire nipple and areola and deeper adjacent tissues. The removed specimen was sent to two pathologists, who made the following reports, which I quote somewhat in full because of their important bearing:

College of Physicians and Surgeons, Columbia University, Department of Pathology. Mrs. J. L. S. New York, May 14, 1901: The tumor of the nipple presents rather unusual morphological features, some parts of it considerably resembling endothelioma. But a careful study of it leads me to the diagnosis of adenocarcinoma.

From the operative standpoint, the tumor should, in my opinion, be considered carcinoma.

Mrs. J. L. S. New York City, May 7, 1901: Specimen of tissue from nipple. First examination: Specimen hardened in paraffin, cut and stained forty-eight hours. Four sections examined. Diagnosis: Adenocarcinoma.

Second examinotion: Specimen hardened in celloiden, cut and stained one week. Five sections form various levels examined. Diagnosis: (final) Adenocarcinoma. C. N. B. Carnac, M.D.

Examination, Left Breast.—No nipple or areola. Linear scar, 1½ inches in length, remains from removal of the tumor at this point. In each of the three stitch-marks of this scar is situated a small, red, hard tumor, somewhat smaller than a pea in size. From the central tumor there extends downward an area of red and hard skin infiltration about the size of the thumb nail. The patient's chief anxiety is caused by a very sore and tender spot in the upper and outer quadrant of the breast. Palpation develops pain and a hard, corded, and sensitive mass of lymphatic vessels at this point. There are also sensitive glands in the axilla.

Right Breast.—Exactly the same condition exists in this breast as is above described to have begun two and one-half years ago in the left breast, namely, a small, red, itching, hard kernel near the nipple. The nipple also is indurated and fissured as formerly on the left side. A lymphatic tenderness and swelling also exists in this breast at the same site as in the other. In this state of affairs, and recalling the pathological reports quoted, few would deny that the classical advice would be the complete removal of both breasts and the clearing out of both axillæ, if indeed, an operation would be advised at all.

It is well recognized that even a small carcinomatous tumor of the breast may quite early establish an involvement of the near lymphatics and a general infection along the line of the pectoral muscles, and within the axillæ, and in the case now under consideration such infection had evidently occurred on both sides. The tumors and the course of the spreading disease bore no resemblance to the course of a latent scirrhus of a local type. All surgically operative interference had been refused by the patient and certainly the case should prove to be a severe test of the efficacy of the *x*-ray.

It is by reason of just such cases as this one that I long ago advised that no shields for the thorax ever be used.

Treatment.—*X*-ray, three times weekly.

October 8: An extensive dermatitis of the breast and axillæ has now existed for some weeks The epidermis has exfoliated over an area of about four inches in diameter, and serous effusion is taking place. The pain in the lymphatic swellings of both breasts is much less, but the areas still feel hard and cord-like and are sensitive. The interesting point developed is that the cancer infiltration of the skin, of the size of a thumb nail, has entirely disappeared, as well also as two of the three small tumors. The small central tumor still remains.

At this time the general infection of the thorax on both sides was so marked and widespread that (considering also the appearance of the disease in the second breast) I took into account an abdominal tumor complained of by the patient, and referred her to Dr. Bache McE. Emmet for diagnosis of this tumor. My fear was that it might be cancerous, or, at least, be breaking down and furnishing septic material. Dr. Emmet pronounced the abdominal tumor to be an inert and harmless fibroid.

October 22: Treatment continued since October

3 three times weekly. Dermatitis of left breast area entirely healed. No pain now, on pressure on the lymphatics. The one remaining kernel feels like a small grain of sand.

November 17: No signs whatever of trouble can now be discovered in the left, the originally affected breast. But the right breast is still short of recovery since the lymphatics are sensitive and "knotted," the nipple is still somewhat hard and the small kernel persists.

December 6: Right breast now apparently all right except for the persistent kernel. To attack this kernel a small hole is cut in a lead shield and a violent *x*-ray projected upon the tumor.

January 31: Patient leaves for the South at my advice, since her disease is now apparently cured, but she is advised to return at once upon the reappearance of any of her easily recognized symptoms.

Of course, this case must be kept under general observation for some time to come, but the outcome would seem to indicate that small carcinomatous tumors of a highly infectious type may be effectively controlled in their progress and that the infected areas also may be cleared of the infecting cancer particles.

Duration of treatment about five months, and number of treatments sixty-five.

Case XIX.—Mrs. M. T., aged forty years; married. Carcinoma mammæ, recurrent.

November 21, 1902: Four years ago (last January) a small tumor as large as a chestnut appeared in the left breast. In March immediately following it was operated upon in the Hospital Jesu Maria in Naples, Italy. In March, 1902, the first recurrence was noted, and on October 6 the breast and glands of the axillæ were removed at the Columbus Hospital, and the diagnosis of carcinoma made microscopically. To-day, about six weeks later on, there exists a second recurrence in the shape of a nodule, in diameter about the size of a thumb, and situated in the skin of the chest, just below the axilla, and quite independent of the cicatrix. There exists also a considerable infiltration and consequent thickening of tissue at the edge of the pectoral fold near the upper limit of the cicatrix. At the latter situation, she suffers much pain, extending down to the arm and up to the occiput and throughout the shoulder. No pain in the nodule.

Treatment.—*X*-ray, usual technique, three times weekly, fifteen minutes each treatment.

November 28: Pain has abated.

December 3: Still some pain, but recurrences are diminishing in size.

December 15: Induration near upper end of cicatrix is very soft and flexible and has almost disappeared.

Now, at the end of twenty-four days and with seven treatments, the recurrent nodule has entirely disappeared. It first flattened out gradually, next left an indurated and firm base, and now its site is recognizable only by a reddish, deeply pigmented fleck or spot.

There is no fact better established in the *x*-ray therapy of cancer than this rapid and positive disappearance of recent carcinomatous nodules in the skin. I have seen groups of six to fifty such recurrent nodules fade away at the end of less than a month, leaving an apparently normal skin behind. No one will deny that in such instances the *x*-ray favorably displaces an operation, while all must admit that the fact distinctly indicates that recent carcinoma is the most susceptible to the *x*-radiation.

Case XX.—Mrs. D. M., aged thirty-six years. Recurrent carcinoma of breasts and axilla.

August 27, 1902: Patient referred to me by Dr. John McCroskery of New York City. In 1885 noticed a tumor in the left breast. In 1887 this tumor was removed by Dr. Bedell of Lamar, Col., and the patient reports that the "tumor looked like a chicken gizzard covered with warts." Microscopical examination proved it to be a carcinoma. Soon the disease extended over the outer side of the breast and up to and into the axilla, and the arm began to cause her intense and continuous suffering. The hand "goes to sleep" if the arm is allowed to press against the body.

Examination.—Left breast, three tumor masses of about one inch each in diameter, also an indurated, enlongated tumor, representing the infected lymphatics, along and beneath the pectoral folds, and also one especially large gland the size of an English walnut in the axilla, as well as the other sensitive and enlarged glands at the same locality. In the right breast exists also a small tumor. The left arm is enlarged.

The patient suffered intense pain and had got into a highly demoralized and nervous condition, owing to the necessary use of morphine and alcoholic stimulants, to relieve the excessive suffering. She exhibited a most pronounced appearance of carcinosis—her color was "yellowish green" and had been so for about three and one-half years. The case seemed most unpromising for *x*-ray or any other treatment.

December 8: Patient has come for treatment very irregularly, but the results may be summed up as follows:

About November 8 extensive dermatitis had been established, and the patient, on this account, had remained absent a month, though I should have preferred to have gone on with the treatment. She reports that the dermatitis was very severe, that it extended over the under surface of the left arm and over the skin of the axilla and over the entire left breast, and even over the abdomen as far as the groin. On the breast at present is a large blistered surface with blisters full of yellowish serum.

But as a result of the treatment the patient is in a much better condition than for years. She has recovered her appetite and ceased her attacks of vomiting. Her yellowish green color has yielded place to a natural and healthy color. She has been able to cease entirely the use of large doses of morphine, and requires no alcoholic stimulants. She has regained full use of the left arm, and has no longer numbness nor pain nor swelling in the arm or hand. She has no pain in the breast and, most essential of all, the three tumors have entirely disappeared, the mass at the pectoral fold has disappeared, though at that point a sensitive spot remains. The glands in the axilla cannot now be felt.

This case I submit as one of many I might bring forward in which the *x*-ray has produced a very decided retrogression in the progress of carcinoma and carcinomatous infection. The patient now went West on a visit, and I have no further knowledge at this date as to her condition, though Dr. McCroskery writes me that at his last examination the patient retained her improved condition.

Comments on Cases of Primary Mammary Carcinoma.—No shields, except for the hair of the head and eyes, are used, and except that the nipple is covered with a small metallic disk during about two-thirds of the treatment. Dermatitis is intentionally carried to a red purplish stage, followed by exfoliation of the epidermis and effusion of serum, and in certain cases purulent effusion, but

in all but one case a complete restoration of the epidermis to its normal type has followed in from one to four weeks. These areas of dermatitis have often occupied the entire skin area of one breast and axilla. The patients are frequently *x*-rayed from behind the scapula, the fluoroscope showing that the thoracic cavity offers but small obstruction to the radiation. This measure seems to me very important in view of the researches of Volkman and Heidenheim, who have pointed out that, even in the case of a very small carcinomatous nodule the deep fasciæ of the muscles of the chest may be infected. Or, again, the anterior portion of the ribs and the clavicle may only too effectively shield infected areas behind these bones. I do not hope for good results in these cases except by the production of a severe and extensive dermatitis. Fortunately, I have not overstepped bounds and reached a necrosis, and if I have escaped this it has only been by adhering to the most rigid and exact technique as to time of exposure, distance of tube, force of radiation, and number of treatments per week. This technique, I may mention, is fifteen minutes, nine inches, "high" tube (corresponding to six to ten inches spark gap), clear view of end of radius and ulnar at two feet, and three times weekly. An inexact technique would surely lead to a too severe burn, and I am not sure but that an exact one will sometimes do the same. Thus far I have escaped producing this unfortunate result.

As to the exactness of the diagnosis of carcinoma in the cases reported, one must exercise their own judgment. It is, of course, impossible to excise a piece of the tumor for preliminary diagnostic purposes. But accepting the opinions of competent observers, the margin of error as regards malignancy is a fairly small one. Dr. George F. Shrady (MEDICAL RECORD, January 26, 1901), in arguing for an accurate early diagnosis, and in favoring an exploratory examination of every tumor before its actual extirpation, says: "Mammary growths, as a class, can never be trusted. The weight of evidence is so strongly on the side of malignancy, threatened or pronounced, that no conscientious practitioner can afford to have any doubts as to the responsibilities he should assume. There is hardly a 'simple tumor' in the breast which may not become malignant. Fully 90 per cent. of breast tumors in older women are probably malignant, and the remaining 10 per cent. are very objectionable tenants." Again C. V. Visher (*American Medicine*, August 24, 1901), arguing that "the success of operative intervention depends so much on its early performance that the question of diagnosis becomes second only in importance to that of the treatment," goes on to say, "It is true that not all neoplasms of the mammary glands are carcinomatous, but when it is borne in mind that 80 per cent. of breast tumors are of this nature, and of the remainder 4 per cent. are sarcomatous, and the balance, 16 per cent., consists of the more innocent growths, which include adenoma, and as these growths commonly undergo malignant changes, the opportunity for a mistaken diagnosis is slight, and the benefit of any doubt should always be conceded to the patient. How much safer would it be even to remove one breast for a benign tumor than to permit eight malignant growths to remain, and finally cause a fatal termination."

The "American Text-book of Surgery" gives 83 per cent. of tumors of the breast as carcinoma, and if 4 per cent. are sarcoma, then we have 87 per cent. as malignant from the start. If to this we add, say, 6 per cent., probably a low estimate, for the adenomata that become malignant, we have 93 per cent. of tumors of the breast that are or become malignant. I do not in the least contend that the cases I have here reported are in any sense conclusive as to the propriety of treating primary carcinoma of the breast by *x*-ray rather than by operation. Far from it. Such cases are merely preliminary and tentative. Had they lost ground at any moment I should have advised operation, even with the certainties of recurrence. I have one case of primary carcinoma of the breast in which a diagnosis has been made by incision and removal of a section, which has now been under treatment seven months, and which, though greatly reduced in size, still persists. I have known of another case treated thoroughly for the same length of time by the *x*-ray with but little benefit, in which the tumor has just been removed and proved by microscopal examination to be carcinoma. Both cases were of the hard fibrous type. Therefore I feel sure that the whole subject is yet *sub judice* and merely offer some of my results as a contribution to the general whole. But I also feel sure that some cases of primary carcinomatous tumors disappear.

And here, lest I may be misunderstood in regard to producing as above described a *severe* dermatitis, I would add that nothing would be more unwise than to do this in an ulcerating carcinoma, for the carcinomatous infection will almost surely extend along the areas of the *x*-ray burn, and the disease become worse than if no *x*-ray treatment had been employed.

What is desired would seem to be to set up a mild leucocytosis with tissue reparation, and if in the case of a mammary and unbroken cancer the skin intervenes, this latter suffers a dermatitis lesion, merely to enable the operator to set up a similar but lesser lesion of the deeper tumor area. In this connection I have often observed, in cases of primary carcinoma, that at a moment when the patient complains of the soreness of skin due to a severe dermatitis she also remarks that the tumor itself is unusually sensitive to pressure. But in a superficial or ulcerating carcinoma or superficial recurrent carcinoma of the skin a milder treatment with no dermatitis of note will set up (granting the correctness of the leucocytosis theory) leucocytosis and reparation. To resume, I do not believe that any dermatitis or outside *x*-ray burning effect should be set up in ulcerating carcinoma or sarcoma, while, on the contrary, this must be set up in the case of deeper and non-ulcerating carcinomas and sarcomas in order to submit them to a requisite intensity of radiation and secure tissue repair.

In conclusion, as regards both primary and recurrent carcinoma and other forms of malignant disease, it obviously would not be wise to try to do with the *x*-ray what might be better done by the actual or other cautery or by the knife, and the best future for *x*-ray and phototherapy in general should be one of extreme conservatism and desistance from the invasion of surgical procedures which offer an alternative of relief or cure to the patient superior to what the radiation treatment can offer.

19 EAST TWENTY-EIGHTH STREET.

Women Inspectors Dropped.—Commissioner of Immigration Williams has received from the Secretary of the Treasury the following instructions: "You will issue to the women inspectors of immigrants the following notice: 'Your name not appearing on the eligible list of the Civil-service Commission, you cannot be reëmployed without executive order. No such order having been made and your term of service having expired under your temporary appointment, such services are hereby discontinued.'

THE TREATMENT OF PURULENT CONJUNCTIVITIS.*

By EDGAR S. THOMSON, M.D.,
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My purpose in presenting to you this brief paper is not to discuss the well-known treatment of this disease, but rather to dwell upon some of the newer methods which seem to be establishing themselves permanently. The first step in the treatment of every case of purulent conjunctivitis should be the microscopical examination of the pus, by slide examinations, or by cultures, if necessary, so as to ascertain the variety of the microorganism present. Treatment need not, and should not, be delayed on this account, as in many instances every hour is of moment; but certainly no case can be intelligently treated without this information.

In cases that have the clinical appearance of gonorrhœa strong germicides should be at once applied, while in cases of less severity, and presumably caused by less virulent pus germs, it would certainly be a mistake to make the same application. In fact, the selection of the germicide is a matter of no little tact. Many effective germicides cause a certain amount of traumatism to the conjunctiva, although in some recent preparations this is reduced to a minimum, and we must consider carefully whether the effect we wish to gain is worth this disadvantage.

The gonococcus is the most virulent germ we have to deal with in the eye, leaving aside the rarely occurring diphtheria bacillus, and the clinical picture is apt to be suggestive. Almost every one is familiar with the brawny, swollen lids, the chemosis, the profuse, thick discharge of creamy pus—all coming on with great rapidity after infection, whether occurring in the adult form, or in the modified form in the newly-born infant. The disease varies somewhat, but in the great majority of cases is considerably more severe than the worst cases caused by other infections. In fact, I have come to doubt the existence of the so-called "mild cases" of gonorrhœal conjunctivitis, after the examination of a large number of cases occurring in the contagious wards of the Manhattan Eye and Ear Hospital during the last five years, as well as those occurring in my own private practice.

It is reasoned by many that we should find mild infections in the eye as well as in the genital tract, but the clinical fact remains that in mild cases of conjunctivitis we do not find the gonococcus. Such cases are often called gonorrhœal on insufficient evidence. Indeed, it is too often supposed that the eye condition is gonorrhœal without any examination of the pus. In gonorrhœal cases the treatment should be first of all directed to the destruction of the gonococcus, and our best means to this end is by the application of nitrate of silver. None of the new germicides seems capable of replacing silver entirely, and they are of use chiefly in cases in which silver is not well borne. It is imperative in adult cases that the application should be made at the earliest possible period after the infection. As soon as we see a case, a slide examination should be made and silver applied, as on this point often depends the success or failure of the case. If the gonococci once have a chance to penetrate the conjunctival tissue thoroughly, the eye will probably be lost, as it is impossible to reach them by germicides, and the process goes on until the cornea ulcerates. In babies, the results of delay are not apt to be so serious, as the cases are more manageable, but in every case the silver should be applied as early as possible.

When we see the case before the lids are much swollen—a period of a few hours in adult cases—it is sufficient to apply a two-per-cent. solution. This should be done by a swab of cotton on applicator. The eye should be cleansed, and the applicator carried entirely through the cul-de-sac under the upper lid; then the lower cul-de-sac is to be swabbed out in the same way, so that the silver is applied to every part of the conjunctiva. This, of course, cannot be done with children. We have to be satisfied with a less thorough application, which, however, will usually be sufficient. A certain amount of reaction invariably follows, but this can easily be controlled by iced cloths, and the irritation is of small importance compared with the seriousness of allowing the gonococci to penetrate the conjunctival tissue, which they always do with great rapidity. No other germicide is so much to be depended upon in this connection as silver. If the gonococci have penetrated, the swelling will have begun and the discharge will be profuse, and stronger solutions of silver may be necessary. When the disease is well developed, as it is apt to be by the third or fourth day after infection, the two-per-cent. solution gives the best results; but before that time stronger solutions may abort the process.

It is impossible to lay down any rule as to the limits of the time when the abortive plan of treatment may be used, but my own practice is always to attempt it wherever there is any prospect of success. If I see a case two days after infection, and the swelling or discharge seems not to be at the greatest height, I apply a three-per-cent. or a four-per-cent. solution of nitrate of silver as thoroughly as possible, and then meet the further indications as they arise, using 2 per cent. as a daily application. It is best in using a stronger solution than 2 per cent. to neutralize with salt-solution on account of the danger of staining the cornea, or even to lay a pledget of cotton soaked in salt-solution upon the cornea while making the application.

Where silver irritates, as shown by the increased discharge of serum, and a tendency of the conjunctiva to bleed readily when handled, a six-per-cent. solution of protargol may be used. It has been claimed for this germicide that it is without irritating properties, but this is certainly not so. It is, however, very much less irritating than silver, and many persons do not feel the application of a six-per-cent. solution at all. Stronger solutions are of no particular advantage—the irritation is more marked and the germicidal properties seem to be not appreciably greater. Protargol is a valuable drug in ophthalmia neonatorum—in cases in which the conjunctival thickening is not great enough to support applications of nitrate of silver. It may be dropped into the eyes twice daily.

In other forms of purulent discharge, that is, those caused by the pneumococcus, Koch-Weeks' bacillus, or other pus organisms, silver is not to be used, but protargol in six-per-cent. solution, applied once a day, is a most efficient germicide, and will often limit an attack of "pink eye" to a few days, which otherwise would last two or three weeks. Protargol has the further advantage of not staining the tissues as readily as silver nitrate; and it is good practice to flood the corneal ulcer occurring in the course of a gonorrhœal conjunctivitis, with a six-per-cent. solution once a day. It has been claimed that protargol will not stain the conjunctiva, but cases

*Read before the Medical Society of the State of New York at Albany, January 27, 1903.

have been reported in which its prolonged use has led to a slight stain. The claim at first made for it that it will penetrate the tissues and destroy germs more deeply than silver, seems not to be borne out by clinical experience. In severe cases of gonorrhœal conjunctivitis with papillary hypertrophy the astringent action of the silver is to be desired, and the discharge subsides less readily under protargol than under silver. Argyrol, 25 per cent., or silver vitelline, fulfils all the above indications for protargol, and is absolutely non-irritating. It also is less effective than silver when an astringent is required; but when a non-irritating germicide is required, it is certainly ideal. I have recently seen it injected into the anterior chamber of an infected eye with remarkable checking of the process, and without any irritation to the iris whatever.

The other indications for treatment in purulent conjunctivitis are best met on the old-fashioned lines. Constant cleansing with saturated boracic-acid solution resists the development of corneal ulcers and keeps down the number of germs. Boracic acid is merely a non-irritating wash and has no germicidal value. If we use plain water on the conjunctiva, or any other mucous membrane, there is a tendency to exosmosis set up at once in the blood vessels, which dilate—a phenomenon frequently observed when the eyes become red after being filled with tears in weeping. The least irritating solution, therefore, is one which has nearly the same specific gravity as the blood. The cleansing should be done often enough to keep the eye clean, even if that is every ten minutes day and night.

For the swelling of the lids, iced cloths applied constantly are best, and these have another very important action, as has already been pointed out, in reducing the temperature of the conjunctival cul-de-sac below the point at which pus organisms grow best. It is possible to reduce the temperature several degrees, while heat cannot be applied constantly, and most pus germs bear slight degrees of increased temperature better than diminished temperature.

Corneal complications are to be met on the usual lines, the only advance in recent times being the use of protargol or argyrol, either of which will destroy the germs in corneal ulcers as well as in the conjunctiva, and that without the irritation and danger of staining which makes the use of silver in this connection impossible. In a certain small proportion of cases, when the chemosis is severe and the discharge not free, scarification of the chemosis is of value, notwithstanding the fact that it has fallen into disrepute of late years, the reason for this latter fact being that its advocates at first claimed a much wider field for its application than was justifiable, as is so commonly the case with methods and remedies in this disease. Scarification will not reduce every case of chemosis, by any means; but in certain cases when the discharge is scanty and the chemosis is of a boardy character, scarification will relax the chemosis in a way that no other means will accomplish.

Cauterization of the cornea, in cases in which the chemosis is not severe, is a most valuable means of combating corneal ulceration, and is particularly useful in ophthalmia neonatorum. Pure carbolic acid is the best cauterizing agent to use. It need hardly be said that we should be reasonably certain that the tissues will react well to the cautery, which will not be the case if the chemosis is very severe, or if the patient's general condition is much reduced. When corneal infection appears, hot-water applications are to be used for the purpose of stimulating the corneal tissues.

NOTES ON CASES TREATED BY VENESECTION.

By GEORGE PIERCE ANDREWS, M.D.,
HONOLULU, HAWAII.

My good fortune brought me early in my career into close relations with Drs. Pitcher and Stewart of Detroit, both veterans in the profession, and who were conservative believers in venesection at a time (1862) when the thumb-lancet was hardly considered a necessity in the armamentarium of a physician. My experience has confirmed me in the belief in the value of bloodletting as a resource in varying emergencies.

Case I.—A robust, healthy young primipara was normally delivered after a natural labor. Soon after the birth was complete violent convulsions supervened; the medical attendant watched her for a time and went home to breakfast, saying she would be all right. Soon after I was called; the woman was unconscious and the eclamptic attacks of the most violent character recurring every few minutes, and each one seemed to threaten life. As soon as possible I opened a vein and took ten or twelve ounces of blood; relief was very prompt—I believe there were only two subsequent attacks. Besides the bleeding, I gave chloroform, both by inhalation and the stomach. Convalescence was uneventful and complete. I attended her once or twice afterward in normal labors.

Case II.—W., an old man of seventy years or more; a hard drinker, with degenerate arteries and probably heart. Was taken with catarrhal pneumonia, I think double. The case seemed desperate from the first. I gave supporting treatment and watched the heart. After three or four days there were signs of commencing pulmonary œdema and speedy death. Just then my old friend, Dr. Zina Pitcher, whose place in St. Mary's Hospital in Detroit I had been filling, returned. He at once *bled* the patient, who promptly rallied and in a few days was convalescent. The reduction in blood volume relieved the almost overwhelmed right heart and gave the sympathetic a fillip that saved the patient.

Case III.—Mrs. S., aged thirty-two years, in fair health, of nervous type; miscarried at four months; attended by convulsions, not very severe. A small venesection controlled all symptoms and convalescence was speedy. The patient was of full habit, with plenty of red blood. The abstraction of a few ounces of blood relieved the tension and restored the balance.

Case IV.—An old German, sixty years of age, of small stature and the sparest habit; might have sat for the "old woman" who "dried up and blew away." The last physique one would select for depletion. Had been for years a great sufferer from spasmodic asthma. The present attack had lasted for several days before my visit. I found him leaning over a table, resting on his elbows, laboring with all his might for air enough to sustain life. The friends said bleeding was the only relief for him, and that his physician resorted to it. I took six ounces of blood, and in five minutes he was breathing like an infant asleep.

Case V.—Mr. H., aged sixty-two years, a fairly healthy man, rather stout; a lawyer; subject to attacks of indigestion. A perfectly temperate man and a careful liver. Just previous to the attack he complained of severe pain just above the left orbital notch, and the family noticed that he hesitated in speech. Presently he fell unconscious and convulsed. I saw him within a half hour; he was then partially conscious; hemiplegic, pulse small, countenance pale; quite aphasic. There had evi-

dently been a small effusion of blood near the seat of pain. Treatment expectant. Gradually he recovered, completely to all appearance. The aphasia gradually disappeared. About one year later he fell in a second attack, in the street. This time the convulsions were violent and recurred frequently for an hour or more. Pulse full and hard; it seemed as if each attack would be fatal. Finally we took ten or twelve ounces of blood, with immediate relief to all the symptoms. The next day he was comparatively well; the aphasia quickly disappeared.

Some months later he had a return of the supra-orbital pain and slight confusion of speech. I bled promptly with relief to the symptoms. Subsequently the same thing happened, repeatedly and always with the same result. I believe once there was a recurrence of convulsions; he lived a number of years and died of some acute disease. The convulsions were distinctly epileptiform and seemed to be a direct sequence of the first hemorrhage. Undoubtedly it left a permanent lesion that was a source of irritation whenever there was hyperæmia.

Case VI.—Mr. C., a clergyman, over six feet in height, of extremely spare habit, aged eighty-two years, had suffered for many years with cardiac dyspnœa. At twenty-five years of age he had an attack of acute pleuritis (*sic.*), for which he was bled; and his physician continued venesection for the dyspnœa, which became habitual. The old gentleman had been bled every three or four weeks ever since. I was called to see him by his daughter, who gave me the above history and said, anticipating my objections, that it was of no use to argue with him, he would have relief, consequently I examined the patient, but could find no well-marked cardiac lesion. I regarded the symptoms as largely functional and due to habit. There might have been a slight aortic stenosis, but I detected no murmurs. He was in severe distress for breath and I took six ounces of rich dark blood, with immediate and complete relief. The flexure of the elbow in both arms was a curious sight, the track of the veins being a mass of cicatrices; it was a puzzle to find a clear point to insert the lancet, and the old man was a connoisseur in venesection; I was fortunate enough to secure a good stream, though subsequently I sometimes had to try two or three times. For two years I repeated the performance quite regularly every three weeks. At the end of this time he died. During the last few weeks of his life I did not see him, and I do not know just how the end came. The dyspnœa was not a marked symptom, however. The family employed a homœopathic physician. A very interesting point was the rapidity with which the red cells were reproduced in an old and feeble man. The relief of the dyspnœa would continue for nearly the three weeks, and then gradually increase until unbearable. Apparently the heart muscle was adequate to take care of the blood volume up to a certain point, but beyond that there was a strain. The nervous element probably depended somewhat upon the specific gravity of the blood. The patient was a prominent Baptist clergyman in his day; a man of great intelligence and considerable education.

Case VII.—Capt. H., aged thirty-two years, master of a lake steamer; a well-built, vigorous-looking man; had had several hemorrhages, but the signs of pulmonary involvement were very slight. When I saw him there was rather severe pulmonary hemorrhage. Previously venesection had promptly controlled similar attacks, and this time a moderate abstraction had a similar happy effect, and he was soon at work. A few years later he was drowned by the wreck of his boat.

Case VIII.—Mrs. McM., aged thirty-five years; married; a fairly healthy but corpulent woman. The menstrual flow was irregular after passing over a period. At such times she suffered with terrific migraine. A small abstraction of blood afforded relief and generally established the flow.

Case IX.—Mrs. A., aged twenty-three years; a very stout woman; primiparous about the eighth month. She had suffered an attack of scarlatina within two or three years and it had left renal complications. There had been œdema and scanty urine for a time, but I had only seen her a few days before I was called in the night to relieve excruciating pain in the back of the head; but before I could reach the house she went into violent convulsions. I found her unconscious, the paroxysms recurring every few minutes. I gave chloroform and bled as soon as possible and put her in a hot bath. Dr. W. P. Mantle saw her in consultation, and we proceeded to deliver as soon as possible, but the case went on to a fatal termination, which occurred about eighteen hours after the first eclamptic attack. Evidently the systemic intoxication was so profound as to overwhelm the cerebral centers.

Case X.—Mrs. W., aged twenty-three years, I-para, a well-developed, healthy young woman; labor normal under the care of Dr. F. R. Day of Honolulu. Convulsions began soon after the completion of labor; moderately severe and persistent, in spite of chloroform and sedatives. In consultation I advised bleeding; eight ounces afforded immediate relief, and convalescence was uneventful.

In all the above cases, except the ninth, relief followed the flow of blood promptly; in several of them when other means had failed. In each case bleeding was curative, in the sense that it tided over an emergency. Its action is, first, upon the volume of the circulation; second, upon the nerve centers, and is in the nature of shock; third, in certain instances, when the patient is conscious, the effect of expectancy upon the imagination is marked and benign, as in cases IV, VI, and VIII. I have never seen any notable ill effect or depression dependent on the loss of blood.

1150 Alakea Street.

Immense Increase in Immigration and Objection to Women Inspectors.—Commissioners of Immigration from New York, Philadelphia, Boston, and Baltimore recently held a conference—mainly for the purpose of discussing the question of handling immigragrants in transit. All the commissioners were agreed that this year promised to beat all records for the arrival of immigrants in this country. The Baltimore commissioner said that 36,000 had been admitted into that port during the first four months of this year, while only 47,000 had been admitted during the entire twelve months of last year. According to the Boston Commissioner, the rush of immigrants showed a similar increase there. The conference also discussed the question of women inspectors. All agreed that the trial given them in New York had resulted in failure, and all the commissioners decided against introducing the system in harbors where it has not yet been tried.

Quarantine Order in Vermont Modified.—It is announced from Washington that Secretary Wilson has issued an order modifying the quarantine restrictions on the movement of animals and animal products from or across the State of Vermont.

ON THE ACTIVE PRINCIPLE OF RHUS DIVERSILOBA (POISON OAK).*

By CARL SCHWALBE, M.D.,
LOS ANGELES.

THERE are five different species of the genus rhus in Southern California. Of these five species (rhus diversiloba, trilobata, integrifolia, laurina, and ovata) only R. diversiloba is poisonous. In the year 1865 John M. Maisch published a preliminary notice: "On the Active Principle of Rhus Toxicodendron." Since that time there has been no publication on the chemical constitution of this very interesting poison till 1897, when Franz Pfaff, M.D., Ph.D., professor of the Pharmacological Laboratory of the Harvard Medical School, made his examinations, "On the Active Principle of Rhus Toxicodendron and Rhus Venenata." (*The Journal of Experimental Medicine*, Vol. II, No. 2, 1897). Pfaff proved beyond a doubt that the so-called "toxicondric acid" of Maisch is acetic acid, and that the active principle is an oil, which has as yet not been analyzed. Pfaff extracted the "toxicodendric acid" out of the fresh leaves with steam, prepared the baryum salt of the watery solution of the toxicodendric acid and proved by analyses that the acid was acetic acid. Maisch, when he prepared his so-called "toxicondric acid," suffered from a copious eruption and the formation of numerous vesicles on the back of his hands, fingers, wrists, and bare arms. Several persons coming into the room, while he was engaged with it, were more or less poisoned by the vapors diffused in the room, and the poisonous effects were even transferred to some other persons merely by shaking hands with them. It is very remarkable that Maisch did not have any eruption on his face. There is no doubt that the skin of the face is very susceptible to the poison of the rhus toxicodendron, venenata, and diversiloba. The fact that Maisch did not have any eruption in the face is a good proof that in his experiments the poison was not as a gas in the room.

Those persons affected by the rhus toxicodendron in the laboratory of Maisch, knowing that they had not touched the plant, were not poisoned by gases, they were affected in the same way as those shaking hands with Maisch. Pfaff (*l. c.* page 195) says: "I have used more than 25 K of fresh poison ivy and a few K of poison sumach. Hundreds of persons passed through the laboratory during the time that these plants were handled, extracted, distilled, etc. In not one single instance was a person poisoned who did not come into actual contact with the plant or free oil.

In opposition to Pfaff, A. Davidson, M.D., our able botanist (dermatitis venenata, *Southern California Practitioner*, March, 1897), says: "Many people handle the poison oak with impunity, others at certain seasons cannot pass within some 100 yards of the plant without being affected, and between these two extremes there are innumerable grades of intensity."

Louis L. Frank, M.D. (Remarks on Rhus Toxicodendron, MEDICAL RECORD, April 16, 1898), mentions some cases in which one person communicated the poison to another. The first is described in an article written by Dr. White (*New York Medical Journal*, 1873) reporting a fatal result in consequence of the poison.

"A servant boy, being insusceptible to ivy poisoning, had been employed in pulling up all the vines of that plant found growing in the grounds about the house. When his task was finished he was made to wash his hands thoroughly with hot water and soap, and afterward with vinegar. In the afternoon he was allowed to take the six-year-old child of the family to a pond for a bath. Having stripped the child, he immersed him, holding him with his hands under the armpits, and every part touched by the hands showed the characteristc mark of wild ivy poisoning."

Another case, reported by Dr. Cantrell (*Medical News*, 1891), shows how the poison was conveyed to the umbilical region of a female patient of the Philadelphia Hospital; a vesicular and bullous eruption having a radius of five inches, œdematous and covered with a yellowish-brown discharge, appearing three days after confinement. Upon inquiry it was learned that on the day of birth the attending nurse, taking a stroll through an adjacent cemetery, had gathered some leaves, bringing a number back with her. The ivy poison was in all probability conveyed to the patient during the time of dressing, although the hands of the nurse had been previously washed several times with soap and water. Her hands at that time showed no signs of infection, became affected two days later at about the same time when the eruption appeared on the abdomen of the patient.

A third case is mentioned by Dr. Busey (A. T. of Medical Science, Vol. XVII) in which a family, consisting of both parents and an infant, was affected at the same time, the mother having a severe attack quite general over the whole body, the husband a similar eruption on both hands, and the infant a slight one about the mouth and chin. A week previous to the appearance of the eruption, the husband and wife had passed an afternoon at a picnic and he had fastened his horse to a bush, covered with a vine, the character of which he had not observed. The wife did not approach the plant and the child had been left at home.

Dr. T. B. Walker (*Medical News*, 1891) reports the fourth case of poisoning by indirect contact. A lady spent the night with her sister whose husband was obliged to be absent on business. The husband had been poisoned about the head and neck with ivy a few days before leaving home. The pillow case on which he slept was not changed, and his sister-in-law using it, became poisoned about the face and neck in consequence thereof. These four cases, as I mentioned above, have been collected by Dr. Frank. These facts prove that in most of the cases there must be a solid particle of the rhus plant making the poisoning on the human skin and not a gaseous matter. I made the microscopical examination of the plant and found the explanation of this fact. There are in the leaves, in the skin of the stems and stalks of the leaves and flowers, and even in the petals, lactiferous vessels containing the poisonous matter of the plant.

Upon these vessels grow hairs, loaded more or less with the poisonous oil. These hairs are prevalent on the stems, on the under surface of the leaves and even on the petals of the plant. The hairs derive the poison by osmosis from the lactiferous vessels, and are carried, when broken off, easily by the wind or by the help of man or animals to persons liable to the affection. The presence of the hairs on the stem during the winter, when there are no leaves on the shrub, explains the fact of the poisonous qualities of the plant even in winter time. Generally the hairs penetrate into the opening of the sudoriferous and sebaceous glands, and this observation is corroborated by the fact that those parts

*Delivered before the Southern California Academy of Science.

of the skin perspiring easily are affected most frequently.

Persons perspiring very easily are, as a rule, more liable to the affection than those without a moist perspiration. I, for instance, scarcely ever sweat, and am not subjected to the effects of the poison when I go to places where the rhus diversiloba is growing. The same is the case with my wife and my children. When I smear the milky juice between my fingers I am locally poisoned. With a microscope of 90 diameter it is easy to locate on the skin the hairs, and those oily substances exuding through the walls of the hair and being fixed as irregular lumps on the outside of them. These irregular lumps are very probably in most cases the immediate cause of the infection. The hairs of course can remain in the openings of the sudoriferous glands for several days in spite of washing with soap. The neutral soap does not destroy the poisonous toxicodendrol. There is an alkali necessary—for instance, carbonate of potash, well known to everybody as concentrated lye. A one-tenth to one-half per cent. solution as a washing several times a day when there was a possible contact with the poison oak, is sufficient to protect everybody against the bad effects of this interesting plant.

A. T. Hudson, M.D. (New York Medical Record, July 30, 1898, Page 173), recommends very highly a solution of muriate of ammonium (1—1½ per cent.) as a prophylactic and remedy. Frequent washing with the solution is necessary. Everyone using one of these two remedies frequently, at the right time and in necessary amount, will be exempt from the danger of this much-dreaded poison oak (rhus diversiloba).*

*In the *Münchener Medicinische Wochenschrift*, April 8, 1902, Dr. Dreyer publishes a case of dermatitis, the effect of the poisonous hairs of Primula obconica. The chemical composition of the poison contained in the hairs is not known.

1002 South Olive Street.

REFLEX SYMPTOM FROM BILIARY CALCULUS.

By G. W. SQUIRES, M.D.,
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The diagnosis of diseased conditions by symptoms is oftentimes a puzzle to the most astute. The organs of the body are so closely knit together in physiological sympathy that the cause of the symptom may lie far remote from the seat of the apparent difficulty. The following case, which occurred in my practice, I wish to report as a unique experience to me along this line of distal irritation: Mrs. T., of Canadian birth and aged fifty-two years, had suffered for fifteen years by what was supposed by many physicians to be dyspepsia, with occasional attacks of acute indigestion, accompanied with vomiting, the seat of the distress always being located at the cardiac end of the stomach. After a few days of gastric difficulty and through emesis the digestion recovered its usual tone of lowered vitality, and with great care in dietary the patient, a busy woman, accomplished much work of the household sort. About eighteen months ago this patient began to notice and complain of what she described to be at first a stiffness, then a tenderness followed by a pain in the heels directly over the region of the tendo achillis. On examination nothing could be discovered, after exercise, which was difficult and painful at first, the parts felt better and limbered up so the person could walk quite a distance, but with a curious ambling, flat-footed gait. In the morning, with or without exercise, the heels were so stiff that the woman had difficulty in moving around. Now an eruption suddenly appeared on the right heel four inches long by three wide over the tendo achillis—a typical herpetic rash; in two days the left heel was effected in exactly the same manner. The suffering the woman endured with this eruption seemed out of proportion to the local affection; the pain radiated from the heels up the legs to the body and came in paroxysms of such distressing intensity as to cause the sufferer to cry out. Nothing local or internal seemed to benefit the eruption on the heels. Hypodermic medication of morphine and atropine would allay the cramps, only to return when the medicine had spent its effect. Suddenly the seat of war was transferred to the region of the gall-bladder, a typical biliary colic set in with a vigorous attack. Whether the heel and leg pains were less or the biliary distress so much greater, the patient now complained most bitterly of the distress in the side; constipation and jaundice now set in. Hypodermics of opiates were frequently demanded, but with large doses of salts and calomel the bowels were practically unmoved for two weeks; olive oil, in large quantities per mouth, and rectal enemata failed of catharsy; a few clay-colored lumps were passed; no bile was passing into the intestines, the patient was becoming alarmingly jaundiced, the whole body saturated with the bile pigment. More calomel was advised on consultation, and insisted upon by the family, until the patient was badly salivated. Suddenly the patient gave a sigh of relief and remarked to the nurse that something had broke loose in her side and she felt relieved of the distressing pain, calling at the same time for the bed-pan, as she felt a desire to move the bowels. After a few minutes a free bilious dejection took place, and the patient relapsed into the first refreshing sleep that she had experienced in two weeks. The nurse, as had been directed, examined the dejection by washing through a sieve with water, and found a calculus the size of a pigeon's egg with four sharp prongs on its elongated sides. The pain and eruption of the heels almost immediately subsided, the jaundice cleared up, the indigestion disappeared, and the patient got rid of all her former complaints, and is to-day what one could well call a healthy person.

Retinal Hemorrhages as a Diagnostic Feature in Fracture of the Base of the Skull and in Subarachnoid Hemorrhage.—R. A. Fleming reports a number of cases which show that a subarachnoid hemorrhage, if sufficiently rapid in its development, will cause retinal hemorrhages, and that if the effusion is unilateral the hemorrhages will be confined mostly to the affected side. In fractures of the base the diagnosis is by no means always easy. In fractures involving the anterior fossa of the skull there is often bleeding or escape of cerebrospinal fluid from the nose, or discoloration in the neighborhood of one or both eyes, due to extravasation about the sphenoidal fissure. Where the fracture extends to the petrous part of the temporal bone, bleeding or escape of cerebrospinal fluid may be noted from the ear of the affected side. But where, on the other hand, the posterior fossa is the site of fracture, the diagnostic phenomena are very uncertain; although discoloration behind the mastoid, and sometimes a more diffuse discoloration in the neck, may be noted. The recognition of retinal hemorrhages is easy even to the comparatively inexperienced ophthalmoscopist, and the importance of these hemorrhages can be best realized by a study of the cases submitted by the author. Where the subarachnoid hemorrhage comes on gradually, no retinal hemorrhages are produced. It is well known, for instance, that retinal hemorrhages are not a necessary result of the great but gradually increasing pressure, such as may occur in cerebral tumor, internal or external hydrocephalus, etc.—*The Edinburgh Medical Journal.*

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THE CAUSE AND TREATMENT OF EPILEPSY.

As to the cause of epilepsy, nothing really definite is known, although the most common belief amongst those who have made a special study of the disease is that it is of toxic origin. Drs. Clark and Prout in their recent paper in the MEDICAL RECORD, say: "In considering the development of the disease, we believe the excitant is a toxic or autotoxic agent for the following reasons: First, the lesion is a general one affecting the entire cortex; second, it involves most extensively the cells of the second or so-called pyramidal type, the cells which present a relatively larger surface exposure to the circulating poison in proportion to their volume than the large pyramids; third, the presence of a marked neurogliar proliferation; fourth, the changes in the cell are quite analogous to those definitely known to be caused by toxic agents, as furfural, alcohol, and the tetanus bacillus and its toxins."

On February 9, at a meeting of the Medical Society of London, epilepsy was made the subject of discussion, and the views of some of the best known of the British authorities upon nervous diseases were set forth.

Dr. J. S. Risien Russell said that "The true cause of epilepsy was as yet unknown." The theory that epilepsy resulted from an autointoxication was that most generally received, although it could not be looked upon as proved. Some thought that microorganisms were the cause, but here again there was no satisfactory proof. Treatment had been initiated which presupposed that epilepsy was due to the action of some poison which reached the nerve elements by way of the blood stream, and experiments had been made in line with this theory. Epileptic patients had been inoculated with filtered cultures of streptococci and staphylococci, erysipelas toxin, or antitoxin. Dr. Russell, however, was compelled to admit that the bromides were still the most potent agents for the treatment of idiopathic epilepsy. A free administration of the drug was indicated. Whichever of the bromide salts was used, a single dose should be given an hour before bed-time in nocturnal epilepsy, and two hours before an attack was due when the fits recurred at about the same time in the day. It was better to increase the single dose up to one drachm or more than to give it in divided doses several times a day. In considering what dietetic and other measures aided in securing success, for the bromide treatment the importance of prohibiting stimulants, including tea and coffee, was well recognized. These patients did best on a diet which contained only a small amount of meat. The most important modification that had been introduced into the dietetic treatment of epilepsy during recent years was the exclusion of ordinary salt from the dietary, but this had been suggested by Dr. J. Hughlings Jackson thirty years before.

Sir Victor Horsley said that he would classify epilepsy according to its causation into four groups: (1) Idiopathic epilepsy in which there was no no gross lesion. This might be localized or generalized onset, but neither of these cases was very suitable for operation. He had, however, operated on five cases of the former. Two of the cases had proved to be of organic origin. These showed that an exploratory operation might be justifiable in cases which had resisted medical measures. (2) In Jacksonian epilepsy there existed always a gross lesion or a toxæmia. In traumatic cases of a Jacksonian type the convulsions might be generalized or localized. In the former, surgical measures were not by any means uniformly successful; in localized cases, however, trephining was very successful, particularly when the scar was in the so-called motor area; it was less successful when the scar was in the occipital region, and still less successful when it was in the frontal or temperosphenoidal region. Cases of congenital focal epilepsy did fairly well when operated on in early childhood. Cases of neoplastic origin were, of course, very amenable to surgical measures. The fits in such cases were not always localized; they might be so generalized as to resemble idiopathic epilepsy. (3) Reflex epilepsy might arise from injury to a nerve, injury to the spine, or from traumatism. (4) In hysteroepilepsy no operation should be performed, although ovariotomy and other procedures had been employed by some.

These then are the opinions of two of the foremost authorities in Great Britain with regard to the cause and treatment of epilepsy, regarded from the medical and surgical point of view. In the discussion that followed the reading of these papers, most of the speakers expressed themselves as somewhat sceptical as to the toxic origin of epilepsy, were agreed with regard to the great value of the bromide treatment, albeit some did not altogether believe in heroic single doses of the drug, but rather placed their faith in smaller doses more frequently administered.

Drs. Clark and Prout, in the paper referred to at the commencement of this article, concluded as follows: "We submit that epilepsy is a disease resulting in diffuse and profound cortical degeneration; a highly complex sensory motor phenomenon, primarily sensory with a motor expression. The lesions attending its course are shown in the following: Swollen nucleus, destruction of the nuclear membrane and intranuclear network; easy abstraction of the nucleolus by the knife, as it becomes a loose body in the nucleus; diffuse chromotolysis, and other protoplasmic changes. All these lesions result in the ultimate disappearance of the cell as a biologic unit and its replacement by a gliosis. The lesions are induced by a toxic

or autotoxic agent operating upon an organic anomaly of the cerebral cortex which forms the predisposition. We urge, therefore the construction of special accommodations for the reception and study of each newly admitted case of epilepsy in the colonies, and hospitals which shall be arranged on similar lines to the psychopathic hospitals abroad, and we finally suggest that some central advisory committee be appointed to formulate a correlated plan for future study and research."

The situation as regards epilepsy, therefore, would appear to stand thus: There is no definite knowledge as to its cause, but at the same time a large number of those who have carefully studied the matter are of the opinion that the disease is of toxic or autotoxic origin. This view is based upon the analogy of the cell changes in epilepsy to those produced by toxic agents. It is, however, of the utmost importance that the problem of the cause of epilepsy should be solved, for by its study and solution many obscure points in neurology and psychiatry will be cleared up. In order to bring about this consummation, every facility for investigating the phenomena of the disease under the most favorable circumstances must be available. Consequently, if the neurologists of the United States desire to take a leading part in elucidating the obscure features of epilepsy, the plan of research suggested by Drs. Clark and Prout to attain this end cannot but recommend itself to them. In the meantime, the bromides must be regarded as the sheet anchor in the treatment of the disease.

INFECTIVENESS OF MILK OF COWS WHICH HAVE REACTED TO THE TUBERCULIN TEST.

Dr. John R. Mohler, Chief of Pathological Division, Bureau of Animal Industry, U. S. Department of Agriculture, has recently published a bulletin relating to his investigations concerning the infectiveness of milk in a herd of cows, many of which died of rabies. The report, however, deals with tuberculosis in the herd, and not with rabies.

On May 2 and 3, some six weeks after the outbreak of rabies, the herd, then consising of 104 head, was tested with tuberculin. Two cows were excluded from the test. Of the remaining 102 head, seventy-six gave a decided reaction, while one cow showed a questionable rise, making the proportion of animals affected more than 74 per cent. Of the twenty-five animals which did not react, thirteen had but recently been purchased and had been kept in one line by themselves in a corner of the barn during the two weeks they had been in the stables. If these thirteen animals had been excluded, it can be seen that more than 85 per cent. of the old herd would have been tuberculous.

These results were sufficiently plain evidence that prompt and radical measures must be taken to prevent further spread of infection, and that those which, on physical examination, were found to be affected with any of the forms of tuberculosis which are especially dangerous for the dissemination of the disease, must be eliminated. This examination led to the selection of twelve head for immediate destruction, and accordingly they were slaughtered. Ten of these animals had reacted to the tuberculin test; one was selected owing to the development of symptoms of traumatic pericarditis, while the twelfth had only shown a suspicious rise of temperature, scarcely high enough to be regarded as a reaction.

A careful post-mortem examination showed that the ten reacting animals were affected with tuberculosis to a greater or lesser extent, while the cow giving the questionable rise of temperature showed only three encapsulated tuberculous centers, the size of hemp seeds, in one of the mesenteric glands.

The remainder of the herd of ninety-two, sixty-six of which reacted, were divided. The reacting animals were isolated, and the non-reacting cows were placed in a separate barn which had undergone the most thorough and careful disinfection.

It was then determined to ascertain, through feeding and inoculation experiments, whether the milk from the affected cows contained virulent tubercle bacilli, and, if so, to what extent. The experiments to prove this point were conducted with the most approved methods, guinea-pigs being used as experimental animals.

The results were as follows: The milk of 16.07 per cent. of fifty-six reacting cows was found to be pathogenic to guinea-pigs when fed to them. Of the experimental animals inoculated intra-abdominally in the first series, at least one guinea-pig died of tuberculosis in each of six different instances, showing that the milk of 10.9 per cent. of 55 reacting cows in this experiment proved fatal to guinea-pigs in the first inoculation experiment. In the second series of intra-abdominal infections, the milk from seven individual cows out of forty-five examined, or 15.5 per cent. was demonstrated to possess virulent tubercle bacilli. By uniting these inoculation results, it will be observed that eleven out of fifty-five cows, or 20 per cent., secreted milk which transmitted tuberculosis to one or more experimental animals when injected into the peritoneal cavity.

Owing to the greater percentage of positive results obtained from a second inoculation experiment, conducted more than two months after the first intra-abdominal test, it appears probable, as would be expected, that the virulence of milk increases with the advancement of the disease in the cow. The lack of uniformity of results obtained in many of the cows might be explained from our knowledge that tubercle bacilli are not excreted by the normal udder with any degree of constancy. For this reason the continuous feeding experiment, covering a period of three months, seems to have more practical value in demonstrating the transmission of tuberculosis than the inoculation test, where the only possibility of affirmative results must depend on the contingency of the accidental excretion of the bacilli on one particular day.

The combined result of the ingestion and inoculation experiments showed that the milk of twelve out of fifty-six reacting cows, or 21.4 per cent., had at one time or another since the beginning of the experiment contained virulent tubercle bacilli.

Dr. Mohler ends his paper with these words: "From the results of the experiments conducted in this laboratory, as well as from the majority of similar investigations, the following conclusions

regarding the infectiousness of milk from tuberculous cows seem justifiable: (1) The tubercle bacillus may be demonstrated in milk from tuberculous cows when the udder show no perceptible evidence of disease, either macroscopically or microscopically. (2) The bacilli of tuberculosis may be excreted from such an udder in sufficient numbers to produce infection in experimental animals, both by ingestion and inoculation. (3) That in cows suffering from tuberculosis the udder may, therefore, become affected at any moment. (4) The presence of the tubercle bacillus in the milk of tuberculous cows is not constant, but varies from day to day. (5) Cows secreting virulent milk may be affected with tuberculosis to a degree that can be detected only by the tuberculin test. (6) The physical examination or general appearance of the animal can not foretell the effectiveness of the milk. (7) The milk of all cows which have reacted to the tuberculin test should be regarded as suspicious, and should be subjected to sterilization before using. (8) Still better, tuberculous cows should not be used for general dairy purposes."

The most striking feature of Dr. Mohler's investigations would seem to be the confirmation of the value of tuberculin as a diagnostic agent. Whether, however, it would be practicable to exclude all cows which react to the tuberculin test from use for dairy purposes is another matter. The number of cows affected to a greater or less degree with tuberculosis is enormous, and so long as the point in regard to the danger of milk containing tubercle bacilli as human food is unsettled, it would, perhaps, be asking too much of herd owners that they should not use animals which have reacted to the tuberculin test for dairy purposes. On the other hand, there can be no doubt that every possible step should be taken to extirpate tuberculosis in cattle, and to safeguard the public from the menace of infection by such means.

COMPENSATION FOR MEDICAL SERVICES RENDERED THE STATE.

THE services of the physician are everywhere inadequately recompensed. At any rate, such is the firm belief of the majority of the members of the medical profession itself. They hold that they are paid proportionately less for the work they do, than those of any other educated class. Lawyers, for instance, are, as a rule, remunerated far better than are doctors. It is a curious commentary on the materialism of the age, that property is considered more valuable than life, or rather that an individual is willing to spend more to save his property than to benefit his health.

Dr. T. D. Davis of Pittsburg, Pa., read before the American Academy of Medicine, a paper which embodied these views, and he further considered the matter from the standpoint of the State and the physician. Governing authorities act toward the physician in exactly the same way as does the individual, only in an exaggerated degree. They regard health compared to property as a secondary consideration, at least their actions seem to favor such an interpretation of their sentiments. For example, Dr. Davis points out that governments compensate their legal talent much more liberally than their medical talent. That they do thus discriminate, he proves by comparing the compensation of the legal and medical officers of four large cities of the United States. Dr. Davis after thoroughly probing the question shows that the salaries of the lawyers are from two to three times that of the physicians, or $6,000 for the heads of the legal departments to $2,400 for the heads of the medical departments. The city attorneys have a long list of assistants at from $2,500 to $3,500 per annum, while the assistant physicians in the health departments vary from $900 to $1,200 for the same time. In the smaller cities the difference is still more marked.

The writer thinks that the reason for this state of affairs is because physicians undertake their own services, and that there is no remedy for it but through the profession. In the past it is possible that many doctors underrated their services because they obtained their education in a very short time and quite inexpensively, and so valued their knowledge accordingly. But under present conditions the medical course is quite long enough and sufficiently expensive to demand higher emoluments for its graduates.

Dr. Davis then touches on a matter which cannot but appeal forcibly to every medical man—that is, the custom of giving gratuitous service. An example of this ill-advised charity is the free treatment of clergymen by physicians. Both professions are injured by this proceeding, the one by cheapening medical services and the other by a certain loss of self-respect. Again, medical men, by their eagerness to accept positions with paltry stipends in State institutions, do not tend to impress public officials with the exalted views of the value of medical knowledge. The craze existing among members of the medical fraternity to become attached to hospitals and institutions of a like kind without pay, renders public officials liable to underrate the value of their services. Although a person is not altogether taken at his own valuation, yet there can be no doubt that extreme modesty as to one's qualifications is not the best way to get on in this world.

Dr. Davis asserts, too, that frequently "the game is not worth the candle," and that the practical advantage of being attached to a hospital, to a diligent physician, who is not a teacher, is wonderfully overestimated by the profession. The writer is of the opinion that the time consumed, absence from office, and study outweigh the advantages of the large practice, while hospital matters cannot be successfully transferred to the home or private practice.

Whether this be so or not, there can be no doubt, that Dr. Davis is correct in his contention that doctors are inadequately remunerated by the State, and he is also probably right when he gives as the chief reason for this discrimination against the medical profession, the backwardness of physicians to assert themselves. The fact, however, must be borne in mind that medical men are seldom politicians, while to the lawyer politics are "as the breath of his nostrils," and to the politician belongs the spoil. It would be well if physicians would take the advice of Dr. Davis to heart, and resolve to demand for their services the remuneration which is justly their due.

Congenital Displacement of the Hip.

The methods of Dr. Lorenz in treating congenital dislocation of the hip have recently been subjected to a certain amount of criticism. At the meeting of the American Surgical and Orthopedic Association just held in Washington, the matter was freely and fully discussed, some of those present expressing themselves as opposed to Dr. Lorenz's mode of procedure, while others warmly defended the manner of treatment of the Austrian surgeon. One and all spoke in the highest terms of Dr. Lorenz personally and professionally.

In view of the difference of opinion existing with regard to the most satisfactory plan to be adopted in the case of congenital displacement of the hip, it may be of interest to quote some of the views held by the well-known English orthopedic surgeon, Mr. Noble Smith, which are contained in an article contributed by him to the *Lancet*, May 2. He commences by laying down these propositions: (1) In all cases and at all ages some good may be effected by treatment. (2) If the displaced head of the femur has formed a firm bearing against the pelvis, so that no tendency to decrease of deformity exists, and the difficulties of walking are slight, then we may devote our energies to counteract lordosis by mechanical support, freeing adverse contractions, such as those of the adductors, and equalizing the length of the legs when only one side is involved. Sometimes when both sides are affected there may be inequality in length of legs. (3) If the head of the femur is freely movable up and down (telescopic) then some measures must be adopted to prevent increase of deformity, and the least that can be done is to recommend the use of some apparatus to keep the weight off the affected limb. Up to the age of seven years all congenital dislocations can be reduced. This is Dr. Lorenz's dictum, and his view seems correct. In single displacements the time limit may be extended to nine years of age. These limits are not absolute, for much older patients may occasionally have their hips replaced.

Mr. Noble Smith, referring to the treatment of congenital hip dislocation by Lorenz's methods, puts the subject in the form of questions and answers. Question: Is the so-called "bloodless" method of rupturing the contracted adductors, as advocated by Lorenz, satisfactory? Answer: In children up to the ages of four, five, or, perhaps, six years a very moderate amount of firm pressure and massage of the adductors, held tense, will rupture their fibers, and although a certain amount of extravasation of blood will take place beneath the skin and around the site of the rupture, the effect is satisfactory, and as some parents attach great importance to the avoidance of the use of the knife this procedure admirably serves our purpose. In older patients, or in any patients whose muscles are very firm, the section of the contracted part with the knife is better. Question: What are the comparative effects of the two methods of operation on the adductors, rupturing and cutting the fibers? Answer: The rupture of the adductors after Lorenz's method is effectual in overcoming the contraction, but besides causing extravasation of blood, it often leads to abrasion of the skin. Division of the right muscles through an open wound is a very safe and satisfactory procedure, but it is necessary to protect the wound with a sterilized dressing during the subsequent manipulations required in the reduction of the displacement. Mr. Smith says that he has found a combination of the two methods of operation satisfactory and effective.

England's Inebriates Act.

The new Inebriates Act which was recently passed in England is divided into four parts, the first part of which consists of provisions that affect the general body of English laws relating to the sale of intoxicants and the treatment of inebriates. The *Sanitarian*, April, contains an abstract of the whole act. In the first division two new offences are created: (1) Being "found drunk in any highway or other public place, whether a building or not, or on any licensed premises, appearing to be incapable of taking care of oneself." Such a person many be "apprehended and dealt with according to the law"; (2) Being "found drunk in any highway or other public place, whether a building or not, or on any licensed premises, while having the charge of a child apparently under the age of seven years." Such a person may be apprehended and shall, if the child is under that age, be liable, on summary conviction, to a fine not exceeding forty shillings ($10) or to imprisonment, with or without hard labor, for any period not exceeding one month. A person, who not being amenable to any jurisdiction in lunacy, is, notwithstanding, by reason of habitual intemperate drinking of intoxicating liquors, at times dangerous to himself or to others, or incapable of managing himself and his or her affairs was defined by the "Inebriates Act" of 1879 as "a habitual drunkard." The new act provides that the wife of such a man can apply for an order that she be no longer bound to cohabit with him; that the legal custody of the children of the marriage—while under seventeen years of age—be committed to the wife, and that the husband pay wife alimony in keeping with his circumstances. In case the wife be an habitual drunkard the husband may apply for a corresponding order, and the court may decree that the applicant besides being free from the obligation to cohabit with her, shall have the custody of the children and shall pay a reasonable sum for her support. In place of the provision with regard to cohabitation the Court may, with the consent of the woman, order her to be committed and detained in any retreat licensed under the "Inebriates Acts." It is possible for the Court to detain any convicted inebriate in one of these retreats for a term not exceeding three years.

Dangers of Hypnotics.

The addiction of the general public to sleep-producing and pain-dispelling remedies is widespread and increasing. The Medical Record has frequently drawn attention to this fact, and has deplored the irresponsible misuse of otherwise valuable drugs. Americans are said—and the charge is hard to gainsay—to be especially prone to fly to hypnotics in order to obtain temporary relief from the nervous strain to which, as a race, they subject themselves. The stress and storm of life which goes with modern civilization is nowhere more apparent than in this country, and nowhere is the drug habit more prevalent. Dr. Nestor Tirard recently read a paper before the Therapeutical Society of Great Britain, in which he touched upon certain phases of this custom. He dealt with the following propositions: (1) hypnotics may all involve danger; (2) the conditions under which they may procure undesirable results are not always dependent upon the dose; (3) the danger may be limited to the patient; (4) the danger may involve the prescriber or the dispenser; and (5) before the employment of a hypnotic the bare symptom of sleeplessness is perhaps the least important factor to be considered. The writer demonstrates the truth of these propo-

sitions by examples drawn from his own experience. He shows that the prescriber and dispenser, as well as the patient, are often placed in danger by mistakes made by one or the other of the first two named, and that sometimes, through no fault of their own, they are placed in a dangerous position by the artful devices to obtain hypnotics resorted to by those who are given over to the drug habit in order to conceal the vice.

Dr. Tirard points out that the administration of some hypnotics by hypodermic injection is fraught with numerous dangers. He says: "The hypodermic syringe was full of risks when it passed into the hands of the public. It encouraged the frequent use of hypnotics, the formation of the drug habit, and it led to the employment of increasing doses and to the possession of strong solutions or of compressed drugs, which were always liable to be wrongly employed. The chief disadvantage of the hypodermic use of hypnotics is, however, to be found in the difficulty experienced when an overdose has been employed. When an over-dose has been taken by the mouth some of it may be returned by vomiting or by the use of an emetic, or by the stomach tube, or it may be rendered inert by the administration of some other drug, which may render it insoluble before it has been absorbed from the stomach. When given hypodermically, all these modes of treatment are barred, and the safety of the patient depends on the employment of a physiological antidote which may hinder activity sufficiently long to allow time for elimination." Regarding sleeplessness as a reason for giving a hypnotic, Dr. Tirard records his conviction that it is, perhaps, the least important factor to be considered. He contends that the cause must be ascertained, together with any indications of idiosyncrasy. Also, the co-existence of other diseases must influence the selection of the hypnotic, and even when, for the individual case, a suitable hypnotic has been found, risks of repeating moderate doses must be borne in mind. Generally the dose has to be gradually increased, especially when the cause has not been ascertained or satisfactorily dealt with. The writer deems that the greatest danger of all is incurred when the patient is given a prescription for a hypnotic. Armed with this, the patients commonly go on taking the drug long after the relief of the special circumstances for which it was prescribed, and the prescription may be used to facilitate the acquisition of large quantities of a dangerous drug, obtained, perhaps, at several establishments in small amounts. In consequence of the existing condition of affairs regarding the sale and use of hypnotics, Dr. Tirard states that he is in favor of any step that would tend to prevent the administration of hypnotics except by a medical man or under his immediate directions. He would likewise prohibit their sale to the public and would only allow them to be dispensed to a freshly dated prescription, which should be retained by the druggist or returned to the prescriber. Strict regulations with respect to the sale of hypnotics are badly needed in all parts of the United States. The law in many States is altogether too lax regarding this matter.

Abscesses of the Liver Following Typhoid Fever.

Dr. John Sheldon of Telluride, Col., in the *Journal of Medical Sciences*, April, discusses the above subject. He describes a case of abscess of the liver following typhoid fever which came under his notice, the infection originating by way of the portal vein. The writer is of the opinion that the colon bacillus is, in all probability, the organism which is most active in producing the so-called typhoid liver abscesses. In support of this theory the following facts are brought forward. (1) Colon bacilli are present in abscesses of the liver following typhoid fever. (2) Roger has shown that the liver promotes the growth of the colon bacillus, while it inhibits the growth of the typhoid bacillus. (3) Macaigne and Kleck have shown that the virulence of the colon bacillus is increased by disorders of the intestinal tract. (4) Sanarelli found that the colon bacillus, isolated from typhoid stools, were more virulent than when isolated from healthy stools. He thought that the increase in virulence is due to the effect of the typhoid toxins, and devised an ingenious experiment, which seems to prove this point. If it is true that the virulence of the colon bacillus is increased in a patient suffering from typhoid fever, and that the liver offers little if any resistance to invasion by the colon, it is not surprising that hepatic suppuration occasionally follows typhoid fever.

The organisms responsible for the reduction of hepatic abscesses following typhoid fever, according to the best authorities, reach the liver by way of the portal vein, the hepatic artery or the bile ducts. Infection through the portal vein seems to be the most common means of infection. Liver abscesses, after typhoid fever, due to infection by way of the hepatic artery, are more rare than the former manner, although there are several cases of this kind reported. The third method of infection of the liver, with abscess formation, by way of the bile tracts, is the rarest of the three modes. Klebs is the only one to report a case of this character.

The cases of liver abscess following typhoid fever, of which Dr. Sheldon could find a record, occurred in adult males aged from twenty-five to thirty-seven years. One case occurred in a boy of twelve years and another in a girl of eleven years. Jaundice is by no means a common symptom. Da Costa reports jaundice in seven of the twenty-two cases he has found recorded. Enlargement of the liver was almost always present, while ascites was found in one case of pylephlebitis. Suppurations in portions of the body other than the liver occurred in seven of the cases, either suppuration of the mesenteric glands or in other parts of the body. The diagnosis in all cases of liver abscess may be easy, difficult or virtually impossible. The prognosis of hepatic suppuration is always very grave, but cases do recover. The treatment is strictly surgical although Dr. Sheldon thinks that aspiration is sometimes of great use.

How to Be Successful as a Physician.

Under the above title a Meriden (Conn.) physician delivers himself of some "heart-to-heart" talks to his brother practitioners. The subject is trite, yet with a perennial interest, and if anyone can bring forward a panacea most of us would be glad to take it. All, of course, depends upon what one considers success. For the author the successful physician "is one who is well trained in all departments of medicine and surgery, and who can give the best possible service with the latest advancements in medical and surgical science, and earns a comfortable livelihood." The greater part of this readable little book, in which the vials of wrath are poured out in no measured terms upon the head of the incompetence, the charlatanism, and the chicanery of the day, seems to be directed to showing why so few succeed. At the outset the author compares the status of the practitioner with those of his compeers in the other two learned professions. The profes-

sional level of the law, he finds low and sordid; and that of the clergy, inane and vapid. We wish that the picture of the medical profession might be brighter, but for him there is quite too great a sprinkling of "half-baked" individuals, who come in for delineation in some very vigorous English, in the use of which the author shows himself a past grand master. For these shortcomings, the defective preliminary education of the average medical student, the poor quality of the instruction at most of our medical colleges, and the shortness of the time required to secure a diploma, are held responsible. Then, too, the medical man is beset on all sides by foes; the quacks and charlatans, the prescribing druggist and the free dispensary, and the patent medicine man, have all settled down upon him to eat out his substance. Indeed the title of the book before us might well be, How to Succeed *though* a Physician. For, as the writer says, there is an ominous decline of patronage in every department of professional work; in the larger cities comparatively few of the hitherto successful practitioners are overworked, and there is a falling off of from one-third to a half from the income of former years. Out of 135,000 physicians in the United States, 100,000, it is estimated, average only $1,000 a year. When we look for the remedy, the author offers a simple one—*work;* hard, unremitting application by way of preparation for the time when one may hope to be too busy to devote hours to study. The most important period for the physician, therefore, is the first ten years after graduation, and upon the manner in which those years are spent his future will, in great measure, depend. If one is to succeed, he *must* make himself competent, and that in the fullest sense of the word. As Booker T. Washington puts it, he must be able to do something the community wants done better than his neighbor can do it. Much good advice is given as to what is needed to constitute an up-to-date physician to-day. Ability to perform, on occasion, operations of emergency, such as intubation and tracheotomy; ability to make a Widal test, to recognize the *plasmodium malariæ*, to estimate the amount of hæmoglobin, and to make a blood count. All this, and nothing less, is expected. An up-to-date physician will, in short, be a good diagnostician, for this is where he shows, even to an intelligent laity, his superiority; especially in the avoidance of wobbling from day to day in the characterization of a case. For accurate diagnosis alone can lead to accurate prognosis. The author is especially severe upon the superstitious reverence even yet accorded to the Magical Prescription; the still lingering belief in the marvellous potency of drugs, which the strenuous zeal of our manufacturing pharmacist does so much to foster. Finally, to be successful the physician must be a gentleman and a collector. As the last page announces "Heart-to-heart Talks, No. 2; How to Be a Successful Clergyman," our legal brethren will probably not languish long unprovided for.

New Diploma Selling Institution.

Of diploma-selling institutions there is a plethora in this country, and the United States would seem to be the happy hunting ground for the exploitation of such projects. A new one has recently been floated in Chicago, to which as been given the high-sounding name of Christian Red Cross Hospital. The medical and surgical staff includes some well-known names, among which is that of one of the most distinguished surgeons in this country, a man of world-wide reputation.

The inducements set forth in the circulars issued to medical men to join this institution are many, some of which are as follows: "Our Certificate of Membership is artistically designed, and executed in the highest style of the lithographers' art, neatly framed and hung on the walls of your reception room, it imparts confidence to all visitors and patients, and is a much stronger drawing card than an ordinary diploma, as it indicates a higher attainment. We furnish free with each of our certificates (or at $5, when ordered separately) a solid gold lapel button of special Red Cross design in enamel and the words, 'Christian Hospital, Chicago,' in circular form around the red cross; also a neat pocket membership ticket. This alone, if displayed judiciously, will bring more dollars annually than the cost of your membership. We will agree to pay you a cash commission of 50 per cent. of all surgical fees, and 25 per cent. of all medical fees received from patients you bring or send to us. This, of course, will be held strictly private and confidential—your professional interests as well as our own demand this. It may be mentioned that the certificates of membership cost, in heavy royal linen paper, $15; imitation of parchment, $20; genuine sheep skin, $25."

The whole affair, from beginning to end, appears to be simply and solely a money-making scheme, and should for this reason alone be strongly reprobated by the medical profession. Over and above this cause for condemnation is the proposal to divide fees. It is somewhat of an unpleasant coincidence that just as the American Medical Association has promulgated new principles of ethics for the medical profession, one of the clauses of which is aimed at division of fees between medical men, expressing the strongest disapproval of such a procedure, that in Chicago, the second most important city in the country, an institution should be established, backed by several medical men of note, the main feature of which is to encourage the very practice frowned upon by the association. The project throughout is tainted with commercialism, and will assuredly convey to the lay mind no exalted view of the medical profession. It is a matter for regret that the Christian Red Cross Hospital has been established in Chicago, and it is to be devoutly hoped that its life may be a short one.

Wandering Spleen.—Heinrich Stern states that dislocation of the spleen is by no means as infrequent an occurrence as is commonly supposed. If, in every instance of absent dulness in the splenic region, the lower left segment of the abdomen would be subjected to a scrutinizing examination, the diagnosis of splenoptosis would not be so comparatively rare. However, too little attention is paid to the spleen in a physical sense and in routine practice. Providing there is no infectious disease, or no pronounced splenic affection itself, the condition or location of the spleen is hardly ever taken into account. The writer then describes the size, weight, and location of the normal spleen, and reviews the etiology and pathology of splenoptosis. He then discusses the symptoms of this condition, and its prognosis and termination. Regarding diagnosis, he states that a dislocated spleen is generally recognized without difficulty, if we bear in mind the following three diagnostic points: (1) Absence of dulness in the normal splenic area; (2) detection of a movable spleen-shaped, blunt-edged parietal tumor, with notched anterior border; (3) the possibility of pushing the movable spleen into the direction of or into its normal position.—*Medical Examiner and Practitioner.*

News of the Week.

To Restrict Consumptives.—On May 21 Governor Odell signed the Goodsell-Bedell bill prohibiting the establishment of any hospital or camp for consumptives in any town without the formal consent of the supervisors of the county and town board of the town. The Governor, in a memorandum filed with the bill, gives a somewhat disingenuous explanation of his action. On May 20 the Board of Trustees of the City Club telegraphed to Governor Odell asking him to veto the Goodsell-Bedell bill, which would prevent the establishment of a hospital for consumptives in any township without the consent of the town authorities. "The effect of the bill," said the telegram, "would undoubtedly be to compel New York City to care for its consumptives within its own limits and, therefore, under conditions not favorable to recovery of curable cases. Many lives which might be saved would thus be sacrificed. Existing laws afford all necessary safeguards for local interests."

To Beautify New York.—The Municipal Art Society has submitted to the Mayor of New York its scheme for beautifying the city. The report suggests that all important streets should have an underground railway for pedestrians that would afford relief, especially during crowded hours. It is also recommended that arcades be constructed at convenient points; that parks be laid out along the water front, and that, in different parts of the city, monuments be erected and tablets to commemorate historical events and distinguished individuals.

A Roof-garden Dormitory.—A roof-garden dormitory is to be installed at the City Hospital, Philadelphia. The idea is that of Dr. Martin, the new Director of Health and Charities, who thinks that the carrying out of such a plan will be the means of giving those suffering from tuberculosis nine hours more of each clear day in which to breathe the open air. In the daytime the cots will be removed, and the roof, with flowers and shrubbery, will be used as a promenade and recreation ground for the consumptives.

Reported Illness of King Edward.—According to the *New York Sun*, there are rather serious rumors current in regard to the health of King Edward. These stories have been in circulation for several days past. They are to the effect that he had a sudden attack of pain at the opera just after returning from France. A few days later, while he was in Scotland, His Majesty experienced similar attacks, which resulted on two occasions, it is said, in fainting spells. The King is under careful treatment and observation, but it is thought that an operation may be necessary within a short time. In the meanwhile he is able to go about. More recent reports are to the effect that the King is enjoying his usual health.

Rheumatism Cured by Bee Stings.—The sting of a bee has long been regarded by the poorer agricultural classes of Europe as a cure of rheumatism. Dr. Perc of Marburg, Germany, has recently been advocating its efficacy before a brilliant gathering of physicians, to whom he declared that he thoroughly tested the treatment and demonstrated its efficiency in 500 cases. If a bee stings a person suffering from rheumatism, the stung part does not swell, until the bee poison has been frequently introduced, when the rheumatic pain vanishes. Dr. Perc's mode of procedure is to allow his patients to be stung at first by a few bees gradually increasing the number. Dr. Perc asserts that by this treatment he has cured patients suffering from obstinate and most painful rheumatism.

Smallpox Increasing in Philipsburg.—The number of smallpox patients in Philipsburg keeps increasing. The health authorities will probably take steps soon to have a pest-house erected and to guard more effectively against persons visiting houses where the disease exists. It is said they are frequented now in spite of quarantines.—*New York Tribune*

Spitting in Public in London.—The following by-laws or regulations have been made by the Board of Trade under the powers conferred upon the Board by the London County Tramways' Act, 1896: "(1) No person shall spit in, or upon, any carriage used on any tramway worked by the London County Council. (2) Any person offending against or committing a breach of the foregoing by-law or regulation shall be liable to a penalty not exceeding £2 ($10). (3) These by-laws or regulations came into operation on April 28, 1903."

Vaccinating at Mills' Hotel, No. 1.—On account of the fact that George Francis Train was taken ill with smallpox after leaving the Mills' Hotel, Bleecker Street, his usual place of residence, a squad of Health Board vaccinators visited the hotel on Friday morning, May 22, and vaccinated every lodger on whom they could lay their hands.

Meningitis on Receiving Ship Minneapolis.—Another case of meningitis has occurred on the receiving ship *Minneapolis*. It has been decided to place the *Minneapolis* out of commission and to have her quarters thoroughly overhauled and rearranged.

Infected Army Blankets Spread Typhoid Fever in England.—"There has been," says the London correspondent of the *New York Tribune*, "a narrow escape from an outbreak of typhoid fever in London and thirty or more industrial centers from the sale and distribution of army blankets from the fever hospitals in South Africa. The danger has only been averted by the energy and vigilance of the sanitary authorities. The public indignation is intense, especially as the medical experts have discovered the army blankets warehoused, blood-stained, and infected with typhoid bacilli. These blankets were sold in South Africa by the authority of the War Office, after the close of hostilities, and apparently there was incredible carelessness in neglecting to classify the superfluous army stores, disinfect all the goods, and destroy those used in the fever hospitals. The indiscriminate sale, shipment and distribution of 150,000 of these blankets constitute a military scandal which is almost without precedent, and closely approaches criminality.

Beds Endowed at Roosevelt Hospital in Honor of Dr. Jacobi.—Four beds at the Roosevelt Hospital have been endowed in honor of Dr. Abraham Jacobi, until last year the professor of children's diseases at the College of Physicians and Surgeons.

Hospital Privileges for Homeopaths.—Philadelphia Councils' Committee on Charities and Correction has approved an ordinance authorizing the Director of the Department of Public Health to establish five wards in the Philadelphia Hospital for homeopathic treatment—namely, a men's surgical, a women's surgical, a men's medical, a women's medical, and a medical and surgical ward for children.

Philadelphia Academy of Surgery.—At a stated meeting, held May 11, Dr. W. J. Mayo of Rochester, Minn., read a paper entitled "A Review of Three Hundred and Three Operations upon the Stomach and the First Part of the Duodenum." The discussion was participated in by Dr. Albert Vander Veer, Mr. G. A. Moynihan, Dr. John B. Murphy,

Dr. J. M. T. Finney, Professor Mikulicz, and Dr. J. Chalmers Da Costa.

Philadelphia Pediatric Society.—At a stated meeting, held May 12, Dr. Augusta A. Eshner exhibited a patient with probable rachitic deformity. There was present enlargement of some of the metacarpal bones and the phalanges of the hands, with a prominent forehead and notched teeth. A sister of this patient, who was likewise presented, exhibited mental deficiency, with fulness of the cheeks and an appearance suggestive of cretinism. Each child improved under treatment, the one with potassium idodide, the other with thyroid extract. It was thought that the condition in each might be due to some common cause, some vice in heredity of the ancestry, perhaps syphilis, capable of causing nutritional and structural disturbance in the offspring. Dr. John H. Gibbon exhibited a patient with perineal ectopic testicle. The infant had been brought on account of the belief on the part of the parent that a hernia existed, but examination disclosed the presence of the testicle in the perineum. Operation was advised and performed, the displaced organ restored to its normal position and fixed by sutures. Dr. Gibbon also reported a case of peritonitis due to a strangulated Meckel's diverticulum and he exhibited the specimen. Dr. Eshner exhibited a patient with mitral obstruction characterized by a marked thrill and a typical presystolic murmur followed by a systolic shock. Dr. C. F. Judson reported a case of severe chorea complicated by pneumonia. Drs. E. M. L'Engle and J. Woods Price reported a fatal case of oil of gaultheria poisoning in a child of two years. Dr. R. S. McCombs read "A Report of Three Cases of Aphasia."

The Camden County (N. J.) Medical Society held its annual meeting on May 12 and elected the following officers: *President*, Dr. John W. Marcy; *Vice-President*, Dr. Joseph H. Wills; *Secretary*, Dr. Paul Mecray; *Treasurer*, Dr. Joel F. Fithian; *Historian*, Dr. Alfred Cramer; *Reporter*, Dr. W. S. Bray.

Obituary Notes.—Dr. Thomas George Morton, the well-known surgeon of Philadelphia, died in that city on May 20 from cholera morbus complicated with gout, after an illness of two days. Dr. Morton was born in Philadelphia on August 8, 1835, and was the son of Samuel George Morton, a distinguished physician in his day. The deceased was graduated from the University of Pennsylvania with a medical degree in 1856. For the three following years he practised surgery in Philadelphia, and at the commencement of the Civil War displayed great energy in establishing military hospitals. He was surgeon at Satterlee Hospital and consulting surgeon to the United States Hospital at Chestnut Hill, Pennsylvania. He was the founder of the Philadelphia Orthopedic Hospital, and in 1876 was appointed commissioner to erect a State insane asylum for the Southern District of Pennsylvania. He was President of the Pennsylvania Society for the Restriction of Vivisection in 1880, and Vice-President of the Society for the Prevention of Cruelty to Children in the same year. In 1883 he was a Commissioner of Public Charities and Chairman of the Lunacy Commission in 1886. The late Dr. Morton published papers in the *American Journal of Medical Science* and "The Pennsylvania Hospital Reports," and also wrote extensively on the transfusion of blood and its practical application. He was a member of several foreign medical and scientific societies.

Dr. Edmund Charles Wendt.—Dr. E. C. Wendt, formerly of this city, during an attack of temporary aberration of mind, committed suicide by a pistol shot, on May 25, at his residence in the Rue Christophe-Colomb, Paris. He was born in Milwaukee in 1857, and was graduated from the Medical College of Strasburg in 1877, and from the College of Physicians and Surgeons three years later. After a year's connection with the German Hospital in this city, he became associated in practice with Dr. Leonard Weber. In 1886 he married Augusta Einstein, the daughter of Lewis Einstein, and began four years later to practise alone at 118 West Seventy-ninth street. He went abroad with his family in 1897, with the idea of post-graduate study. He was previously on the editorial staff of the Medical Record, and while abroad continued to be a contributor to it up to 1900. He was also the author of a work on Asiatic cholera, published by William Wood & Co., in 1885. He was much interested in sanitation, and contributed many valuable articles on the subject, the most notable of which was one on the sanitary aspects of the Reviera. He leaves a widow and two sons. Dr. Wendt was a member of the N. Y. Pathological Society and the German Medical Society.

Dr. Octavius A. White died on May 25 at his home, 1,011 Madison avenue, in the seventy-eighth year of his age. Dr. White was born in Charleston, S. C., on February 8, 1826. He graduated from the College of Charleston in 1846, and in Medicine from the South Carolina Medical College in 1848. He practised with success until the outbreak of the civil war, when he became a surgeon in the Confederate Army. While in the army Dr. White was sent into the Union lines to treat Northern soldiers suffering from yellow fever, and gained much fame as an expert on that disease. When the war was over he came to New York, where he lived until his death. Dr. White was a member of the New York Academy of Medicine, and of many other medical societies. He was a contemporary and associate of J Marion Sims and T. G. Thomas.

Prof. Thompson Jay Hudson, author of a number of psychological works and a lecturer on psychology, died from angina pectoris on May 26, in Detroit.

A Note on the Danger of Delay in the Case of Large Abdominal Tumors.—Bedford Fenwick reports two contrasting cases; the first was that of a patient, fifty-four years old, who for eighteen years had noticed a gradual enlargement of her abdomen. There was found a fibroid tumor of the uterus, part of which completely filled the pelvis, whilst it also extended upward to the ensiform cartilage and distended the abdomen. The cardiac sounds and action were extremely feeble; the patient also suffered from attacks of great dyspnœa. She pleaded for operative relief, although warned of its dangers; two large and almost separate masses were removed, and the patient recovered from the operation. On the tenth day she suddenly died, and at the post-mortem it was found that while the abdomen and pelvis were perfectly healthy, the heart was the seat of extensive fatty degeneration, the thickness of the wall of the ventricle being only about that of a sheet of blotting paper. The second case was similar in so far as the size of the fibroid tumor was concerned, but in this case the mass had grown within the last year, the patient was forty-four years old, and the heart's action and sounds were fairly normal. The operation was more difficult than in the former case, because the fibroid was degenerated, and there were extensive adhesions to the intestines and to the pelvic floor. The patient, however, recovered rapidly and without a single bad symptom. These cases illustrate what the author has long insisted upon, that fatty degeneration of the heart is caused by long-continued upward pressure on the part of abdominal tumors. —*The Medical Times and Hospital Gazette.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HOSPITAL AFFAIRS IN THE LONDON, BART'S, MIDDLESEX, EAST LONDON, CHILDREN'S, NATIONAL FOR EPILEPSY—DISCUSSION ON RECTAL CANCER—SIR WILLIAM GAIRDNER—ANTIVIVISECTIONISTS—PARLIAMENT; VACCINATION AND SMALLPOX.

LONDON, May 8, 1903.

THERE was a large and distinguished company at the great dinner given by the Lord Mayor on Monday in aid of the London Hospital. In giving the loyal toasts, his Lordship remarked, on the eve of the King's return from a journey which will have a beneficent influence, that his majesty is the most popular gentleman in Europe at the present time. Like the King, the Queen has ever taken the most lively interest in hospitals, as also does every member of the Royal family.

In giving the toast of the London Hospital, the Lord Mayor said it was both the largest and the poorest hospital in England, and situated in the poorest part of London. Seven hundred patients slept there every night, and with the staff 1,000 souls were housed within its walls. The annual expenditure was £90,000, the assured income only £22,000. A gift of £1,000 would endow a bed, £500 a child's cot. He hoped donors would be found to endow all the beds in one ward as a commemoration of the approaching visit of the King and Queen. The Duke of Cambridge replied as president of the hospital, and Sir F. Treves for the staff. The Lord Mayor then announced that £127,000 had been received out of the half million required.

Mr. Sidney Holland, chairman of the committee, proposing the health of the Lord Mayor, said the Lady Mayoress had given £1,000. The Queen had given £1,000 with two more Finsen lamps and expensive adjustments to the others. The managers had to face an expenditure on necessary alterations of £170,000, and a yearly deficit of £20,000. In five years, at this rate, they would have no more investments to meet this annual deficit.

I wish his appeal to rich men for funds success, but cannot ignore the fact that too much money has been expended on the out-patient department.

On Tuesday the Lord Mayor presided at a meeting of the Committee of Inquiry in the affairs of St. Bartholomew's Hospital. The report of the sub-committee on the financial and administrative management of the hospital was read. After a lengthened consideration of this report the committee adopted a resolution declaring "that the governors have completely vindicated the reputation, character, and administration of the hospital, and are fully justified in appealing to the public for funds to enable them to utilize the land acquired from Christ's Hospital, and to provide the new buildings urgently necessary to bring the hospital up to modern requirements in all respects."

The Middlesex Hospital has erected a galvanized iron building for the installation of the Finsen light, the *x*-rays, and high-frequency treatment of cancer. When a site and funds are forthcoming, the managers hope to erect a permanent building for this purpose, provided the work carried on in the temporary structure justifies the further outlay.

The annual dinner of the East London Hospital for children was held on Monday, when subscriptions to the amount of £1,705 were announced. The hospital is situated in a very poor locality, has only £1,000 of assured income, but needs ten times as much to meet the continually increasing demands made upon it.

The National Hospital for Paralysis and Epilepsy also wants to enlarge its boundaries now that harmony is restored in its management. Its income is only £10,000, its expenditure £18,000, and it wants £25,000 for new buildings. At the dinner on the 30th ult., £1,882 was the amount raised. Sir W. Gowers congratulated the hospital that its pathologist, Dr. F. Burrard had discovered the organism of acute ascending paralysis.

Rectal cancer was the subject of a discussion at the Medical Society on the 27th ult. The debate was opened by Mr. Watson Cheyne, who held that excision was a valuable method of treatment in suitable cases, some patients remaining free from disease for a long time after the operation. The chief points for consideration were the mobility of the portion affected, the presence or signs of the disease elsewhere, and the patient's general condition. In unsuitable cases colotomy was not required at an early period, for some patients could go on to the end without it. Therefore it need not be done unless special reasons called for it, *e. g.*, tight constriction threatening obstruction, communication with the bladder, urethra, or vagina, intense tenesmus and irritability of the rectum. In excising the rectum, preliminary colotomy was only rarely required, but measures for obtaining asepsis, such as prophylactic injections of antistreptococcic serum, disinfection of perineum, and occlusion of anus were advised. Union of the ends of the bowels should be aimed at, provided the upper end could be drawn down into the lower end for at least half an inch. If this seems inadvisable, the bowel at the point of attachment to the skin should be firmly ligatured, so as to prevent the exit of fæces for three or four days. As an alternative, a Paul's tube might be tied in. Gersuny's half or three-quarter turn of the bowel was of value; it diminished subsequent incontinence.

Mr. Waterhouse submitted that excision of the neoplasm and removal of the glands which would be the first affected should be done whenever practicable. Preliminary colotomy was never necessary, but in cases unsuitable for radical treatment was often invaluable, as for obstruction or intense pain on defecation; it should be postponed as long as possible. In quite half the cases the time for radical operation was passed before the surgeon saw the patients. Mobility of the growth indicated and immobility contraindicated excision. The mortality of excision he reckoned at about 18 per cent. The majority of patients were greatly benefited. The facility with which the rectum could be drawn down toward the anus when the reflection of the peritoneum was simply divided astonished those who saw the procedure for the first time. The crux was the treatment of the divided ends. The ideal method consisted in shelling out the mucous membrane of the anal segment and stitching the lower end of the upper one to the anal margins, thus preserving the sphincters intact. Union of the ends should always be attempted, and would generally succeed, at any rate in part. No tension is permissible or the sutures would certainly cut out. Union by first intention might often be attained in the upper three-quarters of the incision.

Mr. Goodsall disagreed with the previous papers as to colotomy, which he held should be done as early as possible. The disease had usually existed some nine months before the patient saw the surgeon, and then the bearing-down pain and frequent action of the bowels were distressing. Colotomy relieved these symptoms. He advocated its performance, and three weeks later radical removal when practicable.

Mr. Wallis urged the importance of early diagnosis. Rectal examination should be made in all cases of obscure diarrhœa and tenesmus. In young patients the growth was so rapid that removal soon became impracticable. An anæsthetic should be used, for under it a growth would sometimes be found movable, although without it this was not so. A stream of hazeline and water playing over the wound during the operation seemed to him to aid in preventing infection.

Mr. Barker doubted whether resection did more for the patient than colotomy. Some of his colotomy patients had survived eight or nine years. The best results of excision gave a mortality of 5 per cent., and only about 25 per cent. had complete control over the evacuations.

The President (Mr. Pearce Gould) commented on the differences of opinion expressed. He asked himself in each new case—is this suitable for excision? If so, it should be done, for it often permanently relieved. Colotomy often restrained hemorrhage, but less certainly relieved pain. In some cases arrest of further growth seemed to follow colotomy.

Mr. Cheyne, in reply, said he did not condemn colotomy entirely, but would not propose it early; as long as a patient was comfortable he was better without it.

Mr. Waterhouse also replied. He found colotomy seldom relieved the sacral pain. It was urgently called for when hemorrhage was serious.

Sir William T. Gairdner, K.C.B., has had the degree of LL.D. conferred upon him by the University of Glasgow, in which he was for so long professor of medicine. At the same time this degree was conferred on Prof. Thos. Oliver, M.A., M.D.

A little book has just been published by Sir William Gairdner, entitled "The Three Things that Abide." It consists of addresses on faith, hope, and love, delivered on Sunday evenings in connection with a series of discourses by others. To these is added one specially addressed to the White Cross Society of Edinburgh University. An appendix on the words expressing love in Biblical Greek and in the Latin, German and English versions is very interesting.

The antivivisectionists assembled in strength the other night to celebrate the twenty-ninth annual meeting of the society, of which Mr. Stephen Coleridge, barrister-at-law, is the secretary. Three peers, several peeresses, a bishop, an admiral, an author or two, and many ladies were present. Lord Llangattock presided and said he

came to testify against what was displeasing to God. He is the lord whose battue of pheasants was exposed on a former occasion. Lord Ernest Hamilton said that in the middle ages the priests exercised a despotism founded on ignorance and superstition; but in the present day the doctors exercised a despotism based on cruelty and superstition. This was too much for Bishop Bargshawe, who forthwith protested against the statement about priests, and declared his firm conviction that poor patients were experimented on in the hospitals to gratify scientific curiosity.

Sir F. Banbury, M.P., declared he would sooner die than permit animals to be treated on the half chance that something useful might be discovered.

These are samples of the statements made by the speakers. One more will show the accuracy of these antis. It was that in nine hundred and ninety-nine cases out of a thousand there was not the slightest intention or desire to benefit mankind by experiments on animals. This assertion was received with cheers, which will illustrate the antis' love of exact truth.

In reply to questions in the House of Commons last night it was stated that the use of human lymph by public vaccinations was discontinued at the beginning of 1899. The change was made on the recommendation of the royal commission on vaccination. It was further stated that 799,092 tubes of glycerinated calf lymph were issued during the financial year of 1902-3.

Smallpox continues to spread in several localities, chiefly in the northern and midland counties. In Liverpool it is said that 1,400 cases have occurred during the last six months with ninety deaths, and a question is to be asked in the House about it, suggesting inquiry by a government inspector.

HYDROPHOBIA RUN TO EARTH.

To the Editor of the Medical Record:

Sir: It is strange that those who would have us to believe that hydrophobia is a common disease continue to present such meagre histories of reported cases, with the advent of summer there will doubtless come this year as herctofore, what amounts to but hearsay reports of rabies in humankind.

I desire to direct attention to some points for comparison between tetanus and hydrophobia as commonly set down in medical works, tetanus undoubtedly being the true cause of death in the majority of instances. (1) Incubation of tetanus extending up to a period of from three to five weeks; in hydrophobia six weeks is given as a short period of incubation. (2) In tetanus rigidity of muscles of neck, throat, and lower jaw are the earliest manifestations; in hydrophobia clonic convulsive seizures, involving especially the throat muscles. (3) In tetanus close mind with absence or mild fever until near the close; in hydrophobia excess of temperature is not dwelt upon or is moderate, delirium at the close. (4) In tetanus post-mortem examination has demonstrated congestion of the spinal cord and peripheral nerves. The cord after death from hydrophobia is found intensely congested also respiratory mucous membrane. (5) Inoculation with rabies is said to be invariably fatal, yet only 12 to 14 per cent. of those bitten by rabid animals die (Roux); tetanus can show an equal if not a greater mortality. Lastly, the part which fright plays in mania production of hydrophobia must be differentiated.

Most writers upon the subject of the life history of the tetanus bacillus mention garden earth, dust, and manure as its constant habitat, and are seemingly impressed not only with its general distribution throughout temperate and tropical climates but with the tenacity of its life as well.

Dogs and hydrophobia are synonomously suggestive terms—the relation of dogs as a common carrier of the tetanus germ may be proven by axiomatic demonstration.

The wayfaring canine, as well as the leash-led pavement traveler, when out of sorts instinctively seeks medication. As a "sick dog hunts for grass," so will these ailing ones, starved and thirsty or pampered and overfed, seek grass even at second hand, or, in other words, will loll and consume street manure. By this means does the tetanus germ gain access to the saliva of the animal and a media for propagation is provided. The hooting crowd to the tormented cur or the teasing of milady's poodle supply the remaining factor in the chase.

The common method of emergency treatment for dog-bites carried out by the druggist and ambulance doctor alike, namely, cauterization with lunar caustic, is mentioned to be condemned. Injection of hydrogen dioxide, in full strength, into such wounds when first seen would act as an antidote to pus as well as the more virulent tetanus germ.

Frederic Griffith, M.D.

805 Madison Avenue.

Progress of Medical Science.

The Boston Medical and Surgical Journal, May 21, 1903.

The Germicidal Action of Alcohol.—Charles Harrington and Harold Walker conclude from their investigations that: (1) Against dry bacteria, absolute alcohol and ordinary commercial alcohol are wholly devoid of bactericidal power, even with twenty-four hours direct contact, and other preparations of alcohol containing more than 70 per cent. by volume are weak in this regard, according to their contents of alcohol—the stronger the alcohol, the weaker the action. (2) Against the commoner non-sporing pathogenic bacteria in a moist condition, any strength of alcohol above 40 per cent. by volume is effective within five minutes, and certain preparasions within one minute. (3) Alcohol of less than 40 per cent. strength is too slow in action or too uncertain in results against pathogenic bacteria, whether moist or dry. (4) The most effective dilutions of alcohol against the strongly resistant (non-sporing) bacteria, such as the pus organism, in the dry state, are those containing from 60 to 70 per cent. by volume, which strengths are equally efficient against the same organisms in a moist condition. (5) Unless the bacterial envelope contains a certain amount of moisture, it is impervious to strong alcohol; but dried bacteria, when brought into contact with dilute alcohol containing from 30 to 60 per cent. of water by volume, will absorb the necessary amount of water therefrom very quickly, and then the alcohol itself can reach the cell protoplasm and destroy it. (6) The stronger preparations of alcohol possess no advantage over 60 to 70-per cent. preparations, even when the bacteria are moist; therefore, and since they are inert against dry bacteria, they should not be employed at all as a means of securing an aseptic condition of the skin. (7) Provided the skin bacteria in the deeper parts can be brought into contact with disinfectants, alcohol of 60 to 70 per cent. strength may be depended upon usually, but not always, to destroy them within five minutes.

Journal of the American Medical Association, May 23, 1903.

The Stegomyia and Fomites.—S. E. Chaille reviews the experiments of recent years as to the etiology of yellow fever and arrives at the following conclusions: The probabilities now are that the stegomyia, the only cause yet proven, is the sole cause for the dissemination of yellow fever; but that time is required to convert these probabilities into certainty. Boards of health, should they neglect any practicable measure of warfare against the stegomyia, would deserve the severest punishment of the worst criminals. Southern boards of health are excusable for over-precaution against yellow fever. States adjacent to Louisiana have power, by sanitary restrictions, to strangle the commerce of New Orleans, and Louisiana should not abandon the disinfection of fomites until approved by said States. Boards of health are representatives of the people and are justified in continuing to disinfect fomites as long as public opinion may favor this measure and until the probability of its inutility is converted into certainty.

Contribution to the Surgery of Gastric Ulcer.—Van Buren Knott offers the following conclusions: (1) Perigastric adhesions as sequelæ of chronic ulcer of the stomach are not uncommon. (2) Their existence should be suspected and even positively diagnosed more frequently than has been the case. (3) In many such cases the relief afforded by the operation is absolute and may be secured in no other manner. (4) The operation is often an extremely simple one. (5) If the adhesion involves surfaces so extensive that its recurrence must be inevitable, relief may be best secured by a gastroenterostomy allowing the adhesions to remain. (6) The use of omental grafts or Cargile membrane is of value in preventing the readhesion of the separated surfaces.

The Serum Diagnosis of Tuberculosis.—L. M. Loeb details his experimental experience and lays down the following propositions: (1) Under various conditions animal sera agglutinate homogeneous cultures of human tubercle bacilli in liquid media. (2) Such sera may be obtained from the human or animal body without the presence in it of the bacillus tuberculosis. (3) It is doubtful whether the agglutinative powers are ever due to the specific action of the bacillus tuberculosis. (4) The presence or absence in the adult human blood serum of agglutinative properties for tubercle bacilli is no decisive evidence of the presence or absence of tuberculous lesions in the body.

New York Medical Journal, May 23, 1903.

Atony of the Duodenum Diagnosticated and Corroborated by Operation.—M. I. Knapp reports the case of a patient, a woman aged forty-four years suspected to have intestinal carcinoma. Operation revealed an intestinal stricture due

to a fusiform tumor involving all the bowel coats; microscopical examination of the mass showed it to be of an inflammatory nature and not malignant. Fifteen inches of bowel, including the tumor, were removed, and the patient made a good recovery. She is now well, nine months after operation. The author states that a tumor in a middle-aged person, coexistent with pain and emaciation, need not necessarily be cancer. The pain in this case was evidently not due to the tumor, but to distention and colic produced by the same agencies as usually do produce colics. As soon as the bowel was cleared of offensive material the patient felt fully well. Much stress is laid upon the intermittency of the patient's pain. Cancer pain is constant.

Eclampsia: Its Prevention and Treatment.—E. A. Ayres discusses the question suggested by the title of his paper and summarizes his personal experience in the statement that he has seen forty-six cases, four of which died. Several patients recovered whom he expected to die; and one died after both her physician and himself considered her fairly out of danger. It is his belief that he has prevented eclampsia in fully a score of cases, though one can never be certain how to classify such cases. He has employed nitroglycerin in all cases; chloral, chloroform, and veratrum viride variously according to indications; dry and moist hot packs; saline infusion and injection; and various methods of cervical dilatation.

Medical News, May 23, 1903.

The Circulation in Puerperal Elcampsia.—Douglas H. Stewart states that the whole arterial system presents a picture of over-stimulation and of force and resistance to force. If the blood quantity is increased, quality is lowered and poisons are augmented beyond any protective destruction which the liver affords against the toxic conditions within the portal vein of even the healthiest animal. Plethoro-toxæmia would about describe the condition. In eclampsia the left ventricle is hypertrophied, and the law of rapidity inversely as power is violated. The pressure on the arterial side is more than 10 to 1 on the venous. The veins are so underfilled that contractions of pulmonary and vena cava aid the blood into the auricle over the area of negative tension. The vasomotor center will restore and maintain the normal, despite any local fall of tension, and blood-pressure cannot be reduced short of dangerous hemorrhage and collapse. This pressure falls after venesection, because poison is withdrawn and not because blood is drawn. To diminish arterial tension one should bleed from an artery, not from a vein. As the thorax aspirates the venous, so it drives the arterial flow, and as the arterial circulation is already overfilled, in puerperal eclampsia, calm respiration is decidedly desirable.

Some Interesting Phenomena of Specific Immune Sera.—Arthur P. Hitchens says that in an article by Richardson the union and relations between complement, immune body, and corpuscle or bacillus are represented in a very diagrammatic manner. At the height of the disease, in the few cases investigated, there was not only no active complement in the blood of the patient, but the serum contained something which united with complement from without—probably a neutralization by or union with the immune body. Added, however, in the bacillus and typhoid and normal order, the bacillus was united by its receptor to the immune body in the typhoid serum, allowing the complement to act as the alexin. Researches on the subject of cytolysins justify the deduction that the bodily capacities at work in hæmolysis are identical with those concerned in bacteriolysis and bactericidal action, but while the processes are the same, it does not follow that the substances which cause hæmolysis are identical with those which give rise to bacteriolysis. The writer believes that we are approaching an accurate knowledge of the phenomena concerned in immunity.

Rheumatic Tonsillitis in Children.—John Stewart has many times seen diphtheria and pharyngitis taken for tonsillitis. In the latter affection the yellowish-white spots can be removed from the crypts and will disappear in two days. Calomel and salines are first in the treatment of this disease. Salicylic acid or sodii salicylate acts as a specific when given internally in small doses. If given from the outset, this will often prevent suppuration, shorten the attack, and relieve the pain and swelling. Tr. guaiac ammon., if given in hot milk as a gargle, will often abort an attack, and if the case has advanced to about the fifth or sixth day, it will give almost immediate relief. H_2O_2, 25-per-cent. solution, as a swab, will, if continued through the case, afford great relief. The writer does not use Tr. ferric chlor. until convalescence. The diet should be in the shape of gruels, etc. Ice pellets give relief. At times it seems as though nothing gives any relief, and at the end of seven days all symptoms of inflammation subside at once.

Philadelphia Medical Journal, May 23, 1903.

The Present Treatment of Puerperal Septic Infection.—Edward P. Davis speaks of the methods of treatment which have proven of value in this affection. Upon the development of septic infection, the uterus and vagina should be cleansed as thoroughly as possible; foci of infection, when accessible, should be destroyed; ulcers upon the vulva and vagina should be cauterized with carbolic acid and iodine, or with any other suitable strong antiseptic. The vagina should be thoroughly sponged out with cotton dipped in lysol, 1 per cent., or mercury bichloride, 1-4000; the cervix should be inspected and ulcers cauterized and disinfected; the uterine cavity should be explored gently by a blunt-edged curette and its interior gently, but thoroughly, scraped, to bring away necrotic material. This exploration may be accompanied by prolonged irrigation, with lysol or creolin, 1 per cent., or normal salt-solution. If bleeding is excited, it is well to pack the uterus moderately with gauze containing 10 per cent. of iodoform. The vagina should be lightly tamponed with dry bichloride gauze, which should not be disturbed for forty-eight hours. At the end of this time, the uterus and vagina should be thoroughly irrigated with lysol, 1 per cent.; no further douching of any kind should be practised. The application of cold to the abdomen over the uterus is of decided value. The prompt and thorough emptying of the intestines is of great importance. Medication should be limited to the use of those drugs which act most efficiently as tonics and stimulants to the nervous system and which produce contraction of the uterus; strychnine and ergot are most valuable. All septic patients must be liberally fed; good nursing is most valuable.

A Fatal Case of Anthracosis, with Autopsy.—Thomas Stotesbury Githens describes this case. The patient was a man twenty-seven years of age. His occupation was that of barber, and he gave the history of syphilitic infection five years before. This present illness had lasted several years; it had started with dyspnœa and cough, with a sligh pain in the side at times; he had had night sweats for the past year, but there had been no blood in his sputum. Tubercle bacilli were not found, and the amount of pigment was not sufficient to excite remark. A diagnosis of tuberculosis was made in spite of the fact that the examination of the sputum was negative. At autopsy no tubercles could be found; the peribronchial and mediastinal glands were large and black. The lungs were intensely pigmented with coal dust and extensively fibrous. Microscopically the pigment granules were, in part, extra-cellular, in part enclosed in cells.

Upon the Local Use of Cocaine in the Nose.—William G. B. Harland says that the usual dangers of cocaine in the nose are as follows: drug habit, secondary congestion and hemorrhage, local subjective sensation, and effects attributed to the so-called idiosyncrasy. The drug habit is terrible in its results, and is practically incurable. Hemorrhage, if it occurs, will, of course, be in proportion to the amount of congestion present; iodoform gauze or similar packing makes a satisfactory guard against this important complication. In some persons the sensation of constriction and strangulation is induced if even a small amount of cocaine reaches the rhinopharynx and pharynx. Just how cocaine produces the alarming faintness and other symptoms which sometimes arise has not as yet been explained. Adrenalin chloride has proved a most valuable aid in lessening the dangers and in enhancing the powers of cocaine.

American Medicine, May 23, 1903.

Anomalies of Respiration in High Altitudes.—W. A. Briggs reports several cases. One patient in lying down on the mountain side, after a morning climb, would often drop into a doze, and then in a few moments awake with precordial distress and labored breathing. This would cease in a moment and the breathing become superficial. Another patient, who had a slight "cold," complained severely of nasal obstruction, particularly when recumbent, and of frequent sighing. In another patient, a double cardiac sound developed. The exciting cause of these anomalies would seem to be dependent upon high altitude. The genetic chain would seem as follows: diminished supply of oxygen under diminished pressure; oxygen hunger; increased activity of the respiratory apparatus; exhaustion of the respiratory muscles and center; irregular respiratory impulse. In some cases obstruction of the air passages may be contributory.

Retrocæcal Appendicitis with Retroperitoneal Pelvic Abscess.—A. Ernest Gallant states that he has operated on quite a number of patients in whom the appendix was found lying behind the cæcum, with an accumulation of pus and exudate around and under the caput coli, but in only the three cases here reported have the abscesses been

located in the pelvis behind the peritoneum. This variety of appendicular disease (retrocæcal) has been characterized by the usual acute onset, with nausea, vomiting, malaise, general abdominal pain, which later becomes localized in the right iliac fossa, unequal abdominal rigidity, constipation, and moderate elevation of the temperature and pulse. Tumefaction in the right iliac fossa can be recognized, and on examination per vaginum or rectum, the pelvic abscess, when present, can be easily made out.

The Lancet, May 16, 1903.

The Use of Pilocarpin in the Treatment of Pneumonia.—The histories of seven cases are given by E. Curtin. He states that the remedy relieves the pain and breathing within a few hours of its administration and also seems to hasten resolution, probably by exciting glandular secretion. Its administration is, in the majority of cases, followed by a rise of temperature of from half a degree to one and a half degrees. One-tenth of a grain hypodermically does not cause profuse perspiration, but rarely fails to reduce the temperature within an hour or two. It also cleans the tongue and stimulates the flow of saliva. Curtin has not noticed its repeated administration attended by any undesirable or unpleasant results. One precaution is necessary—namely, to keep the patient warm, and especially the feet.

Abdominal Hysterectomy for Myoma by Doyen's Procedures.—W. G. Spencer alludes to the Doyen method, which consists essentially of a rapid division of the structures between clamp forceps, the cutting down of a posterior flap into the vagina, the grasp and elevation of the the cervix and the turning of the tumor gradually over the pubes by a sort of somersault movement. He gives details of eight cases treated by this method, the points in favor of which he enumerates as follows: (1) the certainty of the procedure in spite of inflammatory complications or the main tumor obscuring details; (2) the certainty of securing the uterine artery at a good distance from its origin; and (3) the ease with which the bladder and ureters are pushed out of the way of the field of operation.

Methylene Blue in the Treatment of Malignant Malarial Fever.—Commenting on the fact that quinine has practically no effect on the crescent bodies met with in malignant malarial fever, J. M. Atkinson narrates the case of a Chinese boy, aged fifteen years, suffering with the disease in question. Quinine was given for a week, but without avail. Two grains of methylene blue were then administered in pill form three times daily. After a week no more of the crescentic bodies were found and the patient made a speedy recovery. After a week's usage of the methylene blue, symptoms of gastric disturbance came on, but they quickly ceased upon the withholding of the remedy.

British Medical Journal, May 16, 1903.

Hodgkin's Disease and Arsenical Poisoning.—Walter Broadbent reports an interesting case of Hodgkin's disease in a person peculiarly susceptible to arsenic. The patient was a woman aged 58; the occipital, cervical, subclavicular, inguinal, abdominal and pelvic glands were enlarged. They varied in size from a pea to a chestnut. They were all quite distinct and rather firm and hard. She also had slight œdema of the feet. Hodgkin's disease was diagnosed, and liq. arsenicalis ♏ v t. d. At the end of a fortnight she felt much better, was less short of breath, with no œdema of the feet and a distinct diminution in the size of the glands. She complained, however, of a burning pain in the soles of her feet, and had a slight purpuric rash on her shins. In consequence, the arsenic was stopped, but there came on keratosis of the soles and slightly of the hands, followed by desquamation, increased pigmentation of the skin, and four weeks after the stopping of the arsenic, a severe attack of herpes of the right side of the neck. This was succeeded by most intense and persistent neuralgia, which resisted all treatment. During this time the glands all rapidly decreased in size, and in two and a half months had almost disappeared, but then began to enlarge again. Under phosphorus there seemed no increase of the glands for three weeks, but they then began to enlarge rapidly; nothing delayed the disease except arsenic. Sodium cacodylate was begun, but was followed after a time, by a trace of albumin in the urine, so this medication was discontinued. An acute attack of pleurisy started on the leftside, fluid was aspirated, and she seemed to be making progress for a time, but the swelling of the glands began to return, and she finally developed great irritability of the stomach, which resulted in her death, from exhaustion. The author attributes the pleural effusion ascites and œdema to the sodium cacodylate. In other diseases usually treated with arsenic one may also meet with possible signs of poisoning.

Case of Chlorodyne Poisoning, with Recovery.—K. R. Dalal reports this case. The patient was a Parsee lad aged eighteen. He was found one morning lying unconscious in his bed, drenched with profuse perspiration. The whole body was quite cold to the touch, the pulse imperceptible at the wrist and the breathing embarrassed, the respirations being shallow and quick. On auscultation, the heart sounds were found to be very feeble and fluttering without any rhythm, and the heart's impulse was quite visible about an inch outside of the left nipple line. Ether and tincture of digitalis were injected over the cardiac region. Mustard plasters were applied to the nape of the neck and over the cardiac region, and also hot fomentations were applied all over the body. The pupils were equal, regular, and in a state of moderate contraction, and they responded well to light. The tongue was dry and appeared white and shrivelled, as if some acid had been taken. Ether and digitalis were again injected, as the heart sounds had become so weak that it was feared they would come to a standstill. Hot coffee was injected per rectum; the pulse became much better; another injection of coffee with two ounces of brandy was given and soon after the patient became a little conscious. The patient's appearance suggested that he had taken some narcotic drug. Rectal injections of coffee were continued and he was flapped on his face with wet towels. As he became quite conscious, aromatic spirits of ammonia was administered with a little water to drink, a few minutes after which he vomited, but no odor of any drug could be detected. He was now practically out of danger. It was discovered that he had taken two drachms and a half of chlorodyne.

Case of Acute Alcoholic Poisoning in a Child Aged Four Years; Treatment by Saline Injection; Recovery.—Frederick C. Forster relates this case. The patient was a boy of four years, who drank two ounces of strong neat whiskey. It was taken about eight in the morning on an empty stomach. A hypodermic injection of strychnine sulphate was given and the stomach was siphoned; the child being insensible at the time. He was then wrapped in blankets, with hot bottles around him, and cloths constantly wrung out in hot water placed on the chest, but was as deeply comatose as before and seemingly dying from shock. Again strychnine and digatilin were given, and the child placed in a tub of hot water and vigorously rubbed. There was scarcely any improvement. Warm saline solution per rectum was administered and the patient slowly rallied from his collapse, so that in about half an hour he was able to take some hot beef tea; from this stage his recovery was rapid.

Deutsche medicinische Wochenschrift, April 30, 1903.

Presence of Specific Substances in the Bodies of Bacteria.—L. Briegeri and M. Mayer, by a special method, have extracted from the bodies of typhoid bacilli, a substance which, when inoculated intravenously into rabbits, gives rise to a serum which agglutinates typhoid bacilli in high dilution (1 to 1,200 to 1 to 2,000). This agglutinating power appears very quickly after such inoculations and soon reaches its maximum. It then quite rapidly descends, and cannot be accentuated by repeated inoculations. This latter is in contradistinction to the immunization produced by the inoculation of the bacterial bodies themselves. Bactericidal bodies or precipitins are not produced by the inoculations above described, and intraperitoneal inoculation shows that these extracted substances do not possess any toxic properties.

Paratyphoid Fever.—Heinrich Kayser reports three cases. The diagnosis was made on the basis of a specific agglutination in high dilution (1 to 100 and 1 to 1,000) of Schottmüller's paratyphoid bacillus (type B.) by the blood serum of the patient. In one of the cases an agglutination was also given with the typhoid bacillus in a 1 to 50 dilution, but since it could not be produced in higher dilution, and at the same time an agglutination was obtained with the paratyphoid in a 1 to 1,000 dilution, the former reaction is to be regarded as one of the "group" agglutinations which are frequently observed. In all of the cases a typical typhoid roseola was observed. All recovered.

Berliner klinische Wochenschrift, May 4, 1903.

Traumatic Tuberculous Peritonitis with Appendicitis.—R. Lücke's patient was a boy of twelve years of age. His previous personal and family history was excellent. He received a fall while skating and immediately experienced intense abdominal pain. Within twenty-four hours the classical symptoms of diffuse peritonitis with appendicitis developed. The severity of the symptoms subsiding, operation was delayed for fifteen days when it was undertaken, the patient dying in collapse two hours thereafter. The operation showed the appendicitis and the tuberculous peritonitis. A careful hunt for other tuberculous

lesions was made throughout the body. Absolutely none were found except in the mesenteric glands which were caseous. It is most probable that, as the result of the traumatism, the peritoneum was inflected from these glands.

Excretion of Glucuronic Acid.—M. Bial and F. O. Huber do not agree with P. Mayer in his contention that an increased excretion of glucuronic acid in the urine signifies a reduction in the oxidizing power of the body. Mayer's methods of demonstrating the presence of this acid in the urine are not reliable, since by them other acids which cannot be excluded may be thrown down. Erroneous conclusions are thus reached. It is certain that at the present time there is no method by which the presence and amount of this acid in the urine can be shown, and until such is provided the clinical importance of the various tests now in use is nil.

Munchener medicinische Wochenschrift, May 5, 1903.

Etiology of Carcinoma of the Œsophagus.—Paul Wolf thinks that chronic irritations play an important part in the etiology of carcinoma, and reports two cases of carcinoma of the œsophagus which were preceded by spondylitis deformans, and which, when taken in conjunction with other reported cases, show that the chronic irritation of the œsophagus produced by the latter condition is at least a predisposing factor in the causation of carcinoma of the same. Both of the patients were over fifty years of age and had suffered from both complaints for some years. The diagnoses were confirmed at autopsy, and from the character of the lesions present there can be no doubt but that the spondylitis antedated the carcinoma. Moreover, that such was the case could not be doubted from a consideration of the clinical histories.

Anthrasol in Dermatology.—A. Sack and H. Vieth recommend the local use of this new preparation in the various skin diseases, especially the parasitic, and in pruritus from various causes. When pure anthrasol is in the form of an oil. It may, however, be diluted to any desired degree with alcohol, aceton, fatty oils, paraffin, vaselin, lanolin, oxide of zinc, etc. The most marked immediate results of its application are the lessening of irritation and itching. The authors have used it in about eighty-five cases, in all of which it gave the most satisfactory results.

French Journals.

Intestinal Lavage in the Treatment of Muco-membranous Colitis.—Maurice De Langenhagen concludes that, whatever inconveniences may be attributed to intestinal lavage (dilatation of the intestines, irritation of the mucosa), they are without foundation. Other criticisms (nervous intolerance of certain patients, spasms and intestinal contraction, maintenance of intestinal atony), have only a very slight foundation and in a small number of subjects. The total number of cases in which lavage has not succeeded has certainly not been more than twenty in one hundred. Consequently, the physician ought always to try in the first place a therapeutic proceeding, which counts on active success in the proportion of four-fifths; if later it is found that this proceeding is not successful, it can be stopped, but it will not be followed by any disorder or any complication really harmful to the patient. It ought to be used, not only for the purpose of evacuating the intestinal contents, but also to cleanse the walls of the intestines and to act as a veritable dressing to the mucosa.—*La Presse Médicale*, May 13, 1903.

Typhoid Fever, Premature Labor, Diagnosis of Cholecystitis, and Operation Seven Days after Labor; Recovery.—Doléris observed this patient. She was delivered of a living child before term. Before delivery she was running a temperature. After delivery abdominal pain developed, and later constant diarrhœa. The spleen enlarged. Rose spots appeared. The diagnosis of typhoid fever was confirmed. Sero-diagnosis was positive. Bilious vomiting began and a painful tumor was felt in the region of the gall-bladder. Cholecystitis during the course of typhoid fever was diagnosed. Laparotomy was performed. The gall-bladder was opened and found to contain purulent bile. Fixation of the gall-bladder was done and drainage instituted. The next day the patient began to improve. Examination of the liquid taken from the gall-bladder showed Eberth's bacillus. The patient recovered —*Annales de Gynécologie et d'Obstetrique*, April, 1903.

Dermoid Cyst in the Wall of a Serous Cyst of the Ovary.—Flandrin describes this case. The patient was a woman of thirty-six years, mother of a child of seven years, and pregnant five months. There was a very large cyst of the right ovary, having the right hypertrophied tube like a long pedicle. The tumor filled up the entire abdominal cavity, and covered over the uterus. It was polycystic, with three or four pockets containing several liters of liquid and a multitude of small cysts. One part was particularly hard and was made up of a group of small cystic cavities over-distended with liquid. On section of this part several large drops of oily liquid came out, with débris of a sebaceous material, in the midst of which were many hairs. On the internal surface of the dermoid cyst was a piece of skin, on which was a tuft of hair. Ovarian cysts should always be carefully examined.—*Gazette de Gynécologie*, March 15, 1903.

A Uterine Fibroma and Cystic Kidneys.—J. A. Doléris and P. Algret declare that in cases of clear urinary affections, the question of intervention presents itself as a problem very delicate to solve. If, in fact, operative success has freed certain patients from serious uræmic troubles, occasioned by the presence of the fibrous tumor, a certain number of cases of death are undoubtedly due to renal lesions, apparently benign. Prolonged chloroform anæsthesia gives to renal lesions a sudden gravity because it constitutes an artificial intoxication added to a functional intoxication, that has been compensated up to this time. The ideal proceeding would be to substitute for this toxic anæsthesia an anæsthesia which has no harmful effect upon the kidneys. In renal troubles caused by fibroma which has to be removed, is it not preferable to have recourse to lumbar anæsthesia by cocaine rather than to chloroform? Is ether in a parallel case not less dangerous?—*La Gynécologie*, April, 1903.

Appendicitis and Opium.—Charles Krafft states that he has endeavored to prove two points: (1) That surgeons do not employ opium as treatment for periappendicitis, but simply to quiet the pain and peristalsis attendant upon the operation; (2) That purgatives and lavage are dangerous, because the peritoneum, always inflamed in periappendicitis, can only be disturbed in its work of encapsulation, if it is stirred up by irrigations, either by mouth or rectum. Operation is the only rational treatment in appendicitis, and opium is an adjuvant. By the intestinal repose that it secures it favors the formation of adhesions. Lavage and purgatives can be dangerous; they are always useless and ought to be proscribed as soon as the surgeon determines sensitiveness localized at McBurney's point.—*Revue de Chirurgie*, April 10, 1903.

Spinal Lymphocytosis and Ocular Affections.—De Lapersonne reports seventeen observations of lumbar puncture with examination of the cerebrospinal fluid according to the technique recommended by Widal, Sicard, and Ravaut. More than three or four cubic centimeters of liquid should never be withdrawn, and the patient should be made to lie with his head low for several hours. In the case of neuritis, choroiditis and recent syphilitic iritis lymphocytosis has always been found. There have never been any grave results after these punctures. This method allows a certain diagnosis of syphilis, the opportunity of mercuric treatment, and the establishment of a prognosis of the affection. When the lesion is retrogressive and old there is no lymphocytosis.—*Le Bulletin Médical*, May 13, 1903.

Indications and Contraindications for Sea-baths.—A Robin and M. Binet report some interesting work on this subject. Sea-baths are indicated in anæmics and chlorotics, in whom metabolism, especially oxidation, is diminished. But they are contraindicated in the anæmics in whom the elementary chemical activity is increased anæmias by excess). They are indicated in the obese in whom metabolism is decreased, but contraindicated in those whose metabolism is above par. They are indicated in those predisposed to gout, in chronic autointoxications of gastrointestinal origin, in phosphaturic neurasthenics, and in nervous troubles consecutive to febrile maladies, and in certain diabetics in whom nutrition flags.—*Le Bulletin Médical*, April 25, 1903.

Tetanus after Injections of Gelatinized Serum.—Dieulafoy reports the case of a tuberculous patient who had received an injection of gelatinized serum to arrest hæmoptysis. The gelatinized preparation had been made with all the desirable aseptic precautions. Tetanus developed eleven days later; death occurred in twenty-two hours. At autopsy a very small sub-aponeurotic abscess was discovered, at the point of infection. The tetanus bacil is was cultivated and was found in the pus in pure culture. There have been twenty-three cases of tetanus recorded with details similar to the one just reported.—*Journal des Praticiens*, May 16, 1903.

The Structural Changes Which Occur in Experimental Lead Poisoning.—G. Fasoli finds that grave histological changes occur and are the following: (1) Circulatory changes, shown by stasis, which is sometimes marked, followed by cyanotic atrophy in the spleen, and intestinal hemorrhages. (2) Profound cellular changes, as cloudy swelling and fatty degeneration of the cellular protoplasm, especially of the kidneys and liver. (3) Changes in the red blood cells, clearly shown by the enormous amount of blood pigment found in the spleen of the animal experimented upon.—*La Riforma Medica*, May 6, 1903.

Society Reports.

ASSOCIATION OF AMERICAN PHYSICIANS.

SECOND DAY—WEDNESDAY, MAY 13—MORNING SESSION.

Acute Lymphatic Leukæmia.—Dr. A. O. J. KELLY of Philadelphia read this paper, reporting four cases of this disease, as follows: The first case showed seventeen to thirty thousand white blood-corpuscles. Abscess of some variety was suspected, but later a differential count of the white blood cells showed the lymphocytes in a proportion of 93 per cent.; the second case was that of a young woman who had been delivered of a child a short time before, in whom the leucocytes ranged between 200,000 and 400,000, the lymphocytes were later found to be in a proportion of 98 per cent., previous to which the case had been considered one of postpartum sepsis; the third was in a young boy in whom sepsis was suspected, but later the differential count of the white cells showed a percentage of lymphocytes to the amount of 98 per cent. The fourth case was that of a man forty-eight years old, with an enlarged spleen and an evident gumma of the liver; the leucocytes varied in this case between twelve and thirty-eight thousand. In cases two, three, and four the conditions much resembled that of infantile scurvy. Lymph glands, sinuses, and nodes as such, could not be recognized. There were no myelocytes or granular cells in the bone marrow. The author looked upon the granular cells of the bone marrow as the common ancestor of both lymphocytes and myelocytes; the bone marrow was the portion of the body at fault in this disease. Myelogenous leukæmia is not to be regarded exclusively as a disease of the bone marrow, but other lymphoid tissues, may produce the lymphocytes in the blood. The lymphatic type might occur without enlargement of the glands. Many cases of the lymphatic variety have been called, in the past, before the time of blood study, typhoid fever, and *vice versa*.

Report of an Autopsy and the Microscopic Findings in a Case of Acute Leukæmia.—Dr. F. P. KINNICUTT of New York City read this paper, reporting a case of general progressive debility with anæmia, hemorrhages, and engorgements of the lymphatic tissue. The spleen was both enlarged and tender, as was the liver. Previous to the death, which had occurred six days after the doctor had first seen the case, there had been bleeding from the gums and mucous membrane. The daily output of urea and uric acid was in a ratio of 1 to 40. The thymus gland was found enlarged at autopsy. The white masses of substance which were first seen in the lungs on autopsy proved to be lymphoid tissue. The connective tissue of the liver was increased, but the epithelium was little altered. The endothelium was swollen. The spleen showed general infiltration; nucleated red blood-corpuscles were either scanty or absent. The intestinal wall was altered only at Peyer's patches, due to an increase of the lymphoid cells in that region. No myelocytes were found in the bone marrow. Toward the end there was a rapid diminution in the white blood cells unless there were present an intercurrent or a secondary infection. The myelocytes showed a progressive increase from the very beginning.

A Clinical and Pathological Study of Two Cases of Splenic Leukæmia, Presenting Early and Late Stages of Cirrhosis (Early and Late Stages of Banti's Disease).—Drs. GEO. DOCK and A. S. WARTHIN of Ann Arbor read this paper paper, presenting the clinical and pathologic findings in these cases.

Dr. DOCK showed two cases of splenic leukæmia, one of which had been operated upon for removal of an enormous spleen, but the patient had succumbed five days later. The second case had an enlarged spleen with ascites for the last six years. Abdominal section was done and cirrhosis of the liver was found. In both cases the hæmoglobin ranged between 60 and 70 per cent., the red blood-corpuscles about 3,500,000; the whites were increased.

Dr. WARTHIN said that both cases presented typical pictures of splenic anæmia; there was stenosis of the portal vein with calcification of the vein wall. The most interesting feature of the two cases was an extensive new formation of lymphoid tissue throughout the root of the mesentery and in the prevertebral adipose tissue. In one case (early stage of cirrhosis) the new lymphoid tissue resembled splenic pulp in structure, the larger nodes having the character of accessory spleens. In the second case (advanced cirrhosis) the lymphoid tissue presented the charasteristics of hyperplastic hæmolymph nodes. All these showed in their blood sinuses the presence of great numbers of phagocytes containing disintegrating red cells and blood pigments, the degree of hæmolysis apparently being much greater than that occurring in pernicious anæmia. There were no evidences of red blood cells destruction in the spleen. On the other hand, the bone marrow showed great numbers of red-cells and pigment phagocytes, as in the hæmolymph nodes. Similar changes were found in the hæmolymph-nodes of the case, showing early stage of cirrhosis, but were much less marked; in this case some evidences of hæmolysis in the spleen were also found. The splenic function of hæmolysis was entirely lost in the early stage, and was compensated for by the hæmolymph nodes and bone marrow. It was, therefore, probable that this hæmolysis was only compensatory for the lost splenic function and not the direct result of an intoxication, as in pernicious anæmia. In splenic anæmia one might, therefore, speak of a compensatory hæmolysis in pernicious anæmia of a toxic condition.

Dr. CABOT of Boston said that he had never seen the two types of leukæmia mixed, and that there was no evidence to establish the fact that this condition of mixed types was possible. He was unable to make up his mind to the belief that lymphatic leukæmia was an entity. One might get cases in which the condition of acute lymphatic leukæmia was simulated by other diseases; he had known it to exist in whooping-cough, and in one case of a young surgeon who had become infected at the operating table; in this case all the glands of the body had become swollen, and the examination of the blood revealed a condition identical with that of a characteristic leukæmia. However, all of these cases had recovered by two weeks, and there remained in the blood no evidence of the previous seeming pathologic condition.

Dr. W. H. WELCH of Baltimore said that Dr. Dorothy Reed's study of this condition showed that lymphocytes polymorphonuclearneutrophies were derived from a common ancestor. That Dr. Caspar Gilchrist's experiments with urticaria, in which an active migration of the lymphocytes to the wheals had been made out, showed most conclusively to his mind that this cell had the faculty of a amœboid movement. He reported a case of calcification of the portal vein in which death had been preceded by the vomiting of large quantities of blood.

Dr. WM. OSLER of Baltimore said that there should be recognized two types of lymphatic leukæmia, acute and chronic. The chronic cases might go on for years, and he was sure that the physicians of New York City would remember the very celebrated case in which a patient, in their city, had gone on for years with a leucocyte count of over 200,000, most of which were true lymphocytes. Acute lymphatic leukæmia very often resembled ordinary sepsis.

Dr. DOCK said, in conclusion, that he had had a case of mixed-celled lymphatic leukæmia, and believed that it really could exist as such a condition.

The Relation of Chronic Enlargement of the Spleen to Anæmia in Infancy.—Dr. JOHN L. MORSE of Boston read this paper, saying that enlargement of the spleen occurred very frequently in children. All pathological changes in the blood of children were just the same only more exag-

gerated than in adults. Lymphatic leukæmia in children showed the superficial lymph glands, the liver, and the spleen enlarged. There was a diminution of the red blood cells and of the hæmoglobin, polychromatophilia, poikilocytosis, and an increase in the polynuclears. The engorgement of the lymph nodes, liver and spleen were independent of each other. In discussing the question of the etiology in his cases, he found that rickets was present in two cases, but did not consider it of any importance. Syphilis was also present in two cases, but except for the effect upon the digestion he considered it of no value as a factor in the production of the disease. To his mind the prime factor was digestive disturbance, which was present in almost all of the cases. When anæmia, lymphatic, splenic, and hepatic enlargement were present in a case it was due to no cause other than digestive disturbance. The nucleated red blood cells were not important factors in the prognosis in children, as was the case in adults. The enlargement of the spleen usually disappeared after a comparatively short while. There was no relation between the size of the spleen and the final outcome of the condition.

Dr. Osler remarked that enlargement of the spleen in children was common under two years and might mean nothing, but this did not hold good in later periods of life.

Chronic Cyanosis and Enlarged Spleen, with Polycythæmia: A New Clinical Entity.—Dr. William Osler of Baltimore read this paper, reporting three cases in which the above cited symptoms had appeared in patients without other pathologic, organic changes. The first case was that of a physician fifty-four years old who had been permanently cyanosed for a long time; there was no shortness of breath or discomfort on breathing, but the pulse was rapid. Examination of the chest showed that there was present neither emphysema nor cardiac lesion. The blood count for the reds varied between eight and ten millions. There was a slight enlargement of the spleen. Examination of the renal excretions showed the presence of an occasional tube cast, hyaline in character. The blood-pressure was increased, being equivalent to 225 milimeters of mercury. The second case was that of a male, very much cyanosed, and constipation was extreme. There was also present enlargement with pain of the spleen. The blood count for the reds showed a variation between seven and eleven millions; there was no increase in the white blood cells. Although the cyanosis was extreme, there was neither disease of the heart nor the kidney; the hæmoglobin in the blood was increased, and the specific gravity was higher than normal. The third case was that of a woman forty-nine years of age who had presented chronic cyanoses, but no emphysema or heart disease. The red blood cells varied between nine and eleven millions to the cubic centimeter. On reviewing the literature the author had been able to find but five cases which simulated those which he had just reported; those reported cases by other authors had not been recognized as a separate clinical entity. Chronic cyanoses was present in emphysema, congenital heart disease and the cases under discussion, and those were the only ones which were ever able to walk into the physician's office. It was possible to get extreme cyanoses without polycythæmia. One might see cases of extreme hyperæmia with extreme anæmia. Polycythæmia as a clinical condition was common, being seen in cholera, gastrorrhœa, and many other conditions. However true polycythæmia was met with in cases of change of altitude, congenital heart trouble, and in that group represented by the author's cases.

Dr Cabot of Boston had seen four such cases as were pointed out by Dr. Osler. However, in two of them an important point to his mind had been an enlargement of the liver. There was a brownish hue given to the skin, in all probabillity, by the presence of a chronic congestion. Venesection gave marked relief for a short while in one of his cases.

Dr. F. C. Shattuck of Boston referred to three cases of a similar kind which had occurred in his practice. One case was so marked as to cyanoses that for a long time in the morning he had been accustomed, to expectorate large quantities of blood. On one occasion his family physician told him that the patient had vomited at least one gallon of blood and did not seem to be in the least bit disturbed by the loss of such a large quantity.

Dr. Osler, in concluding, said that his first case had protrusion of the eyeballs, which had been noticed in several of the cases mentioned by the gentlemen discussing his paper. Headache, which had been so common in the majority of his cases, was very satisfactorily relieved by the administration of generous doses of sodium nitrate.

AMERICAN SURGICAL ASSOCIATION.

SECOND DAY.

The Therapeutic Value of the X-Ray in Sarcoma.—Dr. Wm. B. Coley of New York read this paper. He said that a year ago he had presented to the members ten cases of sarcomatous growth in which he had made use of the *x*-ray, and he now wished to add twenty-six more to the series. Two-thirds of the cases had been of the round-cell variety. His results with the employment of the *x*-ray alone had not been at all encouraging, only four cases having been temporarily relieved. His continued observations led him to the conclusion that the rays in themselves were of little value, but as an adjuvant to the mixed toxins they possessed a distinct therapeutic use. He cited several cases in which the rays had caused the entire disappearance of the sarcomatous growth, but in every case there had been a distinct and fatal recurrence. The dangers arising from the employment of the combined agents were not great if sufficient care be employed in their exhibition. They consisted chiefly in the establishment of more or less profound toxæmia from absorption of the broken-down neoplasm. A remoter danger consisted in the possible formation of metastases from this cause. In conclusion, he said that the rav unquestionably inhibited the growth of sarcomatous tumors, but that it had no apparent effect on preventing their recurrence, and that in any case the treatment, if at all successful, must be employed for months or even for years.

Some Contributions to the Surgery of the Gastrointestinal Tract.—Prof. Joh. v. Mikulicz-Radecki of Breslau, Germany, presented this paper. After the ovation which greeted his appearance had subsided, he said that he was sorry to have brought to so distinguished a body such a very small contribution, but he wished to speak of three procedures which had recently proved of great interest and value to him. The first was of the recognition and treatment of the condition which he had named cardiospasm. The second bore upon gastric ulcer and the third upon intestinal intussusception. He said that while the condition of cardiospasm had only begun to be recognized, and that therefore but fifteen cases had been recorded, five having occurred in his own practice, nevertheless there was ground to believe that it was a pathological entity of considerable frequency. The symptoms occasioned by the spasm of the muscles at the cardiac end of the stomach or lower œsophagus were so vague and indeterminate as to render a diagnosis based upon purely subjective signs impossible. He therefore had devised an œsophagoscope, which portrayed very readily the pathognomonic objective signs with precision and clearness. He had formerly operated upon these cases by making an incision into the stomach of sufficient size to introduce the whole hand, in order that he might guide a dilating instrument into the almost closed cardiac end of the stomach and thence into the œsophagus, but a further experience with these cases had led him to conclude that a very small gastrotomy was all sufficient, and indeed he was of the opinion that with the perfecting of his œsophagoscope he would be able to do all the work from above. Simple dilatation to the extent of seven centimeters sufficed to afford absolute

relief of all symptoms. Both as an aid to diagnosis and to prove that the intervention undertaken had been successful, the *x*-rays were of paramount value. Bearing on gastric ulcer, he said that there was yet much to know about this much-talked-of condition, he wished to call attention to the ulcerations of the bowel in the upper region of the jejunum, with special reference to their etiology. From an observation of numerous cases, he had been forced to the conclusion that those patients upon whom anterior gastroenterostomy had been done were essentially the ones in whom we might look for the possible occurrence of this rare but very fatal form of ulceration. This he explained on the ground that in doing the anterior operation a portion of the jejunum relatively low down was taken. This technique of necessity made use of a section of the gut, which was further removed from the stomach in the case of the posterior operation, and hence the gastric juice, when turned upon its delicate membrane, was apt to cause necrosis and ulceration. He considered this a very important reason for the avoidance of anterior gastroenterostomy. It was a factor in determining him in his preference of Finney's operation of pyloroplasty over the usual method of gastroenterostomy.

Intestinal intussusception might, he said, give rise to the formation of tumors so large as to demand the utmost surgical skill for their successful removal. He cited two cases in which the condition had been so extreme as to necessitate the creation of a new technique directed toward their relief. It consisted in a longitudinal splitting of the intussuscipiens with a ligating of the part to the abdominal wall and a subsequent removal of the intussusceptum from above, the tumor being so big as to render its delivery through the rectum impossible. His results had been so gratifying that he felt justified in presenting his technique.

A Personal Record of the Surgery of the Stomach.—Dr. B. S. A. Moynihan of Leeds, England, presented this paper. He said that although the non-malignant diseases of the stomach had been much debated, and despite the fact that the English surgeons in particular had given their best energies to the exploitations of this subject, there yet remained much that was hidden from us. In recognizing, however, that the great bulk of *all* lesions were due to ulcerations, an immense step forward had been taken. The symptoms of hemorrhage from the stomach, he said, were naturally as varied as the conditions which gave it birth. From an acute ulcer the hemorrhage was sudden, copious, followed by profound though transient anæmia. The pulse was frightfully depressed and the bleeding was characterized by a tendency not to recur. From chronic ulcer, on the other hand, might be expected a variety of hemorrhages, which can be grouped as follows: First, those which were latent but continuous, and which could only be recognized by the most careful laboratory analysis; second, those in which the hemorrhage was of an intermittent, copious type, although transient and usually self-limiting. These patients usually presented as their most prominent symptom an intractable indigestion and anæmia. In the third class of cases the hemorrhage was rapidly repeated. It occurred, unlike the previous type, only after repeated classic warning, and was abundant and unceasing. It might amount to a pint, and characteristically recurred at short intervals. The fourth type was happily a very rare one, consisting of those cases in which the ulcerative processes had involved some great trunk, such as the aorta or the splenic artery. The treatment of hemorrhage from the acute form should almost always be of a medical type, because very few of these failed to yield to this form of therapy. In the second and third type gastroenterostomy seemed to him to be distinctly the operation of choice. He called attention to those baffling cases of pronounced hemorrhage in which the mucous membrane of the stomach seemed literally to weep blood from every pore. There was no means at the surgeon's disposal save gastroenterostomy for the relief of such a condition. The treatment of hemorrhage from chronic ulcer depended largely upon the pathology of the condition. It could readily be observed in any one of these cases, even upon the operation table, that the arteries almost always remained open, being held in this position by the dense mass of sclerotic tissue in the base of the old ulcer. Hemorrhage from them was controlled, not by a shutting of their coats, but by thrombus formation. This explained very readily the recurrence of hemorrhage, and seemed to the author to be one of the most salient reasons for performing gastroenterostomy. He felt certain that this was the most positive means of preventing gastric motion or dilatation of the organ. One or other of these factors being always responsible for the tearing off of the clots. So certain had he become of the justice of his conclusions that gastroenterostomy rapidly performed was all sufficient for the cure of all curable types of hemorrhage that he had long since given up all and any attempts to find the ulcer or the bleeding point. The symptoms of chronic ulcer, he said, were simply those of gastralgia. The presence of hemorrhage was by no means necessary to justify the diagnosis of chronic ulceration. He recognized that it was difficult always to differentiate between the inflammatory mass so characteristically caused by this condition, and malignant neoplasms, but he believed that by the naked eye and by the touch they could, as a rule, be identified. The malignant growth had a nodular look and touch, and was usually spread over by a dirty-looking gray exudate, whereas the inflammatory growth was clean, of normal color and smooth. He said that pathological conditions due to ulceration were innumerable; that the time had practically come when all dyspeptic troubles had been taken out of the hands of the internist, because they had been shown to be due to physical rather than to chemical causes. Bands of adhesions could readily so warp the stomach as absolutely to interfere with its digestive function. Of hour-glass contractions, he said that the two loculi might be equal in size, but because of the physical conditions imposed upon each being so utterly different, there was small probability that they would long so remain. He refuted the idea that most hour-glass deformities were congenital in origin, and believed that they had in England adequate proof for the assertion that almost all were acquired. The symptomatology of the condition had been very thoroughly worked out, and so concise were the methods to-day, as to enable any careful observer to make a positive diagnosis. He believed that the more complicated methods of transillumination and of the introduction of rubber bags into the stomach were absolutely unnecessary, because, by the careful use of water and of carbon dioxide, all necessary data could be obtained. On the other hand, however, he said that the treatment of the condition might be extremely difficult because of the density of the adhesions. Another important factor not to be overlooked was the possibility of joining the pyloric sac rather than the cardiac loculus to the gut. This, of course, would fail to relieve the conditions, and called for a double operation of one of the following types: gastroplasty, double gastroenterostomy, gastrogastrostomy, or partial gastrectomy.

Dr. W. W. Keen of Philadelphia, in opening the discussion, said that Professor von Mikulicz had dealt with subjects almost entirely unknown to him. He had had the privilege, however, while in Breslau, of seeing the Doctor use his œsophagoscope, and had been so much impressed with its work as to have begun its employment immediately on his return. As to peptic ulcer of the jejunum following anterior gastroenterostomy, he had yet to see a case. He gathered that the method described for the removal of the intussusceptum closely resembled Maunsell's method of enterorrhaphy. He believed that the time had come when the radical surgery of the stomach presented far less danger than the waiting policy in any case of ulceration, and cited two graphic histories in support of this view.

Dr. W. J. Mayo of Rochester had had but one case of cardiospasm, in which he had performed gastro-gastros-

tomy to put the part at rest and had been gratified by obtaining a cure after eight months. He took exception to Mr. Moynihan's liberal and broad endorsement of the employment of gastroenterostomy for the cure of chronic ulcer, basing his criticism upon over a hundred cases which he had had under observation. That all such cases improved immediately after the operation and that the hemorrhage was invariably controlled he did not deny, but he felt convinced that the efficacy of the treatment attended upon the continued patency of the fistula. His observations led him to believe that this lumen diminished directly in proportion to the increase of size of the pylorus. In almost all these cases the pyloric opening was very much occluded by the presence of congestion due to the irritation of the ulcer, and naturally when that was put at rest and the irritation allayed, the pylorus began to open. At this very moment the fistula began to shrink, and so soon as it had closed sufficiently to force the food over the ulcer-bearing surface, the symptoms repeated themselves and secondary operations became imperative. He therefore believed that the operation of the future would consist in the excision of the entire ulcer-bearing region, thus removing all possibility of complications or sequelæ.

Prof. Hermann Tillmanns of Leipzig, Germany, said that he was not prepared to discuss the paper, but desired to take this opportunity of publicly thanking the American medical profession for the courtesy he had received at their hands. He said that he worked best who helped humanity; that science and art were international, and that the physicians and surgeons of America and Germany were as brothers in conducting their uplifting work. Germany, he said, had a great feeling of sympathy for America because of the predominance here of Teutonic blood, and he hoped that the association would prosper in all its undertakings.

Dr. Rodman of Philadelphia said that Mr. Moynihan had made an eloquent appeal for gastroenterostomy as a relief for chronic ulcer, but he himself believed that, while no doubt it should be performed for the treatment of acute and chronic hemorrhage of the stomach, it had its very distinct limitations. One of them no doubt consisted in the suggestion of von Mikulicz that under certain conditions it might lead to jejunal ulceration. He urged the early performance of pylorectomy or partial gastrectomy with a removal of the ulcer-bearing surface rather than a recourse to the more dangerous medical method.

Dr. L. Freeman of Colorado mentioned a case in which he had performed gastroenterostomy for acute hemorrhage occurring in a hitherto healthy man. There was immediate primary recovery but subsequent death from hemorrhage.

Dr. J. M. T. Finney of Baltimore said that he desired to emphasize two points: First, that from Dr. Moynihan's classic paper, it could be seen that for the prevention of hemorrhage from gastric ulcer, rest and drainage were absolutely indicated. He believed that by pylorectomy so performed as to give a maximum opening at the most dependent spot, these indications could be much better met than by any method of gastroenterostomy.

Dr. L. M. Tiffany of Baltimore said that whereas dyspepsia had until recently been considered purely a medical disease, progress in the surgery of the stomach had unquestionably demonstrated that almost all intractable cases would yield to proper surgical intervention.

Dr. N. B. Carson of St. Louis took exception to Dr. Mayo's statement that gastroenterostomy fistula would close so soon as the lumen of the pylorus became patent.

Dr. B. F. Curtis of New York spoke of a case of cardiospasm in a child nine years of age which he had successfully treated by gastrotomy and dilatation. He believed that occasionally cases of hemorrhage from gastric ulcer might be satisfactorily treated by the ligation of the artery in close proximity to the lesion. He doubted that any one could differentiate between malignant and non-malignant conditions without the help of the microscope.

Dr. Moynihan, in closing, said that the geography of gastric ulceration yet remained to be worked out. It at present seemed to him that whereas in England hemorrhage and perforation were relatively common, here the more frequent complication of ulceration was malignant implantation. The treatment of gastric hemorrhage arising from chronic ulceration resolved itself into the prevention of this condition. He found himself unable to agree with Dr. Mayo that the fistula would close as the pylorus opened, and believed that probably the difference in the results obtained here and in England depended upon the employment of different techniques. While he was at present wedded to gastroenterostomy, he had been very profoundly impressed by the observations of Dr. Rodman and of Dr. Mayo and others that the operation of the future would consist in an extirpation of the ulcer-bearing area of the stomach.

Prof. von Mikulicz, in closing, said that he frequently performed a jejunostomy for the purpose of treating the patients during the first two weeks even after posterior gastroenterostomy, and always if the anterior operation were done.

The Therapeutic Value of the X-Ray.—Dr. Arthur D. Bevan of Chicago read this paper. He said that he had nothing strikingly new to present, but desired to offer something in the line of conclusions which he and his colleagues thought were pretty definite and based upon sound evidence. In the first place, there was no possible doubt that the rays did destroy superficial carcinomatous cells, as could be frequently evidenced in epitheliomata. They had come to the conclusion that the distance beneath the surface at which it was safe to say that the rays were really effectual should be one cm. If absolutely superficial or within this distance of the surface, the cells could be counted upon to disappear after twenty exposures with a soft tube at a hundred volts and two amperes. One exception to this was the lip, in which the outlook had been shown not to be so favorable, both as to secondary glandular involvement and from the fact that the mucous membrane of the region was peculiarly susceptible to *x*-ray dermatitis. Probably one of the best examples of carcinomata which had been subjected hundreds of times to the *x*-rays were those of the breast, and there was abundant evidence to show that these were at least not helped at all; it was a matter of some doubt whether or not the treatment had in some cases increased the rapidity of general carcinomatosis. Aside from the question of superficiality of the growth, the rays were effectual to a greater or less degree, depending upon the actual vitality or resisting power of the cells themselves, upon the rapidity of their growth and upon the rise of the neoplasm, their value being in general inversely as its size. Bearing on the question which has recently been asked, with a good deal of pertinence, whether, under certain unknown conditions, the rays did not directly stimulate malignant growth, not only in a metastatic manner but actually at the sight of exposure, he agreed that this still remained a moot question. To him the most interesting problem in connection with the whole matter, aside, perhaps, from the last-mentioned, was the possibility of being able to extend the power of the rays from the surface to greater depths, so that instead of being able to get results at the depth of one c.m. only, as now, we might be able to destroy the breast and other deeper tumors. This, he thought, might be accomplished perhaps along two lines, viz., the physicists might improve the power of the rays without augmenting their malign characteristics or, possibly, by the introduction of some chemical into the parts prior to their exposure to the ray, the vitality of the cells might be so reduced as to enable us to kill them with the rays as at present used. It was well known that the rays, if turned upon certain solutions of iodine, either metallic or appearing under the form of one of its salts, as potassium or sodium iodide, produced decomposition of the iodine and a liberation of the drug in what was a very active and, perhaps, a nascent form. He reported the experiments

made by himself and his colleague along these lines. They had given to their work the name of radio-chemic therapy. They had found it of distinct value in the treatment of actinomycosis. They gave the patient large doses of potassium iodide, and then, with a goodly amount of the drug circulating through the tumor, they turned upon it, to the full tolerance of the patient, an *x*-ray.

The Value of the X-Ray in Superficial Epitheliomata and Tuberculosis.—Drs. W. L. Rodman and G. E. Pfahler of Philadelphia read this paper. Dr. Rodman said that his colleague had done the bulk of the work. In studying 234 cases of epitheliomata, they had found 63 per cent. to have been cured and 36 per cent. much improved by the *x*-ray. To accomplish this the average number of treatments had been twenty-five and the time occupied a little over eight weeks. In rodent ulcer 43 per cent. had showed marked improvement. The treatment in this type of tumor required more patience than in the foregoing. Of lupus vulgaris they had been able to collect seventy-five cases treated by the ray, sixty-five of which were reported cured. Here, again, the time had been eight weeks, but the treatments had been more frequent, viz., forty. Lupus erythematosus, curiously enough, was shown to be just as difficult to cure. In general, the final results compared most favorably with other methods of treatment. In tuberculous glands the rays had been used in ten cases, with favorable results in all, but it was in Hodgkin's disease that the most startling revelations were produced by this form of treatment, a number of cases having been recorded in which glands very deeply placed had speedily disappeared. So far as the action of the rays was concerned, very little was as yet known about it, but certain it was that in addition to the blood vessels closing, elastic tissues developed in the surface at a rapid rate. He said the question of personal idiosyncrasy to the rays was not a matter to be passed over lightly, because dermatitis and loss of hair had taken place in one patient who was exposed a single time to a tube under exactly the same conditions as another patient who had been treated for two years and a half with great regularity. He concluded that, for the treatment of slow growing and not highly malignant tumors of the face, the rays were indicated because of their efficacy and excellent cosmetic effect. In lupus it was practically a certain cure. Under all other conditions, however, the rays were simply an adjuvant to older methods of treatment.

Some Experiences in the Treatment of Inoperable Malignant Disease by Means of the X-Ray.—Dr. Alexander B. Johnson of New York reported ten cases which he had had under treatment in the last two or three years. Of these he said that eight were already dead, one was in a not altogether promising condition and one was, to all appearances, cured. He said that while this report was in itself somewhat gloomy, yet it must be remembered that the single case cured was, like the others, absolutely beyond the reach of any other treatment. For inoperable cases, then, and for these alone, he would consider the use of the *x*-rays justifiable.

Dr. F. H. Williams of Boston, in opening the discussion, said that he had always studiously avoided attempting to treat any case with the *x*-ray in which there was glandular involvement. The small superficial growths, which, as a rule, yielded so easily to intelligent *x*-ray therapy, might be considered as absolutely curable with the *x*-ray, since he had a number of patients who had passed the three-year limit. So far as those cases in which the ray had been used when surgery had failed, he believed that it was conservative to say that they had occasionally stopped the malignant process. That harm might occasionally be done by the ray was now doubted by no one, but it might be freed of its danger by the use of the fluorometer, an instrument which he had devised for measuring the amount or rays which the tube was giving out. He had noted that the disappearance of the glands in Hodgkin's disease was ephemeral, showing thus the action to be purely local and symptomatic.

Dr. W. J. Hearn of Philadelphia said that he had no patience with the use of the *x*-ray except in the treatment of rodent ulcer and of cheloid, because with our modern aseptic methods we were able to remove these growths almost without a scar.

Dr. Bevan, in closing, said that there were two dangers to which he wished to call attention. Burning had occurred twice in thirty-five cases. These burns were bad and very difficult to heal. The second danger lay in the use of the rays for any form of malignant growth that was not positively superficial. He believed that before very long we should have hit upon some way to augment the present power of the rays.

Dr. Rodman, in closing, said that undoubtedly the rays properly applied constituted the best treatment for epitheliomata and tuberculosis about the face. He did not agree with Dr. Williams' views in regard to the usefulness of the treatment in tuberculous glands, because he and his colleagues had obtained very excellent results in undoubted examples of this condition. In reference to Dr. Coley's paper, he said that he had never seen a cure of small spindle-cell sarcoma by the toxins, but we all knew that such cures had been obtained. It would seem therefore that the combined treatment might do a great deal where either one singly would fail.

Dr. W. B. Coley, in closing, said that it seemed to him unquestioned that some of the deeper tumors could be influenced by the *x*-ray.

Dr. A. B. Johnson said that all operable tumors should be operated upon, except when growing from the face and if absolutely superficial. We did not as yet know the value nor the limitations of the ray. His cases had shown him that, as a rule, unfortunately in inoperable conditions, the improvement which was usually pronounced at first was merely symptomatic. He declared that the public should certainly not be allowed to get the idea that the treatment of cancer by the *x*-ray amounted to anything. Otherwise the next decade would see a great increase in the deaths from malignant neoplasms.

The Results of Operation for the Radical Cure of Inguinal and Femoral Hernia with Analysis of 1,000 Cases Operated Upon Between 1891 and 1902.—Dr. William B. Coley of New York presented this paper. He said that the unaltered Bassini operation had been done in all the hernias of an inguinal type with the single exception that absorbable sutures were used throughout. Of the total number, about 500 operated upon were children under fourteen years of age, and he wished to say that contrary to the generally expressed opinion that any kind of a sewing up sufficed in this class of cases, their statistics showed that if a Bassini were properly done, the percentage of recurrences was reduced almost to zero. He had observed in treating strangulated hernia, that in the indirect variety it was the tense external abdominal ring rather than the neck of the sac which afforded the constricting band.

Report of a Case of Gangrene with Fifteen Inches of Cæcum and Ileum after an Operation for Appendicitis; Relief of Artificial Anus after Repeated Operations.—Dr. N. P. Dandridge of Cincinnati reported this most interesting and intricate case in which he had finally succeeded in closing the fistula after two operations.

Dr. Ochsner of Chicago, in discussing this paper, said that in his opinion the reason for the failure to get union lay in the fact that the author had placed a Murphy button in tissue which was not perfectly healthy. It would have been better, he said, to sew the ileum into the ascending colon after amputation of the cæcum.

Dr. Fowler of Brooklyn said that, as he was responsible for the implantation method, he wished to say that if Dr. Dandridge had transplanted the ileum into the sigmoid instead of into the transverse colon, and, second, if he had practised circumclusion of the ileum just below

his button with silver wire, he would have prevented the passage of any material over the wound and avoided failure.

The Significance of Albumin and Casts in Surgical Patients.—Dr. John C. Munro of Boston presented this paper. He said that, at the Boston City Hospital, he had chosen a series of 500 cases in which there was reported, by the house officer, albumin and casts, and in which serious lesions of the kidneys were at any rate not in evidence. His conclusions were far-reaching, inasmuch as they led him to state that such patients were not unfitted for operation under ether narcosis. He believed that far more important than casts and albumin in the prognosis of operation upon this class of cases was the character of the specific gravity as showing the total solids excreted. A possible explanation lay in the fact that many of these patients were poor children and young adults in whom alcohol had effected a certain amount of injury and whose lives had been characterized by greater or lesser privation. From the fact that the albumin disappeared within ten days or two weeks from the mere effect of rest in bed, combined with suitable food, he believed this assertion to be true.

Dr. J. B. Roberts of Philadelphia, in discussing this paper, said that to him it was revolutionary, because he had been brought up with the idea, and had held to it ever since, that in this class of cases ether was contraindicated and prognosis was bad.

Dr. N. B. Carson of St. Louis said that he also had limited himself in these cases, particularly if they were septic, to the use of chloroform, and had noted a mortality of fully 50 per cent.

Dr. F. H. Gerrish of Portland said that it was important to know what methods had been used for the detection of the albumin.

Dr. M. L. Harris of Chicago believed that if an abundance of urine were examined, and after a centrifugalization hyaline casts could be found in small number, but very constantly. The same held true with albumin, and if the solids were normal, neither of these two ingredients were to be feared.

Dr. Munro, in closing, said that ether was the classic drug for anæsthesia in Boston, and that it had had no evil effect in these 500 cases.

The Treatment of Aneurysm of the External Iliac by Digital Compression, with the Report of a Case.—Dr. F. J. Shepherd of Montreal presented this paper. He apologized for offering to the section the details of a case treated by so comparatively old a method, but he believed that in the modern rush for new things and new techniques, much that was good was laid aside for an inferior article. He said that among the advantages to be cited for this form of technique was its freedom from danger and from the use of all instruments. It could not, of course, be employed except under those conditions in which a great number of relatively expert assistants were available, because it took so many hours of unremitting pressure to allow of clotting —indeed from time-honored custom, it had been looked upon as necessary to employ relays of students for the purpose. Consequently his patient who came into the hospital some time before the convening of these gentlemen, was put to bed and placed upon a rigorous Tuffnell treatment. After digital pressure had been exercised for twelve hours upon the carefully cleansed and powdered skin, all pulsation in the tumor had ceased, but, as a precautionary measure, it was kept up for twelve hours more. The pain in these cases, which occasionally became severe from the continued pressure, should always be controlled by morphine. His patient was cured, and now, eight months later, the mass which had been considerable at first, had shrunk almost to nothing.

Dr. R. H. Harte of Philadelphia, in discussing this paper, said that this almost forgotten method was unquestionably a good one if you had the students to do the work. A most important consideration was that it probably did a great deal in helping to establish collateral circulation which was of value for subsequent intervention in case it failed.

Dr. Joseph D. Bryant of New York said that it should not be forgotten that under auspicious circumstances a properly protected weight could be applied to the part which might be held from a pulley either by the patient himself or by a single assistant.

Congenital Malposition of Cæcum and Colon with Enclosure of Ileum and Cæcum in Membranous Sac.—Dr. Leonard Freeman of Denver read this paper. He cited a case which, under obscure symptoms of abdominal derangement, had been opened by him and found to be suffering from a huge strangulated left duodenal hernia with enclosure of ileum and cæcum in the sac. These herniæ were generally supposed to occur in Treit's fossa, but Moynihan did not agree with this in the fifty-eight cases which he recorded in his classic paper. In his case the cæcum was distended to the size of a child's head, and was gangrenous. The mesentery of the colon was unusually long, allowing of its free entrance into the sac. The latter was, on section, found to be filled with blood and débris. The general cavity was, however, absolutely free. This showed that there had been no connection whatsoever between the two.

Dr. J. C. Bloodgood of Baltimore said that he had had a case in which duodenal hernia had occurred after he had operated for simple inguinal hernia. The slipping of the gut into the fossa seemed to him to have been caused by very severe vomiting. The case became desperate, but was saved by abdominal section and a discovery of the seat of trouble.

Sympathectomy for Exophthalmic Goiter.—Dr. B. Farquar Curtis of New York presented this paper. It was a summary of his last eleven cases. He laid a great deal of stress upon the fact that for some reason unknown to himself his mortality of three deaths had been extremely high, and inasmuch as every one of his operation wounds had healed without infection, he could account for it only upon that ground that thyroidism had been responsible. It was to the symptomatology of this complication that his paper was chiefly directed. The pulse was invariably very high, but the temperature was even more extraordinary, presenting a typical curve of hyperpyrexia. That this temperature was in no way associated with septic infection was shown by the fact that it developed in the first twenty-four to forty-eight hours. The temperature seemed to be an excellent guide for prognosis, inasmuch as none of his cases which passed a hundred and three and a half degrees, lived. As to the etiology of thyroidism, he said that there were three theories usually advanced, the first having for its basis the belief that the nerves were entirely responsible; the second, that it was due to the absorption of thyroid material, and the third, that it was a sort of fibrin ferment condition induced by the absorption from the hæmatoma. To him the first seemed by far the most probable. How was it that Kocher had had so low a death rate? Probably because he had in his hemisection, with the exception of six, employed local anæsthesia. In fifty cases he had had four deaths, and all of these had occurred in the six upon which he had not used cocaine. So far as the question of choice of operation between hemisection and sympathectomy went, he believed that the Jennesco operation gave better results, and that fully 60 per cent. of all cases were curable by its employment.

Dr. T. W. Huntington of San Francisco said that if anything were to be done in these cases, it should be attended to in the early stages. He had had six cases of thyroidectomy and all had been successful. It was most important to operate upon them under local anæsthesia.

Dr. Willy Meyer of New York said that the third method of treatment which had recently been inaugurated should not be forgotten. It was the so-called serotherapy, by which the patients were fed with the milk of goats

from which the thyroid had been extirpated. So successful had this treatment been and yet so difficult of application in cities that a serum had been introduced, prepared from such goats, which had similar results. Carnivora died, he said, after total extirpation. Herbivora underwent cachexial degeneration. Omnivora, as would be expected, suffered directly in proportion to the amount of gland which was removed.

Dr. Bacon of New Haven said that there were in ophthalmic goiter two distinct pathological entities: First, that due to hyperthyroidization, and, second, the distinctly nervous type. Were there any criterion by which these two could be possibly separated? If so, it would be of obvious value, because hemisection would be helpful in one; sympathectomy in the other. The secretion in order to produce the first might be excessive or perverted. The criteria for simple excess were, first, the exactness of parallelism between the symptoms and those following the successive administration of thyroid extract; second, the effect on the patient of giving the thyroid; third, the presence of actual local difficulty; enlargement of vessels and gland. Perverted secretion was characterized on the other hand by irregularity of symptoms, one of the three predominating over the others.

Dr. Ochsner of Chicago said that seven or eight years ago he had had a patient die of thyroidism, after which he made up his mind that it had been induced by an excessive and rough handling of the gland at the time of operation. Since that time it had been possible for him to do five cases without the slightest complication following. He would advise slight drainage and the utmost care in the preparation of the patient.

Dr. Geo. Woolsey of New York cited a case which he had lost from employing general anæsthesia.

Dr. F. J. Shepherd of Montreal cited six cases in which he had had one death from thyroidism and three positive cures. He regarded the question of pathology as very important in determining whether or not to operate, and, secondly, whether hemisection of sympathectomy should be done.

Dr. J. C. Bloodgood of Baltimore said that pathology had so far given a very uniform picture of the gland, the colloid material disappearing and the acini being filled with an immense number of epithelial elements. A section of this gland looked not unlike that of the lactating breast. He considered that the best procedure was a hemisection followed by sympathectomy only in the presence of residual symptoms.

Prostatectomy and Galvano-caustic Prostatotomy; Their Present Status in the Radical Treatment of the Hypertrophied Prostate Gland.—Dr. Willy Meyer of New York read this paper. He said that there could never be any question that the radical method of attack was the most surgical. Unfortunately, however, there was a class of cases which could not be neglected, and it was in their interests that he had continued his investigations with the use of the cautery. The direct methods of treating this gland were to be preferred to the indirect, which were useful only in the line of possible adjuvants, to a Bottini. In fifty-nine cases of pronounced hypertrophy, in which no discrimination had been shown, he had cauterized the gland. Fifty-two cases recovered, three died of sepsis, two from other causes and two from spinal anæsthesia. Of the fifty-two, thirty-four were alive to-day. Thirteen of these, or almost 50 per cent., had entirely regained the power over their bladder; in thirteen the recovery was incomplete. Seventy-five per cent. had laid the catheter aside entirely. He concluded that both operations had their distinct and useful sphere, and no surgeon who professed to do prostatic work should be bound to one or to the other, because there were certain cases in which one was contraindicated.

Dr. Leonard Freeman of Denver said that he had performed twenty Bottini operations, and had concluded to reserve it, first for those cases in which a general anæsthetic could not be given, second in which the disease was incipient.

Gonorrhœal Septicæmia; Its Occurrence and Course; Report at the End of One Year of a Case of Diffuse Gonococcus Infection of the Entire Upper Extremity.—Dr. Chas A. Powers of Denver said that this germ had been found in almost every degree of purity of culture in tissues widely diversified. The term rheumatism for this condition was obviously a misnomer. He gave a detailed description of his case, which had recovered with some limitations of joint motion after the most vigorous surgical treatment. The fluid which he had removed from the numerous sites of incision was serus and thin with one exception, in which pus had been formed. Bacteriologic investigation showed that in the latter case a mixed infection was present. This might have some bearing on the problem of whether the gonococcus in pure culture was a pus-producing organism or not.

Myositis Ossificans Traumatica.—Dr. J. F. Binie of Kansas City read this paper. He said that there were various theories to explain this very unusual phenomenon, among which were the possibility of the muscle having torn particles of periosteum loose during the injury and having distributed them through its substance. Another consisted of Cohnheim's theory of embryonic remains. In his case the bone had developed by both the classic methods In the eighty-six cases of traumatic origin which he had been able to collect, he had noted that it was clinically impossible to separate them from exostomata, whether attached or free from the skeleton.

Methods of Instruction in Surgical Pathology; Lantern-slide Demonstration.—Dr. J. C. Bloodgood of Baltimore said that the object of a laboratory course was two-fold, a routine course and a systematic course. He exhibited a number of typewritten books which he had prepared for section teaching at the Hopkins. By a series of most admirable cross references, the students were able to correlate the pathology, the symptomatology, differential diagnosis, a treatment and sequelæ of every important case which came into the hospital. He showed a beautiful series of lantern slides taken from among the many used in actual instruction.

Dr. W. W. Keen of Philadelphia was so delighted with the demonstration that he said Dr. Bloodgood's books should be published in proper form, so that institutions less fortunately situated than the Hopkins could make use of them.

Intestinal Localization: A Study on the Cadaver for the Purpose of Determining to What Extent the Various Parts of the Small Intestine May Be Identified through Abdominal Wound.—Dr. Geo. H. Monks of Boston presented this paper. He said that his work had been done as yet largely upon the dead, although he had been delighted to find that it worked admirably in the few operation cases at which he had been able to employ it. In 180 loops in which he had applied the differential points, he had been able to minimize the error in localization to two feet. In carrying on this work, he had hit upon the thought of threading the small intestine upon a staff. When this was held up, it showed the attachment and obliquity of the mesentery very beautifully. It demonstrated the division of the abdominal cavity into two lesser spaces, the one to the right being small and isolated, the one to the left larger and connected with the pelvis. The fact should be borne in mind when irrigating the abdomen for cleansing purposes. The direction of the gut might be determined by noting the lines of tension made upon the mesentery. He exhibited a chart which showed very beautifully the differential points, not alone of the gut but of the omentum as well.

The Lesions Which Augment the Development of Tetanus and Other Infections.—Dr. Lewis A. LaGard of Washington, D. C., gave a descriptive and illustrative ac-

count of the histological anatomy of various gunshot wounds. The most important point which he considered as favoring the development of infection in the course of the bullet was the production of hemorrhages into the tissues. He showed a beautiful series of microphotographs, which demonstrated that these hemorrhages in distribution and extent, together with other minor lesions, increased in direct ratio to the speed of the bullet and its size. Suppuration was most frequently seen at the point of exit, which showed that the production of these hemorrhages was even a more formidable factor in inducing sepsis than the actual introduction in mass of the germs themselves, which naturally would congregate about the wound of entry.

The Operative Reduction of Old Dislocations of the Elbow.—Dr. E. Rixford of San Francisco read this paper. He reported a case in which he had obtained admirable results by the so-called bloody replacement, and in which the *x*-ray had been a most serviceable aid to him.

Dr. John B. Murphy of Chicago said that he believed in these cases an arthoplastic operation by which the aponeurosis of some neighboring vessel was placed between the ends of the bond was the operation of the future.

The Drowning of Patients in Fecal Vomit as a Complication of Operations During Appendicitis and Obstruction of the Bowels.—Dr. E. W. Andrews of Chicago presented this paper. He said that this condition should be recognized as an actual surgical entity. His attention was first called to it by the sudden death, an hour after operation, of a patient who was apparently doing well. The amount of fluid accumulated in the bowel of these cases was sometimes phenomenal, and he accounted for the drowning by a relaxation of the sphincters of the stomach, which allowed the fluid to pour up the œsophagus. These patients almost always died, no matter what treatment be used, and therefore, as a precaution, if any such complication be suspected, lavage should be resorted to. It never happened during consciousness, and was therefore an indication for the employment of spinal or local anæsthesia.

Dr. J. M. Finney of Baltimore reported three cases, two of which had been immediately fatal, the third dying later.

The Pathology and Treatment of Tardy Post-operative Intestinal Obstruction, with Report of Cases.—Dr. Ellsworth Eliot, Jr., of New York read this paper. He said that the cause of such obstruction might lie in a circumferential band in the wall of the gut; to its being held at an abnormal angle, or as was more frequently the case, to the imprisonment of the gut by bands which usually arose from the omentum. Prophylaxis consisted in the employment of the very greatest care in handling the viscera and in the covering of all suture lines whenever possible by omentum or Cargile membrane. Drains frequently occasioned danger and should therefore be small. He believed that it was desirable to wash out the alimentary canal as freely as possible, so as to dispose of all central sources of irritation; that the patient's posture in bed, as well as the position of the bed itself, should be frequently changed in all cases in which there was a probability of the formation of bands.

Dr. Ochsner of Chicago said that in cases of obstruction it was usually the cathartics and food given that killed the patient.

Dr. Eliot, in closing, said that obstruction was much more frequent after operations where drainage had been necessary, but that it might follow uncomplicated operations like that for the interval removal of the appendix. He urged that all non-absorbable knots and sutures outside the lumen of the gut should be avoided.

Traumatic Paralysis of the Circumflex Long Thoracic and Suprascapular Nerves.—Dr. F.E. Bunts of Cleveland read this paper. He said that two suits for malpractice had prompted him to look the matter up. Deltoid paralysis was, by far, the most common, it being probable that the injury to the nerve was effected in its termination in the muscle rather than at its point of passage around the bone.

Contribution to the Surgery of Cerebral Tumor.—Dr. Geo. Woolsey of New York read this paper. He said that only a very small percentage of cerebral tumors were suitable for operative intervention, but that this was simply because of our poor methods of localization. He emphasized the fact that the *x*-ray and percussion were serviceable guides. Local tenderness had been observed in 21 per cent. of cortical tumors, and in 6 per cent. of these there had been recorded external swelling. Palliative operations, he believed, to be justifiable in all conditions warranting operation. The technique had so much improved recently that the two-stage operations recommended by the English writers should no longer be necessary. Important in the technique were the absolute control of hemorrhage and the employment of drainage. He concluded that the prognosis in malignant tumors of the brain was almost as good as elsewhere in the body.

The Treatment of Surgical Shock by Adrenalin.—Dr. E. Martin of Philadelphia read this paper. He said that in adrenalin we possessed the most powerful cardiac and respiratory drug known. It was almost harmless, the lethal doses being probably much more than one hundred times as great as the dose ordinarily used to-day. In using it on patients who were septic, it should not be forgotten that it depresses the bactericidal power of the serum. In the laboratory he had been able to bring back to life dogs killed with ether after they had been, to all appearances, dead for fifteen minutes, and clinically he had been able by the introduction of from one to four c.c. of adrenalin directly into venous circulation, in a 1 to 10,000 solution, to rescue at least one desperate case from impending death.

A Case of Gunshot Wound of the Brain, in Which the Röntgen Rays Showed the Presence of Seven Fragments of the Bullet: Localization by Sweet's Method Made Operation Inadvisable.—Drs. W. W. Keen and W. M. Sweet of Philadelphia presented this paper. The patient, a young English lad, had been shot by a 22-caliber rifle about an inch above the right eyebrow, the direction of the bullet being upward, backward, and inward. At the primary operation, which consisted in the enlargement of the wound and its sterilization, a sliver of the bullet, representing about one-seventh the total weight of the bullet, was found to have been torn off and deflected upward by the bone. This was removed without difficulty. The young man had been seen by Mr. Treeves and Mr. Horsley of England, and upon their recommendation had come to Philadelphia for treatment. Dr. Sweet had determined not alone the actual position of the bullet but the presence and location of seven small fragments as well. The position in which he localized the major mass did not correspond with the track of the bullet along which lay the minor particles. This showed probably that the bullet had passed through the brain and had bounded from the posterior limitation of the skull to its present position. Inasmuch as the boy, who had some time ago begun to suffer from a numbness and paresis of the right leg was beginning to show marked improvement, it was determined not to operate upon him, because in all probability the effort would do him more harm than the continuance of the missile in the tissues. The lad was sent home with the injunction to his parents that the ball should be immediately removed if at any time in his life he developed obstinate headache, or if he ever had a single epileptic seizure.

Dr. Sweet exhibited his exquisite instrument, which is too well known to need description here.

At the executive meeting Dr. N. T. Dandridge of Cincinnati was elected President for the ensuing year. Place of next year's meeting, St. Louis, Mo.

FOURTEENTH INTERNATIONAL MEDICAL CONGRESS.

Held in Madrid, April 23–30, 1903.

SECTION ON INTERNAL MEDICINE.

Curative Treatment of Pulmonary Tuberculosis.—Dr. A. Sanchez Herrero of Madrid read this paper. The varous modes of treatment of this affection at present employed, he said, had but slightly reduced the mortality. The proportion of cures by creosote, guaiacol, and their derivatives did not exceed 5 per cent.; that by balsam of Peru, cinnamic acid, and cinnamate of sodium, as employed by Landerer, was less than 20 per cent.; that by arsenical preparations, epecially the cacodylates, was entirely negligible; the various tuberculins were injurious, and Maragliano's serum was worthless in the opinion of everybody except Maragliano himself; and finally the sanatorium treatment was often ineffectual, besides being inapplicable to the majority of cases. The author had employed cinnamate of sodium in four-per-cent. solution, after Landerer's method, with the result of four deaths and one recovery; the latter he attributed to the fact that the case was a very mild one. He had, however, subsequently modified Landerer's procedure with excellent results. He used the four-per-cent. solution, but gave it by subscapular injection in doses from ten to twenty times greater than those used by Landerer. The first day he injected 3 c.c., the second day 4 c.c., the third day 5 c.c., and continued with this dose the following days. If no improvement was noted after ten injections had been given, he raised the dose to 6, 7, or even 8 c.c., and in one case he reached a maximum dose of 17 c.c., or about seventy centigrams of the cinnamate. The first sign of improvement noted was the subsidence of the fever, the second the return of the appetite, and then diminution of cough and expectoration. At the end of a month or two, the bacilli began to lessen in number, and by the end of three months they had usually disappeared entirely from the sputum. The average duration of treatment was four months; in a third of the cases the disappearance of the bacilli was not effected until the fifth or sixth month, but in another third it was complete by the end of one month or even earlier. The percentage of cures the author had obtained by this method employed exclusively was over eighty, but he would present no statistics, he said, his sole desire being to convince his hearers that cinnamate of sodium, used by his method, was curative of pulmonary tuberculosis The only deaths he had had were in patients suffering from very advanced gastrointestinal tuberculosis, and they were due rather to inanition than to the effects of the pulmonary lesions.

The Therapeutic Properties of Milk Serum.—Dr. R. Blondel of Paris presented a communication with this title. The serum of cow's milk, obtained by rapid coagulation at 38° C, effected by means of an acid, neutralization by soda, and filtration, was endowed, he said, with remarkable properties which seemed to have hitherto escaped general notice. One effect of the injection of this serum is a remarkable reduction of blood-pressure, more noticeable than that obtained by Trunecek's artificial serum, which renders the milk serum of great service in the treatment of arteriosclerosis. Another interesting effect is the reduction of temperature in specific fevers. In thirty cases of typhoid fever, pneumonia, tuberculous meningitis, and puerperal infection, the serum never once failed to reduce the temperature by from 2° to 4° C. This effect, the author believed, was obtained by a destruction of the toxins in the blood, and was not a specific action of a bactericidal character. In three cases of pneumonia, however, the reduction of temperature was immediate, and the improvement in the general and local signs of the disease dated from the injection of the serum. The injections of the milk serum were always well borne and never painful. The addition of a small quantity of sulphate of quinine (5 to 10 centigrams) seemed to increase the efficacy of the serum, a result which the author was inclined to attribute to the stimulating action of small doses of quinine upon the leucocytes. The usual dose employed was 20 c.c., given in two injections.

Nosography and Pathogenesis of Tuberculosis.—Dr. R. Balloto Taylor of Santander presented a very long memoir with this title, in which he advanced some novel, or at least unusual, views concerning the nature and in manner of propagation of this disease. Tuberculosis, he said, is a dimorphous disease, caused by the reaction of Koch's bacillus or of its toxins on the organism. This bacillus enters the organism in two different ways and in two different states, and upon these conditions depend the various clinical forms of the affection. When the bacillus is in mature form it can enter the system only through inoculation, in its embryonic form it is transmitted to the human embryo during the act of procreation. The clinical form due to inoculation of the mature bacillus is the granular, or acute generalized miliary tuberculosis; that resulting from hereditary transmission of the specific germ may be either pulmonary phthisis, tabes mesenterica, chronic cheesy degeneration of the lymphatic ganglia, bones, joints, or other organs or tissues. By reason of this duality of form and of etiology, this affection belongs to the inoculo-hereditary group, of which cancer and leprosy are the most noticeable other members. Inoculations productive of the acute miliary form may be made directly from man to man, and probably also through the instrumentality of flies, mosquitos, and other stinging insects, such as horseflies. Direct inoculation is, however, rarely productive of results, hence the comparative infrequency of this form of tuberculosis. In view of the fact that the pulmonary, mesenteric, lymphatic, and other chronic manifestations of tuberculosis are solely the consequence of the hereditary transmission of the parasite in an embryonic form, the inhalation of atmospheres more or less charged with tubercle bacilli, is absolutely innocuous, so far as the propagation of tuberculosis is concerned. Although some experiments have claimed to produce miliary tuberculosis in the lower animals by submitting them to the inhalation of air charged with tubercle bacilli, others have resorted to the same experiments with exactly opposite results, and moreover there is no authentic case on record of tuberculosis being transmitted to man in this way. For this reason the campaign recently instituted against indiscriminate expectoration by the phthisical must be futile; indeed, the inutility of this campaign has already been demonstrated by the fact that it is precisely in countries where the warfare is waged most vigorously that tuberculosis is most rife. It has been demonstrated also, time and again, that if the subjects of hereditary tuberculosis, that is to say those who carry within them the embryonic germs of tuberculosis received from their parents, avoid certain unhygienic factors, such as overwork, humidity, abuse of sunlight, and ventilation, alcoholism, etc., the germ may remain indefinitely in embyronic form, tuberculosis, therefore, never developing. The only prophylactic measures of proved efficacy are those looking to an improvement in the hygienic conditions surrounding the predisposed individual, that is to say, the one carrying within his tissues the embryonic germ. Tuberculosis, being essentially a disease transmitted by inheritance, it is improbable that it will ever be banished from the world. As a compensation for this, however, it is one of those affections the development of which can be the most easily prevented by proper measures. As a logical development of the peculiar views held by him, the author concluded with the following rules for the prevention of tuberculosis: Individuals of tuberculous stock should be most urgently advised never to marry. The erection of dwellings and workshops where dampness is likely to prevail, or to which air and sunlight have not free access, should be

forbidden by law. Delicate subjects of tuberculous parentage should not be allowed to take up any fatiguing or confining occupation. Duties on all the most nourishing and indispensable articles of food should be removed, while those on the less nourishing or noxious articles should be raised, those on strongly alcoholic beverages being almost prohibitive. In short, the prophylaxis of tuberculosis consists in raising to the highest pitch of excellence the social and hygienic conditions of the community, and especially in raising the physical well being and invigorating the organic soil already sown with the seeds of the disease.

Relation of Acute Bronchitis to Pulmonary Tuberculosis.—Dr. Léon Chauvain of Paris presented a paper in which he dealt with acute bronchitis in its relation with the several stages of pulmonary tuberculosis, as cause, effect, and complication of this disease. The essay was divided into three parts, treating severally of (1) Bronchitis premonitory of tuberculosis, preparing the soil for the reception and development of the tubercle bacilli; (2) Bronchitis occurring in the second stage of tuberculosis and caused by the presence of the tubercle bacilli, being thus an effect of the disease; (3) Bronchitis in the third or cavitary stage of pulmonary tuberculosis, being then a most formidable complication of the preexisting malady.

The Curability of Pulmonary Tuberculosis.—Dr. Juán Manuel Mariani of Madrid read a paper with this title, of which the following were the conclusions: (1) Pulmonary tuberculosis is curable. (2) The probability of its cure is greatest between the ages of thirty and fifty years. (3) The form in which the disease is circumscribed to one lobe of the lung, even when it is apical, a form which resembles closely surgical tuberculosis, can be cured in sixty cases out of a hundred. (4) The unilateral forms of gradual evolution unaccompanied by marked general disturbance, are relatively quite curable. (5) The diffuse infiltrated forms in adolescents, accompanied by pronounced febrile reaction, are incurable. (6) Hospital patients likewise are seldom cured, whatever may have been the initial form of their malady, for upon entering they are usually in the phthisical stage of the disease. (7) Tuberculosis in all its forms is, as a rule, curable only in the rich, since they alone are able to afford the great expense which the long course of treatment demanded by the disease entails.

The Nature of Rheumatism.—Dr. Vicente Roig é Ibáñez of Valencia read a paper on this subject in which he rejected entirely the microbic or infectious theory of rheumatism, holding on the contrary that the disease was caused by certain chemical combinations of uric acid. Rheumatism, he said, was due to the retention and decomposition of the complex salt of biurate and phosphate of sodium, the biurate possessing algesic properties varying in intensity directly with the amount of the salt present. The fever accompanying rheumatism was sometimes of infectious origin, constituting then a true complication of the disease, and sometimes it was caused by the action of the biurate of sodium on the vasomotor nerves. Finally, he contended, all the forms of rheumatism—acute, subacute, chronic, and muscular—rheumatoid arthritis, and even gout, were simply varieties of one and the same disease, all having a common origin.

The Diagnosis of Rabies in the Dog.—Dr. Dalmacio Garcia of Madrid read a paper on this subject, of which the following were the conclusions: (1) Whenever, in making an autopsy on the body of a dog dead of a suspicious disease, one finds a number of foreign bodies in the stomach, together with a small quantity of blackish liquid, the mucous membrane of the stomach and duodenum being dotted and streaked with ecchymoses, a diagnosis of rabies is justifiable. The absence of these signs, however, furnishes no proof of the non-existence of this affection. (2) The presence of sugar in the urine adds to the probability of the disease having been rabies, and the absence of glycosuria affords a certain, though not absolute, presumption against rabies. (3) The histological lesions noted by Balzer, Benedikt, Golgi, and especially Babès, when they are clearly present, possess a very great diagnostic value, and indeed establish a diagnosis of rabies. But their absence does not warrant the contrary assumption, since they have sometimes been wanting in dogs dead of undoubted hydrophobia. (4) The ganglionic lesions described by Nelis and Van Gehuchten, when typical, are pathognomonic, especially in dogs under ten years of age. (5) The cellular lesions noted by Ehrlich are of very slight diagnostic value. (6) Lesions of the salivary glands are not of such diagnostic importance as those of the neuraxons and of the cerebrospinal ganglia. (7) Polynucleosis, although of undoubted diagnostic value, is a less certain sign than the nervous lesions. Nevertheless, whenever possible, its presence or absence, as well as that of glycosuria, should be determined.

Analgesia by Pure Oxygen.—Dr. José Codina Castelví of Madrid presented a communication on the use of oxygen as an analgesic. The gas was given by hypodermic injection. As a rule the analgesia was limited to a rather wide zone surrounding the point of injection, though sometimes it extended to the terminal filaments of the nerves passing through the region of the injection. The analgesia was always rapid in its appearance, the pain beginning to diminish in from five to thirty minutes after the injection of the gas, and often lasted for from twenty-four to forty-eight hours without any repetition of the treatment. The injection should be made preferably at the point of emergence on the skin of the nerve, but it might almost equally as well be made in any part of the painful region. The dose varied between 200 and 100 c.c. of pure oxygen, being in general proportioned to the intensity and duration of the pain. The procedure caused no pain, and several injections could be made at different points at the same sitting in case of disseminated or very severe pain. The analgesic effect obtained might be attributed chiefly to the chemical action of the oxygen, though the author was not in position to say in what this action consisted. He had obtained surprising results by this treatment in sciatica, in neuralgia of branches of the lumbar, cervical, and brachial plexuses, and in the pains of polyarthritis deformans; and it was reasonable to assume that a like success would follow the employment of this method in the treatment of intercostal or trigeminal neuralgia, the pains of herpes zoster, toothache, and the pains of chronic rheumatism and of various nervous diseases, and even those of superficial cancer.

Infectious Endocarditis Successfully Treated by the Rectal Injection of Antistreptococcus Serum.—Sir Dyce Duckworth of London reported the case of a boy, fifteen years old, who was admitted to hospital complaining of generalized pains and presenting over the entire body an eruption resembling a polymorphous erythema. The disease had begun two days before with a series of chills followed by fever. There was no evident cardiac lesion, but a systolic murmur was audible at the apex. Later there was a hydrasthrosis of the knee and several other joints became more or less painful. There was no sign of splenic or renal infection. The fever was very high with daily ascents, and chills occurred at irregular intervals. Treatment by sodium salicylate, quinine, oil of wintergreen, and calomel afforded no relief, and yeast given in large doses for several days as well as two subcutaneous injections of 10 c.c. each of antistreptococcus serum were equally unproductive of results. It was then decided to give the antistreptococcus serum in 10 c.c. doses by rectal injection. Within two days a remarkable amelioration of all the symptoms set in and continued without break. The fever subsided in two weeks, no new eruption appeared, but the cardiac murmur persisted. The injections were continued for a period of about five weeks. At the end of this time the boy was sent to the country, and returned in a couple of months perfectly

well and with normal heart sounds. The diagnosis was first of erythema multiforme consequent upon rheumatismal infection, but the gravity of the symptoms and the obstinacy of the disease showed that the case was one of serious septic infection. The improvement following the rectal injections was most marked, but whether it was due to them seemed questionable, since the author employed the same in a subsequent case of similar nature without any good result. Some of his colleagues, he said, were inclined to attribute the cure to the yeast, yet no amelioration was apparent until the rectal injections were begun.

Treatment of Catarrhal Jaundice.—Dr. P. Revidzoff of Moscow, in a communication on this subject, said that the ordinary duration of catarrhal jaundice was from two to six weeks—seldom less than two, but sometimes more than six. The remedies commonly employed were far from being always capable of rapidly cutting short the morbid process. The author had found much benefit to follow lavage of the stomach with hot water (about 100° F.). This acted as a true chologogue, inducing a flow of bile through the choledoch duct, as evidenced by the return of color to the stools. Immediately after the return of the bilious flow, the symptoms of the disease began to subside, and in from three to seven days, varying with the gravity of the case, a complete cure was obtained. The author resorted to none of the usual remedies, not even dieting his patients, relying entirely and exclusively on stomach washings.

Removal of Carbonic Acid from the Body by Alkaline Sugars.—Dr. Schücking of Pyrmont explained his method of extracting carbonic acid from the tissues, in cases of asphyxia, by means of subcutaneous or intravenous injections of alkaline sugars—the fructosate and saccharate of sodium (natrium fructosatum et natrium saccharatum). These alkaline sugars seize with avidity upon carbonic acid, splitting up into sugar and sodium carbonate. The author claimed priority in the use of these sugars, having employed them with success in 1893, three years before the experiments of Kuliabko were undertaken. Since that time the remedy had been applied by himself and others in many cases of asphyxia, collapse, extreme debility, hemorrhage, sepsis, and angina pectoris. In conclusion he reported two cases of asphyxia neonatorum, in which he injected a solution of the fructosate of sodium through the umbilical vein. No heart movement could be detected before the injection, but soon after the pulse could be felt, and in a few minutes the first inspiration was made. The solution employed by the author was one of 0.5 of sodium fructosate with the addition of sodium chloride.

The Diagnostic Value of Œsophagoscopy.—Dr. Hugo Starck of Heidelberg presented a communication with the following conclusions: (1) Œsophagoscopy is entirely practicable in the great majority of cases. (2) The best instrument to employ is the straight inflexible tube. (3) Œsophagoscopy is the most certain method of detecting and localizing foreign bodies. (4) An early diagnosis of cancer is possible only by means of an œsophagoscopical examination. (5) This is also the surest method for diagnosing anatomical lesions of the œsophagus, such as ulcers, cicatrices, inflammation, stenoses, etc. (6) A differential diagnosis between functional and organic strictures is often impossible without the use of the œsophagoscope.

Etiology of Bilious Hæmoglobinuric Fever.—Dr. Spiridion Kanellis of Athens, in a paper with this title, said this affection was encountered chiefly in marshy regions, the most frequent etiological factors being (1) malaria and (2) quinine. A knowledge of the causation was very necessary as a guide to the therapeutics of hæmoglobinuria, for in the first form quinine was indicated and should be given in large doses by subcutaneous injection. In most cases of purely malarial causation this remedy was marvelously efficacious. In the second form one must naturally abstain entirely from the use of quinine, the treatment consisting in absolute rest, a milk diet, and the use of acidulous drinks, such as lemonade. In cases of malarial hæmoglobinuria, sudden chilling of the body might act as an exciting cause. The mortality of the malarial form of blackwater fever following pernicious comatose malarial fever was about 20 per cent.

Chloroform in Typhoid Fever.—Dr. José Sureda Massanet of Artá, Balearic Islands, presented a communication in which he praised the virtues of chloroform in relieving many of the symptoms of typhoid fever through its action on the nervous system. It calmed the restlessness of the patient, producing a delightful sensation of placidity, and influenced favorably the course of the disease, often shortening its duration, preventing complications, avoiding relapses, facilitating assimilation, and accelerating convalescence. In 167 cases of typhoid fever, treated exclusively by potions of chloroform in one-per-cent. solution, the author had had a mortality of but 6 per cent. The remedy was always well borne, easy to administer, and never repugnant to the patient, even when given continuously for long periods. It should be given as a prophylactic of grave complications as well as a curative agent of those already developed. Besides its calming effect upon the nervous system chloroform acted as an internal disinfectant, destroying, or at least attenuating, the specific bacilli within the organism. The author suggested that the remedy might also prove an effective prophylactic in cases of exposure to typhoid infection, but this as well as other points could be determined only by further observation.

Treatment of Typhoid Fever.—Dr. Juán Manuel Mariani of Madrid discussed the question of diet and of hydrotherapy. Notwithstanding the organic losses in typhoid fever, he said, the patient could be sustained with milk, broth, and alcohol. The milk diet should be prolonged throughout the period of convalescence, its diuretic action favoring the elimination of the toxins of the disease. Indeed, no typhoid patient should take any solid or semi-solid food until at least a week after complete defervescence—that is to say, until the maximum axillary temperature had remained at 98.6° F. for eight days. If this rule were transgressed a relapse could almost with certainty be looked for. As to the question of hydrotherapy, he held that the tub-bath should not constitute a routine treatment of typhoid fever, its sole indications being hyperpyrexia and ataxia. The temperature of the bath should be from 86° to 90° F. when the patient enters it, the water then being gradually cooled to 80° or 76° F. Both hot baths and cold baths were injurious rather than beneficial in the treatment of typhoid fever, and in many cases, indeed, no indication whatever existed for a resort to hydrotherapy.

Educational Treatment of Ataxias.—Dr. Joaquín Decref of Madrid spoke of the value of the method of treating stammering by educating the muscles, as devised by Chervin in 1877 and applied by Frenkel in 1890 to cases of tabes dorsalis, and which had been employed by himself as early as 1886 in the treatment of chorea. His first experiences were with this disease, but they were so encouraging that he soon extended the method to other troubles of coördination and to affections resulting from long immobility of the muscles. He advised a resort to it in all cases of incoördination or ataxia, whether the cause could be determined or not.

Etiology and Prophylaxis of Malaria.—Drs. F. Huertas Barrero and Gustavo Pittaluga presented a very long communication with this title, in which they discussed the prevalence of the disease in the Iberian peninsular. The views expressed regarding the etiology and the counsels advised in the way of prophylaxis were those already expounded by English and Italian workers and well known to students of malaria.

SECTION ON OBSTETRICS AND GYNECOLOGY.

The Stump in Partial Hysterectomy.—Dr. L. G. Richelot of Paris, in a paper with this title, said that partial hysterectomy was a very good operation in certain cases, but the preference shown for it by some surgeons was not well founded. Total vaginal hysterectomy, when the lower segment of the uterus was free from fibroids, was neither more difficult nor more grave than the partial operation, the vaginal stump being formed as easily as the cervical one. In atypical and complicated cases, however, it might be more convenient to leave a pedicle, and in such cases only the partial operation might be preferable. After a partial operation there was danger of malignant degeneration of the stump, and when circumstances permitted of a choice of operations this fact should be taken into consideration, especially as there was really no great difference between the two procedures from the point of view of technique.

Treatment of a Mobile Retroflexed Uterus.—Dr. Adrian Schücking of Pyrmont described his experience in the treatment of this form of displacement. In eighteen cases he fixed the portio vaginalis and the posterior fornix by means of two circular sunken ligatures of silver wire, which he left in position for from four to six weeks. The results were good in nearly every case. In one case he made a paraffin injection into the anterior fornix with success, the paraffin mass taking the place of a Schultze's pessary.

Treatment of Placenta Prævia.—Dr. D. Draghiescu of Bucharest presented a table of 162 cases of this complication observed during a period of twenty-six years among 28,241 women, giving a percentage of frequency of 0.57. The treatment varied according to the period at which the hemorrhage occurred, whether during pregnancy, during labor proper, or during the expulsion of the after-birth. In cases of slight hemorrhage during period of gestation the best treatment consisted in vaginal injections of hot water and rest, with "armed expectation." When the hemorrhage was more profuse and persistent, it was necessary, to tampon the vagina, a procedure which usually brought on labor. During labor the treatment should vary according to the indications—very hot and prolonged vaginal injections, the vaginal tampon, rupture of the membranes, or podalic version and rapid dilatation of the cervix. Treatment of placenta prævia, after the birth of the child, was simply that of retained placenta in general—removal of the after-birth and clots, and possibly a tampon of the lower segment of the uterus. The author's favorite method of treatment was by the vaginal tampon; he employed it in 70 of his 162 cases, with a mortality of only 14.28 per cent. The total maternal mortality was but 21 out of 162, or 12.96 per cent.; the fetal mortality was 85 out 165 children, or 51.55 per cent.

Bilateral Extra-uterine Pregnancy.—Dr. A. Psaltoff of Smyrna reported this case. The woman, thirty-five years old, came under treatment for severe abdominal pain with distention. She gave a history of having had an attack of abdominal pain and tenderness three years before. This lasted with intermissions for five or six months, at the end of which time it disappeared, the menses which had ceased returned, and the woman resumed her usual occupations. Four months before coming under observation she was seized again with a similar attack of pain in the abdomen, vomiting, and suppression of the menses. A diagnosis of ectopic gestation was made, and an operation was determined upon. A cœliotomy being made, two fœtuses were found, one about five months old, in the right tube; the other, about four months old, mummified, in the left tube. The latter had evidently been the cause of the pain three years before, and had become encysted and mummified, ceasing then to give trouble. The author's conclusions, from a study of this case, were: (1) The fœtus in a case of extra-uterine pregnancy may remain several years in the abdominal cavity without causing any serious inconvenience to the mother. (2) A woman who has had an extra-uterine pregnancy is liable to another. (3) In operating on a case of extra-uterine pregnancy the surgeon ought always to make a careful examination of the opposite tube. (4) In order to prevent a second accident of the same nature, it might be advisable, when operating in a case of ectopic gestation, to remove the uterus and adnexa at the same time, if the woman's condition permitted.

Technique of Abdominal Hysterectomy.—Dr. J. L. Faure of Paris presented a communication on this subject. The operation of choice, he said, except in cases of cancer, was subtotal hysterectomy; this operation would be preferable, if for no other reason, because of the simplicity of hæmostasis as compared with that in total extirpation of the uterus. In every operation the surgeon should have clearly formulated in his mind the object to be aimed at, and should endeavor to reach the lower pole of the uterus and adnexa by the shortest and easiest route. Then, according to the indications present, a choice should be made between uterine decollation, Kelly's method—called in France the American method—Terrier's preliminary extirpation of the uterus, and uterine hemisection.

Treatment of Fibromata and Prevention of Neoplasms by Physicotheraphy.—Dr. J. Rivière of Paris advocated the employment of physicotherapy, or the combined action of electricity, heat, and light, in the treatment of uterine fibromata. Treatment by physical agencies, especially electricity, he held, restored local and general nutrition, reduced congestion, and was depurative in its action. It prevented benign tumors from degenerating into cancer, especially in the arthritic in whom malignant degeneration was most likely to occur. Electricity was one of the most useful of these physical agencies, but the author cautioned especially against the error of attempting to replace surgery by destructive electrotherapy.

The Pathogenesis and Treatment of Chronic Cellular and Peritoneal Inflammations of the Pelvis.—Dr. Ramón Martín Gil of Malaga presented this communication. The factors entering into the pathogenesis of these inflammations were, he said, cysts of the ovary, especially dermoids; septic infection of the uterus, resulting from unskilful manipulation of this organ; ligation of the pedicle of an ovarian tumor if the ligature was not absorbed or was not sterile; adhesions of the intestines, peritoneum, or epiploon to the ovaries or tubes; hæmatocele; ectopic gestation; finally and especially puerperal or gonococcal infection. The treatment was twofold: (1) The non-operative—hot injections, massage, the use of medicinal waters; (2) The surgical—section of Douglas's pouch, abdominal section, or Goffe's vaginal cœliotomy. The surgeon should never remove the uterus and ovaries so long as a hope, however slight, remains of preserving them.

Treatment of Urethrovaginal Fistula.—Dr. Candela of Valencia read a paper with this title, of which the following were the conclusions: (1) In order to relieve the troubles caused by a urethrovaginal fistula one should always endeavor to form an artificial urethra. (2) A preliminary colpocystotomy is absolutely necessary in order to ensure the adhesion of the freshened surfaces. (3) The result of this operation will depend upon the state of the tissues, the skill and delicacy with which the operation is performed, and the care exercised in the after-treatment. (4) Even though one cannot always give a favorable prognosis, an operation is the only thing which gives a hope of cure.

Conservative Surgery of the Uterine Adnexa.—Dr. M. A. Fargas of Barcelona read this paper. The preservation of the ovaries, or even a part, he said, exercised a very favorable effect upon the organism through the influence of the internal secretion of this organ and the maintenance of ovulation. The preservation of one tube, connected with the ovary, even if it is considerably altered in form, allowed of the possibility of subsequent pregnancies. The preservation of the tubes without ovaries would seem to serve no useful purpose. In cases of benign neoplasms of the ovary, the organ or a part of it

might be preserved by dissecting away the growth. In trophic affections of the adnexa it was almost always possible to preserve a portion of the ovary. In cases of infection a conservative operation was imperative whenever the nature of the lesions left a hope of anatomical and functional restoration. In such cases operation should be deferred until the lesions had reached their full development, and the infective process had run its course. A mutilation that was not demanded by the nature of the lesion was not justifiable for the sake merely of technique. The facility and safety of conservative operations were well established, yet the contraindications and limitations were numerous. The abdominal route was the best one when conservative operations were to be undertaken. Gynecology of the present day, while perfecting the technique and gaining a greater insight into the nature and origin of lesions of the uterine adnexa, must learn to be more respectful toward these organs and their functions than it was in the last quarter of the century just past.

Hysterectomy in the Treatment of Puerperal Infection.—Dr. Francisco de Cortejarena of Madrid presented a communication of which the following were the conclusions: (1) The uterus is often the main source of puerperal infection, by reason of the matters retained within its cavity, and in such cases the indication is, of course, to remove the infecting material. (2) A generalized infection of several organs, veins, kidneys, and even the blood, diminishes the importance of the uterus as the infecting agent, and in such case there is no indication for local intervention. (3) Owing to the great variation in the modes of infection, the treatment must vary, and should, above all, never be stereotyped. (4) Infection, even when long continued, may often be combated by medical and local non-operative treatment, in which case surgical measures are strongly contraindicated. (5) It is difficult to determine the most favorable time for surgical intervention, and one may readily be too precipitate or delay too long. (6) Hysterectomy is sometimes the only means of saving life in cases of continued infection proceeding from the uterus, but it is a measure of last resort, since it condemns the woman to sterility. (7) A bacteriological examination of the blood is of little service in determining a choice of therepeutic measures.

Indications for Hysterectomy in Beginning Acute Sepsis.—Dr. J. Cortiguera of Santander read a paper with the following conclusions: (1) With care in the institution of prophylactic measures puerperal infection should be of very infrequent occurrence. (2) Cleansing of the cavity of the uterus, when resorted to early and rigorously prosecuted, cuts short almost all cases of puerperal infection. (3) There are some exceptional cases in which hysterectomy is indicated, when the local measures employed have failed to cure the toxæmia. (4) Infections for which operation is chiefly indicated are those in which the lesions are temporarily limited to the uterus, the adnexa, and the pelvic peritoneum, but in which there is a probability of extension to the general peritoneum, or of the occurrence of general sepsis. (5) Before deciding upon a mutilating operation the surgeon must be certain that the source of the infection is not in the perineum or the vagina; that the infection is not a descending one through the blood circulation, independent of the uterus; and that no involvement of the defensive lymphatic glands has occurred. (6) A condition of collapse or of extreme physical depression may also contraindicate hysterectomy.

Treatment of Placenta Pravia.—By Prof. A. R. Simpson of Edinburgh. "The conditions under which a woman suffering from placenta prævia may be found are too diverse to permit one to formulate any system of treatment suitable for all cases." (1) In most cases the best treatment consists in bipolar version, a leg being seized and the child extracted slowly. (2) An expectant treatment may be adopted when hemorrhage occurs some weeks before the termination of pregnancy and when the loss of blood is not too great. However in such a case the medical attendant should visit the patient from time to time, and always be prepared to institute radical measures if necessary. (3) In some cases, especially in primiparæ, one should begin by vaginal tampons, or by the employment of a hydrostatic dilator introduced first into the vagina and then into the cervix. (4) In cases of marginal inplantation, when the orifice of the uterus is already half dilated, the placental lobules may be separated from the lower segment of the uterus by the finger. This manœuvre arrests the bleeding, and permits of the complete dilatation of the cervix by natural means without further loss of blood. (5) In all cases of placenta prævia, the third stage of labor should be carefully watched, and the accoucheur should be in readiness to combat hemorrhage during this stage, or even postpartum if necessary, by tamponning the cavity of the uterus.

ILLINOIS STATE MEDICAL SOCIETY.

Proceedings of the Fifty-third Annual Meeting, Held in Chicago, April 29 and 30, and May 1 and 2, 1903.

The society convened in Tremont Hall of the Northwestern University, under the presidency of Dr. M. L. Harris of Chicago.

Addresses of welcome were delivered by Dr. Taylor, prosecuting attorney of Chicago; Hon. Henry G. Foreman, President of the County Commissioners, and by Dr. James H. Stowell.

The response to these addresses was made by Dr M. L. Harris, the President.

President's Address.—President Harris, in his address, stated, among other things, that success, as applied to the life of the physician, meant something else than his own opinion of himself. It meant the realization by others of the value of his labors, of their value, not simply from a commercial standpoint, but from the standpoint of the scientist and the humanitarian, to others of his knowledge and skill. That natural aptitude and ability count for something in determining the degree of success to which an individual may attain must be granted, as it is a common observation in all walks of life, that some individuals, with scarcely any opportunities in early life, have struggled to the top, over almost insuperable obstacles; notwithstanding this fact, the scientific child study which so many are now vigorously prosecuting, with such rich rewards for their labor, demonstrates clearly that much of the dulness, the apparent stupidity and lack of capacity to learn in the early years of life were closely related to, if not dependent on, certain physical defects, and that many of these defects and the capacity to learn had, in a broad sense, a nutritional basis.

He recapitulated, briefly, the factors which contribute most to the scientific success of the physician, namely, first, a thorough knowledge of the rules of logic and the theory of reasoning, in order that the physician might be able to deduce warrantable conclusions from the evidence at hand. Second, the physician must train his powers of observation, in order to present to his reasoning faculties correct data. Third, he must be familiar with what is known on the subject before him, in order that he may correlate his own observations with the facts presented by others.

Approximately, seventy papers were read before the three sections, and three general addresses delivered.

We present abstracts of the more interesting papers.

The Dangers of Exclusive Milk Diet in Nephritis.—Dr. A. C. Croftan of Chicago read a paper with this title. The popular prejudice in favor of an exclusive milk diet in nephritis, and the fundamental fallacies of this prejudice, were pointed out The three indications for

dietetic treatment of nephritis were: (1) Protection of the secreting epithelium of the kidney; (2) protection of the cardiovascular apparatus; (3) protection of the general nutrition of the patient. The author presented reasons why an exclusive milk diet met none of these requirements. The best substitute for an exclusive milk diet, as deducted from modern investigations into the causes of nephritis and the excretion of urinary solids in inflammatory diseases of the kidneys, was pointed out.

The Breast Versus the Bottle in Infant Feeding.—The author of this paper, Dr. ALFRED C. COTTON of Chicago, compared the mortality statistics of natural and artificial feeding. He referred to the relative morbidity attending each method. Human milk was compared with that of other mammals. He pointed out the dangers of the acceptance of even the best known methods of artificial feeding. The more nearly perfect the food laboratory, the greater were the possibilities of harm from overconfidence in artificial methods. Infants were too frequently denied the breast for trivial and insufficient reasons. In view of our knowledge of the morbidity and mortality of artificially fed infants, what right had physicians needlessly to expose any infant to such chances? He made a plea for the establishment of a bureau of information and supervision, to facilitate the procuring of wet nurses when required.

Cockroaches as Typhoid Infection Carriers.—Dr. ROSA ENGELMANN of Chicago discussed this subject under the following heads: (1) Vermin as active intermediary hosts of various infections; (2) history of a house epidemic of typhoid fever; (3) cockroaches; sewage and water denizens not heretofore classed as typhoid-infection carriers; (4) need of examination and cultures from intestinal contents and from feet of cockroaches for pathogenic germs—especially the Eberth bacillus; (5) opportunity the coming summer (after necessarily prolonged rainfall) for such work in the vermin-infested slums of Chicago.

Hysteria.—Dr. HUGH PATRICK of Chicago reported cases of hysterical paraplegia, hysterical amblyopia with rigid pupil, hysterical anorexia, hysterical pseudomeningitis, and hysterical deaf-mutism.

The Treatment of Some of the Degenerations of the Cerebrospinal Apparatus, with Particular Reference to Optic Atrophy.—Dr. ARCHIBALD CHURCH of Chicago said that the general feeling was that degenerations taking place in the conducting tracts of the cord, as in locomotor ataxia and atrophy of the optic nerve, arising from any cause, as well as the changes in the brain and cord that are found in paretic dementia, are quite unamenable to treatment. In all of these conditions the tendency to remission was, in itself, a confusing element, in judging the therapeutic value of any line of treatment. In the case of the optic nerve, the ophthalmoscope enabled the physician accurately to see changes which were taking place, and by appropriate tests variations for better or worse could be actively determined and systematically recorded. A number of cases of optic atrophy associated with a secondary syphilis had been under observation for from two to ten years, and were made the basis of an estimate of the value of mercury in controlling these degenerations.

Ophthalmoscopic examinations and perimetric records made in these cases by competent oculists demonstrate that in some instances degenerations in the optic nerve could be distinctly controlled. Other cases of locomotor ataxia and paretic dementia were adduced, in which the clinical records indicate a similar retarding influence upon the processes of degeneration in the brain and cord.

Euphthalmin, as a Mydriatic for the General Practitioner.—Dr. ALBERT B. HALES of Chicago read a paper with this title. He said that the use of the ophthalmoscope was becoming more general in medical diagnosis. He pointed out the need of a drug to dilate the pupil, not only to study the condition of the fundus, but also to note the condition of the cornea, iris, and lens. Atropine was too powerful, and destroyed accommodation. Homatropine was of only less strength, and was expensive. Cocaine was good, but dangerous to the eye. Euphthalmic scarcely affected accommodation; it dilated the pupil fully, and in a short time. It had no dangerous element about it, and its effect passed quickly away. He detailed experiments.

Abdominal Pain in Pleurisy and Pneumonia.—Dr. JAMES B. HERRICK of Chicago said that pain in pleurisy and pneumonia might be referred not only to the affected side of the chest, but to the opposite side of the abdomen. In the latter case, abdominal disease, for example, appendicitis, might be simulated. He dwelt upon the importance of recognizing the thoracic organ of pain, as it might thus prevent surgical interference. Illustrative cases were reported. The anatomical basis for the referred pain was found chiefly in the course and distribution of the intercostal nerves. The diagnosis was generally easy when once the possibility of the thoracic cause for the abdominal pain was thought of, and a careful examination of the chest made.

Some Unusual Cases of Chorea.—Dr. L. HARRISON METTLER of Chicago reported a few peculiar cases of chorea. He advanced the idea that chorea was a symptom and not a disease; that its etiology was not so obscure as it appeared to be; that it had some remarkable frequently overlooked features in its symptomatology, and that its treatment was varied and deserving of more careful study.

The Secondary Results of Cardiac Disease.—Dr. JOHN A. ROBINSON of Chicago reported a unique case. He discussed the various valvular lesions and their pathological sequence, myocarditis, and the secondary symptoms. He related a case of mitral insufficiency, with ruptured compensation, dropsy, and proliferative inflammation of the skin, with return of compensation and disappearance of the secondary symptoms. The entire circle of invalidism in this case lasted two years.

The General Practitioner and His Relation to Early Surgical Operations.—Dr. E. B. MONTGOMERY of Quincy called attention to the fact that the internists were too often apt to be influenced by the law opinion that surgical operations were only to be done as a last resort, and unconsciously lent themselves to delay in a large class of cases that should have surgical intervention early in their course. He contended that the unfavorable results which were shown to follow in too large a percentage of cases of carcinoma of the breast and uterus, were due to late operation. Appreciating this, the general practitioner should encourage among his patrons immediate consultation of the physician concerning every trouble with the breast in women, however insignificant, or any irregular hemorrhage, occurring after the age of forty years, and, if there was the slightest question concerning the presence of malignant disease, a surgeon should be associated with him in the case. In the author's opinion, the same rules should obtain in typhoid fever, with any evidence of perforation; in appendicitis; in cholecystitis with enlargement of the gall-bladder, and in enlargement of the prostate gland after the catheter life has begun; in pleuritic effusions lasting over two weeks, either purulent or not, and in hypertrophic cirrhosis of the liver, the early presence of the surgeon was advocated. In support of these opinions, facts and cases were adduced.

The Traction Injury of Arteries.—In a paper on this subject, Dr. S. M. WYLIE of Paxton said that normal nutrition and vascularization of the extremities depended upon an unobstructed flow of normal blood. Stagnation, partial or complete, favored the formation of fibrinous clots. Traction injuries of the arteries, by disturbing the

normal relation and function of the various coats, favored the formation of thrombus in two ways: (1) The ruptured walls of the interna curling up in the lumen act as an obstructant to the current; (2) the loss of contractile power from the overstretched or torn muscular fibers favored stagnation, and arrested the flow. Both were factors in the function of occlusion thrombi causing complete arrest of the circulation and subsequent death of the part. This was a surgical accident often overlooked at the time of the first dressing of an injured extremity, and when subsequent gangrene ensued, as it often did, it was attributed to faulty methods of applying the dressing.

Modern Surgery of Congenital Cleft Palate.—Dr. S. R. HOPKINS of Springfield presented a paper with this title, in which he spoke of the history and evolution of the operation. He gave a description of the uranoplastic operation in its infancy, and its advantages over later operations, with the statistics furnished by different operators. He likewise gave a description of staphylorrhaphy in later life; also made remarks on the power of speech following operations. He recommended a change from the usual *modus operandi* of closing continuous clefts in children over six months of age, with a report of two cases illustrating the proposed method.

Successful Removal of a Cystic Fibromyoma of the Uterus Weighing Eighty-seven Pounds.—Dr. J. CLARENCE WEBSTER of Chicago reported this interesting case. The patient was forty-one years of age; married. The tumor was of ten years' duration. The measurements were: Greatest girth of abdomen, five feet; the lowermost portion of the pendulous abdomen, eleven inches below the level of the anterior superior iliac spine. Operation was performed December 16, 1902. The abdomen was opened after Schleich infiltration of the skin. The separation of adhesions and ligation of the vessels were carried out during one hour, without any general anæsthetic. During another hour and a half only six ounces of chloroform were used. A panhysterectomy was performed, followed by a normal recovery.

The Treatment and the Causes of Death in Placenta Prævia.—The essayist, Dr. P. M. BURKE of La Salle, pointed out that the cause of death in placenta prævia was extensive rupture of the uterus, and not hemorrhage due to a mere separation of the placenta in the act of turning, as was popularly believed. Out of nine cases in all of which he turned, there were four extensive ruptures. Three of the patients died, and one recovered immediately after repairing the injury. The cause of death applied to the mother, as the cause of death of the child was self-evident. The only deaths were in the ruptured cases unrepaired. The lack of knowledge was due to small individual experience, consequent on the infrequency of such cases. In numerous cases of turning, in about a thousand cases of obstetrics, he never had had a rupture except in placenta prævia. The occurrence of rupture in these cases was not a coincidence, but due to the friable, brittle condition of the lower segment of the uterus. The treatment was surgical operation, prompt, heroic, and successful repair of the rupture.

Tuberculosis of the Vestibule of the Female Genitals.—Dr. J. H. STEALY of Freeport read a paper on this subject, in which he reviewed the cases in literature. He referred to the rarity of the lesion; the possible cause of the unfavorable course taken by the disease in this region; the difficulties attending the determination of whether the lesion was primary or secondary, and its bearing on the prognosis. He said the tuberculin test was the only accurate method.

Bloomington was selected as the place for holding the next annual meeting.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending May 23, 1903:

	Cases.	Deaths.
Measles	448	15
Diphtheria and croup	455	55
Scarlet fever	288	27
Smallpox	1	..
Varicella	97	..
Tuberculosis	305	148
Typhoid fever	46	12
Cerebrospinal meningitis	..	..

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending May 23, 1903:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
Alabama, Mobile	May	3–16	13	..
California, Los Angeles	May	3–10	1	..
San Francisco	May	3–10	4	..
Florida, Chipley	May	8–16	9	..
Jacksonville	May	8–16	7	..
Pensacola	May	8–16	5	..
Georgia, Atlanta	May	6–20	4	1
Illinois, Bellevue	May	11–18	9	..
Chicago	May	8–16	8	1
Galesburg	May	8–16	3	..
Indiana, Ellwood	May	10–17	7	..
Evansville	May	1–16	6	..
Indianapolis	May	8–16	6	1
Kokomo	May	8–16	1	..
Iowa, Des Moines	May	8–16	1	..
Louisiana, New Orleans	May	8–16	7	1
Maryland, Baltimore	May	8–16	7	..
Massachusetts, Lawrence	May	2–9	1	1 doubtful
Michigan, Detroit	May	8–16	33	..
Grand Rapids	May	8–16	2	..
Port Huron	May	8–16	1	..
Minnesota, Winona	May	8–16	2	..
Missouri, St. Louis	May	3–17	17	..
Nebraska, Omaha	May	8–16	1	..
New Hampshire, Manchester	May	8–16	1	..
Nashua	May	8–16	1	..
New York, Elmira	May	8–16	1	..
Rochester	May	7–14	2	..
Ohio, Ashtabula	May	8–16	1 imported from Toledo.	
Dayton	May	2–16	6	..
Toledo	Apr.	18–May 16	31	1
Pennsylvania, Pittsburg	May	2–16	48	7
Philadelphia	May	8–16	35	1
South Carolina, Charleston	May	2–16	1	..
Georgetown	May	20	1	..
Tennessee, Memphis	May	8–16	3	..
Utah, Salt Lake City	May	8–16	5	1 imported
Washington, Tacoma	May	4–11	2	..
Wisconsin, Milwaukee	May	8–16	3	..

SMALLPOX—INSULAR.

Philippine Islands, Manila	Mar. 21–Apr. 4		11	2

SMALLPOX—FOREIGN.

Austria, Prague	Apr. 18–May 2		11	..
Belgium, Antwerp	Apr. 18–May 2		6	..
Brussels	Apr. 25–May 2		..	4
Brazil, Rio de Janeiro	Apr. 19–26		..	2
British Guiana, Demerara	Apr. 25	Present and spreading rapidly.		
Canada, Quebec	Mar. 2–9		2	..
China, Hongkong	Mar. 26–Apr. 3		4	1
Colombia, Bocas del Toro	Apr. 28–May 5		..	1
France, Paris	May 1–8		..	1
Great Britain, Birmingham	Apr. 25–May 2		5	..
Bristol	Apr. 25–May 2		3	..
Dublin	Apr. 30–May 7		23	3
Leeds	Apr. 25–May 2		14	..
Liverpool	Apr. 25–May 2		69	4
Manchester	Apr. 18–May 2		17	..
Newcastle-on-Tyne	Apr. 25–May 2		1	..
Nottingham	Apr. 18–May 2		2	..
Sheffield	Apr. 18–May 2		6	2
Sunderland	Apr. 25–May 2		1	..
India, Bombay	Apr. 14–21		..	73
Italy, Milan	Mar. 1–31		1	..
Palermo	Apr. 25–May 2		..	1
Japan, Kobe	Mar. 27–Apr. 11		3	..
Mexico, City of Mexico	Apr. 26–May 3		7	10
Russia, Moscow	Apr. 18–25		5	1
Odessa	Apr. 19–May 2		4	1
St. Petersburg	Apr. 4–25		58	12
Warsaw	Apr. 11–18		..	3

YELLOW FEVER.

Brazil, Rio de Janeiro	Apr. 12–26		..	34
Colombia, Panama	May 7–14		3	1
Mexico, City of Mexico	Apr. 26–May 3		..	1
Tampico	May 8–16		1	1
Vera Cruz	May 2–16		11	5

CHOLERA—INSULAR.

Philippine Islands, Manila	Mar. 21–28		1	1
Provinces	Mar. 21–28		164	93
	Not previously reported		14	14
	Mar. 28–Apr. 4		291	141
	Not previously reported		521	261

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Original Articles.

PERFORATING GASTRIC AND DUODENAL ULCERS: UNILATERAL EXCLUSION OF DUODENUM FOR PERFORATING ULCERS OF ITS POSTERIOR WALL.*

By ALBERT A. BERG, M.D.,
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PERFORATION of ulcerative processes of the stomach and intestines constitutes their most serious complication. Its occurrence means to the patient all the dangers of a local or diffuse infection of the peritoneum, if not immediate death from collapse. Especially significant are such perforations of benign ulcers of the upper part of the digestive tract. Their occurrence at once changes the rosy outlook for a spontaneous cure; the patient's life is cast into the gravest jeopardy, from which only the acute diagnostic acumen and the promptest action of his attending physician can help to save him.

The writer does not intend in this communication to enter into the etiology, pathogenesis, and symptomatology of gastric and duodenal ulcers; but will confine his considerations to their perforation; its result, its symptomatology, the question of surgical interference, and the results of operation with especial reference to the nature of the operation.

Results of Perforation.—These depend upon two factors: (*a*) The rapidity with which the ulcerative process extends through the walls of the stomach or duodenum, and (*b*) the site of the ulcer. It is very evident that when the ulceration spreads rapidly through the coats of the viscus, adhesive barriers with neighboring organs will less likely be formed and extravasation of the gastric and duodenal contents will very probably take place at the time of perforation. The location of the ulcer determines the character, extent, and site of the lesions that follow upon its perforation. If it is on the anterior wall of the stomach or duodenum extravasation into the free peritoneal cavity usually occurs; if on the lesser curvature or posterior gastric wall, spilling of the intestinal contents is likely to be limited to the bursa omentalis, and if on the posterior duodenal wall it will probably be confined to the cellular tissue behind the viscus, the ascending colon and perinephritic space. The location of the extravasation thus affords at once, upon opening the abdominal cavity, information as to the probable site of the ulcer; an important time-saving consideration.

When extravasation occurs into the free peritoneal cavity septic peritonitis ensues; the extent of this depends entirely upon the time that elapses between the onset of perforation and the time operative interference is undertaken. It is well to remember in this connection that the transverse colon, and mesocolon, may and usually do for a number of hours, limit the extravasation to the upper half of the peritoneal cavity; but that eventually the intestinal contents make their way downward along the ascending or descending colon, to the lower half of the peritoneal cavity. This natural limitation of the extravasation for a number of hours affords a slightly better prognosis from early operative interference to gastric and duodenal perforations than that which attends perforating ulcers of the small intestines, where no natural barriers to the rapid extension of the peritonitis exists. It also affords us an extra few hours time in which fully to substantiate our diagnosis without subjecting the patient to any increased danger. It is also worthy of note that the peritonitis caused by the extravasation of gastric or duodenal contents is likely to be of less virulent character than that which follows the spilling of contents from the lower part of the intestinal tract.

When the extravasation is into the lesser peritoneal cavity, or (bursa omentalis) its spread into the general cavity is usually prevented by adhesions, which close the Foramen of Winslow. A localized exudate into the retrogastric space results. Its extent varies; at times it spreads upward to the liver and diaphragm, invading one or both subphrenic spaces (and forming a subphrenic abcess), again it remains confined to the bursa omentalis, being limited below by the transverse colon and pancreas, or again it extends laterally to the region of the spleen, the perisplenic abscess (see history Sarah F., page 887).

When the extravasation has occurred into the retro-duodenal cellular tissue it there gives rise to abscess formation which spreads downward behind the ascending colon even into the pelvis and around the kidney (see history of Case III).

Such localized abscesses and peritoneal exudates, unless they are removed by operation tend to spontaneous evacuation by opening into some neighboring viscus or cavity, thus into the pleura, pericardium, colon, gall-bladder, or into the stomach and duodenum itself (see Autopsy of case III.), or upon the external surface of the body.

Of the results of perforation the writer has considered only the lesions due to the extravasation of infected stomach or duodenal contents. The lesions of neighboring viscera, *e. g.* the liver, pancreas, etc., which by adhesion to the floor of a slowly advancing ulceration prevented extravasation, but from contiguity themselves became involved in the ulcerative process, have not been mentioned, though the necrosis or abscess formation that may form in such viscera from this cause are of much importance.

Symptomatology of Perforation.—It is important clearly to differentiate between the cases in which extravasation accompanies the perforation, and those in which this does not occur, because of previous adhesions of the floor of the ulcer to neighboring parts. While we may, in the latter instance, correctly speak of a perforation of the stomach or duodenum, it is not attended for the moment by any new symptoms. The distant results, such as

*Read before Greater New York Medical Association.

necrosis of or abscess in these adherent structures do not concern us at this time.

In the first group of cases the entire symptoms are due to the extravasation. Their primal intensity depends on the extent and rapidity of the escape of intestinal contents, and their subsequent manifestations are proportional to the severity and extent of the septic peritonitis or cellulitis, the extravasation gives rise to.

Symptoms Prior to Perforation.—It is extremely doubtful whether there are any symptoms additional to those afforded by the ulcer *per se*, that attend the period just before perforation. In our cases there were no indications prior to the rupture that would lead to the suspicion of such an impending event. In one of the duodenal cases (Case IV), there had been no symptoms of the existence of an ulcer prior to the time of its perforation. In the other duodenal case there had been an attack presumably of catarrhal appendicitis lasting a few hours, several weeks before the perforation occurred. In one of the two gastric cases, the patient had been under treatment for some time, but had given no indications of impending perforation. The second case of our list was in the hospital at the time of perforation. She had received no food by mouth for a week, and seemed to be doing well until the perforation occurred. In her there was no increased leucocytosis. A study of the recorded cases in literature further substantiates the fact that there are no symptoms prior to perforation. The patients have either given no previous indications of the presence of an ulcer in the stomach or duodenum, or have suffered for varying periods of time from the usual manifestations of ulceration of these viscera. In the former the perforation with its subsequent train of symptoms has been the first indication of an ulcer; in the latter the perforation has occurred either at a time when the patients were suffering with an aggravation of their usual symptoms, *e. g.* in form of a hemorrhage, increased pain or vomiting (see history of Case II), or during an apparently quiescent stage of the disease. (See history of Case I).

Symptoms at Time of Perforation.—It is a mistake to think that all patients with perforation of any part of the gastrointestinal tract suffer at the time of its occurrence with collapse. The depression of the central nervous system may be entirely absent, *e. g.* in our cases II, III, and IV. The collapse is entirely dependent upon the extravasation, and not upon the perforation *per se*. It is not in evidence where extravasation is prevented by adhesion of neighboring parts to the floor of the ulcer. The writer has called attention to this in a previous communication on "Ruptured Typhoid Ulcers."*

Where the extravasation is slight or very slow, the symptoms of collapse may be entirely wanting, whereas, where the spilling is abundant and rapid, the central depression is very much in evidence, and death may ensue from the shock. The degree of collapse is entirely proportional to the amount of and the suddenness with which the peritoneal cavity is soiled by the infectious gastric or duodenal contents. Severe tearing pain in the epigastric and hypochondriac regions usually attends the rupture of the ulcer. Vomiting, hæmatemesis, may or may not occur; they are due to the ulcer rather than to its perforation.

Locally: The abdominal wall is motionless with respiration, and rigid—two very important signs of peritoneal inflammation.

*Medical Record, March 23, 1901.

The percussion note over the liver and spleen varies. If a perforation, with the escape of gas, into the free peritoneal cavity has taken place, superficial percussion over these organs is tympanitic. With small perforations and limited escape of gas, the percussion note over these viscera will not vary much from the normal. If the perforation is on the posterior wall of the stomach, gas may escape into the free peritoneal cavity with obliteration of liver flatness, if Winslow's foramen is open; this is, however, unusual. With perforation on the posterior wall of the descending duodenum, there is no escape of gas into the general cavity, and consequently no obliteration of liver or splenic dulness. (See history of Case III).

Palpation reveals a marked tenderness in the epigastric or hypochondriac regions; possibly a more or less extensive tumefaction. The latter is due either to the ulcer itself or to a localized extravasation around it. Over such a tumefaction the percussion note is dull tympanitic.

Leucocytosis.—Case II (observed at the time of rupture) showed no leucocytosis, although a gradually rising leucocyte count was observed in the course of the next twelve hours. In Murphy's case of perforated duodenal ulcer there was a high leucocyte count, six hours after the perforation. Our other three cases were admitted to the hospital at least twenty-four hours after the rupture had occurred, and were at the time of their admission suffering with diffuse peritonitis, which accounted for their hyperleucocytosis.

Symptoms Subsequent to Perforation with Extravasation.—They are those of an advancing septic peritonitis, with or without obliteration of liver dulness, depending upon the site of the perforation, or those of a retroperitoneal abscess on the right side of the abdomen:

Summary of Symptoms.—The ulcer may have been a latent one, and the perforation is the first indica- of its existence (especially is this the case in duodenal ulcers), or it may have given rise to the usual train of symptoms, and the perforation occurs suddenly during a period of exacerbation, or during its ordinary course. At the time of perforation there is usually a severe tearing pain in the epigastric or hypochondriac regions, accompanied or not with collapse and prostration.

Locally: The upper half of the abdominal wall is rigid, and does not participate in respiratory movements. There is distinct local pain and tenderness in the epigastrium, or hypochondrium, possibly a tumefaction.

Liver: Flatness on superficial percussion may or may not be obliterated. Vomiting and hæmatemesis may occur. Hyperleucocytosis has not been noticed in the reported cases.

Several hours after perforation the signs of septic peritonitis supervene and obscure all the other symptoms. The liver flatness may or may not during this later period be obliterated. If the perforation is on the posterior duodenal wall the patient goes on to develop a retroperitoneal abscess on the right side of the abdomen.

Question of Operation in Perforated Ulcers of the Stomach and Duodenum.—There can be very little doubt as to the propriety of surgical interference in perforating ulcers of the stomach and duodenum. The claim may possibly be made that by adhesion to neighboring viscera, or the abdominal parieties, closure of the perforation could be effected and extravasation prevented. However possible this is in the case of perforations of the small intestines, it is highly improbable, nay, almost impossible, in the case of the stomach and duodenum. For it is

to be noted that the small intestine is surrounded by freely movable coils of intestines and omentum, which can easily adapt themselves to the orifice of a ruptured ulcer, and so effectually close it. The stomach and duodenum, on the other hand, are in the vicinity of the liver and pancreas, organs more or less fixed and of firm consistency, which renders them less adaptable to close the irregular orifice of a ruptured ulcer. Where the liver and pancreas are found adherent to and forming the floor of an ulcer in the stomach or duodenum, such adhesion has occurred before rupture. It can be accepted without the shadow of a doubt that all those cases in which perforation into the general peritoneal cavity occurs, and some of those in which the rupture is into the bursa omentalis, develop diffuse septic peritonitis; and that the remaining cases in which the perforation is into the lesser sac, and those in which it is into the retroduodenal tissues, develop gas containing abscesses at the site of perforation.

Surgery has accomplished good results in these perforating ulcers, and promises to do even better with earlier diagnoses and improved methods of dealing with the coexisting peritonitis. Bolton Carter collected 59 published cases (Murphy, Perforating Duodenal Ulcers) of perforating duodenal ulcers. Of these 27 died without operation, the lesion being found post mortem. Of the remaining 32 subjected to operation 11 recovered, or 34 per cent.; Lenander states that the statistics so far published (1898) show that one-fourth to one-third of the perforating ulcers of the stomach and duodenum are saved by operation, and that the prognosis depends on the length of time that elapses before operation is undertaken, and on the extent and character of the peritonitis.

Time in Which to Operate.—The statement of Lenander just quoted, at once brings up the question, as to what is the best time for surgical interference: In this respect the cases may be roughly divided into two groups: (*a*) those that present the symptoms of perforation and extravasation into the free peritoneal cavity, and (*b*) those in which there are evidences of perforation *e.g.* severe tearing pain, shock, local abdominal rigidity, but no obliteration of liver or splenic dulness. The writer lays great stress upon the presence of gas in the free peritoneal cavity evidenced by a partial or complete obliteration of liver or splenic dulness or both, as an indication of the rupture and extravasation of the contents of a hollow viscus into the free peritoneal cavity. It has been his experience, gained from the observation of about twenty cases, that obliteration of liver and splenic dulness, always attended a rupture into the free peritoneal cavity; and that where the liver and splenic dulness and flatness were normal, the extravasation was always localized by adhesion of the ruptured viscus to neighboring parts.

In the first group of cases, we have every reason to assume that septic peritonitis will rapidly follow the extravasation, and, as would be expected, the prognosis would depend upon how soon after the rupture of ulcer the abdomen is opened and the perforation closed. Broadly speaking, this operation should be made as soon as a diagnosis is established. Though this waiting until a diagnosis is made, will at times entail the risks of a diffuse peritonitis, for the symptoms may be so indefinite as to forbid an early diagnosis being made, the writer feels that exploratory laparotomy for supposed perforation will neither rebound to the credit of the surgeon or to the benefit of the patient. Even with all the modern attention to asepsis and antisepsis, exploratory laparotomy has its mortality, and the surgeon and physician should rather tend to perfect their diagnostic acumen than resort to exploratory laparotomy for establishing a diagnosis.

In the second group of cases, viz., those in which with the symptoms of perforation there is no gas in the free peritoneal cavity, the question may very properly be raised, whether it would be advisable to wait before proceeding to operation. Though the urgency in these cases is not so immediate as in the preceding group, there is very little doubt that these patients should also be laparotomized, and the perforation closed if possible. It may be advisable in some of these patients to wait for a few days, permitting firm adhesions to form around the local extravasation; but, operation should not be too long deferred. For while isolated instances of spontaneous cure of a perforation and localized exudate do occur, the risks of septicæmia and pyæmia from an undrained septic focus, or those of secondary rupture of the septic material into the peritoneum, pleuræ, or pericardium, certainly excel those of an early operation.

Reports of cases show that sooner or later such localized exudates make their way into the subphrenic spaces, and unless evacuated and drained, rupture through the diaphragm, into the pleuræ or lungs. The question resolves itself thus: Will we operate under favorable conditions with a localized exudate and the good possibility of being able to close the perforation, or wait until a huge abscess has formed, and the patient has become septic and exhausted, and in whom a closure of the perforation is entirely out of the question. The history of the following case, operated upon by Dr. Gerster at the Mt. Sinai Hospital, illustrates this point:

(Mt. Sinai Hospital Reports, Vol. I, page 178): *Ruptured Ulcer on Posterior Wall of Stomach; Enormous Abscess in Retrogastric and Left Subphrenic Spaces; Thrombosis of Splenic Vein; Necrosis of Spleen and Lung Aspiration; Incision by Pleural Route; gastric Fistula, Sepsis, Inanition, Death.*—Sarah F., thirty-three years of age, was referred to Dr. Gerster by Dr. Strauss of New York. She had an old history of gastric ulcer for which she had been under medical treatment. Seven weeks before her admission to Mt. Sinai Hospital, she experienced a sudden pain in the umbilical region; since then she had continuous fever; no chills; vomited intensely fetid matter. On left side increasing dulness, extending from the sixth space posteriorly to the lower border of the ribs, apparently due to a tumor mass in the left hypochondrium. Occasionally after vomiting of fetid matter, the dulness was replaced by tympanitic resonance with succussion. Liver dulness, normal. Puncture in eighth left intercostal space yielded material of same appearance and odor as vomitus, containing particles of food. June 24, operation. Seventh and eighth ribs resected in axillary lines. Pleural cavity walled off by packings; diaphragm incised, and a large cavity opened into, situated in retrogastric space; its upper anterior wall formed by a gangrenous part of spleen, its anterior wall formed by posterior part of stomach, and communicating by an opening through the diaphragm with an abscess cavity in the lung. The cavity was filled with fluid having a peculiar methyl alcohol odor. The gangrenous portion of the spleen was easily removed. At the bottom of the cavity was seen a large gastric fistula, which could not be repaired on acount of the necrotic condition of the surrounding parts. Cavity evacuated and drained. Fistula plugged. June 25,

profuse discharge of material from stomach, and necrotic tissues of the walls of the cavity. Posture did not affect gastric discharge. July 1, death from inanition and sepsis.

Post-mortem: Perforation about six centimeters in diameter, in posterior wall of the stomach. Along the edge of the ulcer, a branch of the splenic vein is thrombosed and occluded. Spleen gangrenous in its upper part; a large infarct at the lower edge of the gangrenous area. Left lobe of liver contains a large abscess. Left lung gangrenous at its lower part.

The writer wishes again to direct attention to the percussion note over the liver and spleen in cases of rupture of any hollow viscus. Partial or complete obliteration of the dulness indicates extravasation into the free peritoneal cavity, and should decide us to immediate operation; normal dulness and flatness over these organs, points to a localization of the extravasated gas and intestinal contents; and while it may at times be advisable to wait for a few days until firm adhesions form around the extravasated material, operation is to be performed as soon as possible.

In cases of retroduodenal perforation, operation should also be done early. The dangers of delay are well shown in our Case III, where though the abscess perforated into the colon, the septic symptoms persisted, and so exhausted the patient that nothing further than incision and drainage of the abscess cavity could be done.

As to shock influencing the time for operation. The depression of the central nervous system is due to the extravasation, and the surest way to relieve it is to prevent further soiling of the peritoneum. Vigorous hypodermic stimulation and subcutaneous infusion will usually suffice to temporarily counteract the shock and enable the surgeon to proceed with immediate operation.

Prognosis.—The prognosis after operation depends upon several factors, chief of which are (*a*) the length of time that has elapsed before the operation is closed, for the severity and extent of the peritonitis is usually in direct proportion to the duration and extent of the extravasation, and (*b*) the emptiness or fulness of the stomach and duodenum at the time of perforation. Generally speaking, the peritonitis following gastric or duodenal rupture is less intensely virulent than that following perforation of the small intestine in its lower segments.

(*a*) *Operative Treatment of Ruptured Ulcers Situated on the Anterior Wall of the Stomach and Duodenum.*—As these are very accessible, their closure can as a rule be easily effected.

It is an important question how we should deal with the ruptured ulcer.

Excision of the necrotic edges or excision of the entire ulcer, and then closure of the defect by suture has not yielded as satisfactory results as simple inversion by suture of the ulcer into the lumen of the viscus. This may necessitate a considerable infolding of the wall of the stomach or duodenum; in the case of the former such infolding is of no material import; in the duodenum it may so materially narrow the lumen of the viscus, as to necessitate its exclusion by gastroenterostomy. It has been the experience of the writer that a reduction in the diameter of the lumen of any part of the small intestine to one-half the normal, does not result in any marked interference with the passage of contents through it. Reperforation after inversion of the ulcer is not likely, provided the inverting sutures are passed through healthy tissues.

The advisability of performing gastroenterostomy at the same sitting, with the idea of aiding in the healing of the ulcer itself, is very doubtful.

In the writer's two cases of recovery after perforation, all the symptoms of the ulcer disappeared. In Case I (perforated gastric ulcer) there was no return of the symptoms one year later. In Case IV (perforated duodenal ulcer) there were no clinical evidences of persisting ulceration six months after his discharge from the hospital. In both the entire ulcer had been inverted into the lumen of the viscus. It is likely that the inversion of the ulcerated area leads to necrosis and casting off of the diseased part, and so to spontaneous cure.

However this may be, it does not seem wise to perform gastroenterostomy at the time of perforation, unless there are other indications for it. The patients are usually in a precarious condition, and do not bear well the additional ten to fifteen minutes it would take to perform the anastomosis. The inversion of the ulcer is simple enough. A double row of Lembert mattress sutures, of silk or catgut, passed through healthy tissues at the margin of the ulcer, accomplishes the object. The site of suture should always be covered by omentum or a strip of Cargile membrane, and then protected by a narrow wick of gauze. The omental or membrane covering adds to the security of the suture and prevents a secondary infection of the suture line through the drainage opening.

Where extensive infiltration and brittleness of the tissues surrounding the ulcer causes the sutures to tear out, and so renders closure of the perforation impossible, we may attach the ulcerated area to the anterior parieties, or tampon the perforation with gauze; in either case establishing a jejunostomy by which to administer nourishment.

As to the Peritonitis: The peritoneal surfaces and cavity are carefully cleansed of all extravasated material and exudate by gentle mopping with soft sea sponges or sterile gauze. Evisceration and irrigation of the peritoneal cavity with saline solution is not done; though it is certainly the most efficient method of cleansing the parts, it is too deeply shocking to admit of its employment as a routine procedure.

It is the writer's practice not to drain the peritoneal cavity; such drainage does little good, and disposes to secondary infection, kinking of the intestines and, by irritating the tissues, to a further spread of the infectious material. It has been demonstrated that physically unaltered peritoneum is well able, by its rapid absorptive power, to cope with infectious material, provided it is not injured by chemicals, gauze, or drainage tubes. But wherever the inflammatory process has deprived the peritoneum of its endothelial covering, and has thus retarded the rapidity of its absorptive power; there drainage must be provided, otherwise the products of exudation and bacterial life stagnate at these areas, favoring the spread of the peritonitis. The indications for drainage are not the character of the exudate, but the aspect of the peritoneum. When its endothelial covering is intact and smooth, no drainage is provided; but when the membrane is dull and blistered and converted into granulation tissue it must be thoroughly drained. In the diffuse peritonitis following appendicitis, the writer has obtained the best results by following the above procedure. A series of fourteen cases so treated will be reported in a subsequent communication.

(*b*) *Ruptured Ulcers on the Posterior Gastric Wall.*—Their closure is far more difficult than in the previous instance because of their inaccessibility. The exudate in the retrogastric space is, first of all,

removed by aspiration through the gastrohepatic omentum. The position of the ulcer is then determined by introducing the finger into the retrogastric space through the foramen of Winslow. If it is near the lesser curvature, access to it will best be gained through the gastrohepatic omentum; if it is near the greater curvature, it will be more easily reached from below through the transverse mesocolon. During the manipulations the general peritoneal cavity is protected by gauze compresses. When possible, the ulcer is inverted by Lembert mattress sutures. Drainage of the retrogastric space is provided through a counter incision in the back. Where it is impossible to close the rupture the opening is packed by gauze lead out to the surface through a stab wound in the back, and a jejunostomy established to feed the patient, thus excluding the stomach.

Ruptured Ulcers on Posterior Surface of the Duodenum.—It is to be noted that the posterior duodenal surface is uncovered in the adult by peritoneum. In view of this, it is almost useless to attempt repair of the ruptured ulcer *per se.* The sutures will either not hold in the necrotic cellular tissues, or through secondary infection will give away; in any event, duodenal fistula results, which is apt to end in the speedy death of the patient from starvation. To avoid this, the writer begs to suggest the following procedure:

When the diagnosis is made before operation, it is advisable to evacuate and drain the extravasated material and purulent exudate in the retroduodenal, retrocolic and perinephritic spaces, through a lumbar incision, thereby avoiding any soiling of the peritoneal cavity. The orifice of the ruptured ulcer is tamponed with gauze. The abdomen is then opened, a gastrojejunostomy established, and the pylorus constricted with a purse-string silk suture. The perforated duodenum is thus unilaterally excluded from the intestinal circuit, and leakage of the chyme through the fistula prevented. The procedure is better than a jejunostomy, for gastric digestion is not done away with by it. The duodenal rupture must necessarily close spontaneously by granulation, as there is nothing to leak out and keep it open.

The writer intended performing this operation in his Case III of ruptured ulcer on the posterior duodenal wall, but her wretched condition forbade any secondary operation. It is essential that the gastrojejunostomy and pyloric constriction be done at the time of the first operation, for a duodenal fistula so rapidly exhausts the strength of the patients that they can never be brought into condition to stand a second operation.

In those cases in which the diagnosis is not made until the abdomen is opened, the exudate is evacuated by incising the peritoneum on the outer side of the colon, and drainage established through a small incision in the back. Gastroenterostomy and pyloric constriction are then at once performed.

The writer is led to suggest this procedure of primary gastrojejunostomy and pyloric constriction, *i. e.* unilateral exclusion of the duodenum, because a duodenal fistula is sure to cause speedy death by starvation. As the repair of ulcers on the posterior duodenal wall is most likely to prove unsuccessful, a duodenal fistula will be established and a fatal result is to be expected unless the chyme is diverted from the duodenum. In duodenal fistula due to other causes the same procedure would prove of value.

The patients whose histories follow, one of perforated gastric ulcer on the anterior wall, near the cardia; one of perforated carcinoma on the base of an old ulcer on the lesser curvature; one of perforation of duodenal ulcer on the posterior wall, and one of perforation of duodenal ulcer on anterior wall were admitted to the service of Dr. Gerster at Mount Sinai Hospital, and operated upon by the writer.

Case I (1902, Vol. 2, page 12).—*Perforated Ulcer of Stomach; Diffuse Septic Peritonitis; Laparatomy; Inversion of Ruptured Ulcer by Suture; Drainage of Site of Ulcer; No Drainage of Peritoneal Cavity; Cured.*—Rifka L., eighteen years old, a tailoress, had suffered for the last five years with gastric ulceration; never had hæmatemesis, or melæna. She had been under medical treatment during this time. Three days before admission there was an exacerbation of the symptoms. Thirty-six hours before admission she experienced severe crampy pains in the abdomen, radiating to the left shoulder, and felt faint. She did not vomit; no chill or fever. On admission, October 24, she was in fair general condition. She looked very sick; temperature was 103.8°; pulse, 120. Physical examination revealed heart and lungs normal; abdomen rigid, motionless, with respiration; liver dulness partly obscured by tympanitic resonance. Marked pain and tenderness over entire epigastrium and left hypochondrium, also in right iliac fossa. Rectal and vaginal examination negative.

Diagnosis.—Diffuse peritonitis, from ruptured gastric ulcer.

Immediate Operation.—Under chloroform anæsthesia an indefinite tumefaction was to be felt in the epigastrium. Median laparotomy above umbilicus; the deeper tissues of the abdominal wall were œdematous. On opening peritoneal cavity free, clear fluid escaped from below the level of the transverse colon. Above the transverse colon there was free gas, and thin, greenish-white purulent fluid. Careful protection of the lower half of the peritoneal cavity with gauze compresses. The gas containing, purulent cavity was limited to the right by the triangular ligament of the liver, below by the transverse colon, and extended well over into the left hypochondrium and subphrenic spaces. On lifting up the left lobe of the liver, gas and greenish fluid were seen emerging from a perforation in the anterior wall of the stomach at its cardiac end. The perforation was size of a pea and was imperfectly closed by a gangrenous plug. The edges were sharp and infiltrated and covered with fibrin. The entire ulcer was inverted by three rows of mattress, Lembert sutures of silk, the last row being continuous. Careful cleansing of the infected portion of the peritoneum, and of the left subphrenic region. Protection of the suture line by gauze wick. Closure of rest of wound with through-and-through sutures.

Patient bore the operation nicely; just prior to it she had received an intravenous saline infusion. The convalescence was interrupted by a collection of serous fluid in the left subphrenic space; this caused an elevation of temperature between 103°-104° until it was evacuated through the drainage opening.

December 23, wound all healed; no symptoms of gastric ulcer; eats everything; gained considerably in weight; discharged cured.

One year later: Has not suffered with any gastric disturbance since operation.

Case II (1902, Vol. 2, Page 13).—*Carcinoma of Stomach on Base of Old Ulcer; Perforation; Diffuse Peritonitis; Laparotomy; Closure of Perforation by Covering It with the Omentum; Death on Sixth Day from Sepsis.*—Jennie H., forty-two years old,

a housewife, had suffered with gastric ulcer for seven years. For the three weeks prior to her admission, there was an exacerbation of the symptoms. Frequent vomiting, increased pain, on one occasion vomited two drachms of bright red blood. Lost twelve pounds in weight. On admission November 18, 1902, she was fairly nourished; heart and lungs normal; liver normal, slightly enlarged downward. Abdominal wall lax. In the epigastrium some tenderness, and indefinite mass, which was smooth and flat in outline. From November 19 to 24, she was on the medical service of Dr. Alfred Meyer. During this time she was fed per rectum; vomited blood once. She was apparently doing well until November 24, and had not vomited in forty-eight hours.

November 24, at 10 A.M., she had a very severe attack of pain in epigastrium, accompanied by nausea, no vomiting. The pain was increased by respiration. The abdominal wall was rigid; liver dulness normal. At 1 P.M., abdomen distended and tender and rigid; pain in epigastrium still present. Liver dulness partially obscured by tympany. Dull note in both flanks, shifting with position; temperature 99-101°; pulse rate, 120. Leucocytes, 13,000.

Diagnosis.—Ruptured ulcer of stomach; consent for operation was withheld until 1 A.M. of following day. At that time, fourteen hours after perforation, there were all the evidences of diffuse peritonitis; pulse 140, temperature 101-102°. Leucocytes, 23,000; under gas and ether anæsthesia, I opened the abdomen in the median line from the ensiform downward for five inches; escape of free greenish fluid and some gas on incising the peritoneum. On the lesser curvature, covered over by the left lobe of the liver was a perforation of the stomach, imperfectly closed by a layer of necrotic fibrin. The perforation was in the center of a dense area of infiltration, that measured about 2½ inches in diameter, and about 1 inch in thickness. The perforation was in an inaccessible position, laying behind the gastrohepatic omentum. Closure of the perforation by Lembert sutures was unsuccessful, for the sutures would not hold in the infiltrated tissues. The area of infiltration was too wide to permit of inverting it into the lumen of the stomach. Resection was impossible on account of the wretched condition of the patient. The omentum was therefore reflected upward over the stomach and sutured all around the edges of the perforation, and to the infiltrated area. Protection of suture line by gauze wick; cleansing of the peritoneal cavity; closure of the rest of the abdominal wound. The patient's pulse at end of operation was 170-180; temperature rose to 103.6°. Vigorous stimulation caused but a poor reaction. The next day the pulse declined to 130-140; temperature 100-103.6°. The following day patient had a severe chill, and temperature rose to 105°; pulse 118-140. Urine acid, 1014, trace of albumin and casts. The gauze wick was renewed on the fourth day. There was no leakage. Water and barley-water were given by mouth; temperature between 103-104°. Leakage through the drainage opening occurred on the fifth day; pulse poor, 140; temperature, 104°. On the sixth day the patient failed rapidly and died. Autopsy through wound—no peritonitis. Large area of dense infiltration 2½ inches in diameter on anterior surface and lesser curvature of stomach—in its center, and about 5 c.m. from pylorus, a perforation, covered over by omentum which is adherent to the edges of the opening, but permitted slight leakage at either side; two healed ulcers near pylorus—pylorus not stenosed. Liver normal; no gallstones; spleen soft and white; mesenteric nodes enlarged; microscopic examination of infiltrated area, adenocarcinoma on basis of old ulcer.

CASE III (1901, Vol. II, page 84).—*Ulcer on Posterior Wall of Duodenum; Perforation into Retroduodenal Space; Retroduodenal Abscess Burrowing Downward Behind Ascending Colon; Incision and Drainage; Duodenal Fistulæ; Death from Inanition Nine Days after Operation.*—Tillie B., eighteen years of age, had an attack of catarrhal appendicitis (?) several months before her present illness; this was not accompanied with fever or vomiting. Otherwise she was always perfectly well until ten days before I saw her with her attending physician, Dr. Wurthman. At that time she was taken with fever, pain in the right iliac fossa and vomiting. Pain and fever continued ever since; vomiting ceased after two days; no chills.

On admission, September 13, 1901, physical examination revealed normal internal organs. In the right side of the abdomen, behind the ascending colon, was a large, smooth very sensitive tumefaction. Liver and splenic dulness unchanged. *Urine* acid, 1019, trace of albumin; few hyaline and granular casts; temperature 101.4°.

Diagnosis.—Retrocolic abscess, probably due to perforative appendicitis. Laparotomy on same day; Sonnenberg incision over abscess mass; abdominal wall œdematous. On incising peritoneum there was a profuse discharge of stinking pus from a large abscess cavity behind and to outer side of upper part of ascending colon. Appendix not sought for; tube and gauze drainage. During the operation the pulse rate rose to 150–160 to the minute and was of very poor quality. Patient cyanotic and respiration much impaired. The patient's poor condition forbade any exploration of abscess cavity.

September 14.—General condition of the patient was much improved. There was a profuse acrid, watery discharge, of acid reaction, from the wound, necessitating repeated change of superficial dressings.

September 15.—The deep dressings were changed on the 15th. A very acid, brownish, watery material with some fecal matter was discharged from the abscess cavity behind the ascending colon. It contained no evidences of milk, which the patient took by mouth. The edges of the abdominal incision were reddened and eczematous. The fecal matter in the discharge indicated a communication of the colon with the abscess cavity. The brownish acid watery material, though containing no evidences of milk, which the patient took by mouth, was thought to come from the duodenum, into which the abscess had possibly perforated. The patient's wretched condition forbade any further operative interference. The intestinal fistula was plugged with gauze, but the continued leakage could not be stopped. On September 16 a gangrenous piece of tissue, resembling in size and shape the appendix, came away in the discharge from the wound. Gradual failure of pulse, inanition, death on September 21, 1901. Highest temperature, 101.8°.

Autopsy—through the Wound.—Large cavity behind the ascending colon through the abdominal incision. Into this cavity opened three perforations in the posterior wall of the ascending colon, through which the fecal matter had discharged. (One of these openings was 2 cm. in diameter.) The upper part of the abscess cavity communicated through a perforation on the posterior wall of the duodenum with the interior of this viscus. This opening was

8 cm. from the pylorus, was 1.5 cm. in diameter, and had necrotic edges.

Kidneys.—Congestion and degeneration; right kidney surrounded by adhesions. Microscopical Examination: Congestion; slight increase of connective tissue.

Spleen.—Small; increase of connective tissue.

Liver.—Congested; fatty.

Stomach.—Acute inflammation of mucosa, with hemorrhages.

Case IV (1902, Vol. 2, Page 25).—*Perforation of Ulcer on Anterior Wall of Duodenum; Diffuse Purulent Peritonitis; Laparotomy; Inversion of Ulcer by Suture; Cleansing of Peritoneal Cavity; Protection of Site of Suture by Wick of Gauze; No Drainage of Peritoneal Cavity; Cured.*—Samuel T., twenty-one years old, a clerk, had been well until six days before his admission, when he was nauseated and vomited. Twenty-four hours before admission he suffered sudden severe stabbing pain, in the right iliac region, and vomited shortly afterward. Had chilly sensations; urination normal.

On admission, August 13, he was in well nourished state; flushed face, dry tongue; temperature 101°, pulse 108; lungs, heart normal. Liver and spleen normal; no obliteration of normal dulness.

Abdomen.—Rigid; marked point of tenderness over superior iliac spine. Dulness in both flanks shifting with change of position.

Diagnosis.—Acute gangrenous appendicitis with peritonitis.

Immediate Laparotomy; abdomen opened by Kammerer's incision in right iliac fossa. On incising the peritoneum, there was an escape of free gas and purulent non-odorous fluid. Intestines distended and highly injected. Appendix normal, except that its peritoneal coat was injected. Patches of fibrin and collection of non-odorous purulent fluid were scattered all over the small intestines. No perforation was found in the small or large intestines. The incision was prolonged upward to the freed border of the ribs, to expose the stomach and duodenum, liver and gall-bladder. There was a considerable fibrinous exudate covering the pyloric portion of the stomach, and first and second portions of the duodenum. Beneath this fibrinous deposit on the anterior aspect of the descending duodenum was a perforation about ½ inch in diameter, from which escaped bile and thin fluid material. The perforation was not completely closed by the plastic exudate, and intestinal contents were being constantly discharged into the peritoneal cavity. The ulcer was inverted by a longitudinal infolding of the anterior duodenal wall, with two layers of Lembert silk sutures. Suture line covered by omentum; protection of suture line by narrow gauze wick; careful cleansing of peritoneal cavity. No drainage; closure of abdominal wound except at extreme upper angle where the narrow gauze wick emerged.

The patient reacted well from operation; highest temperature (102°) was on following day; highest pulse rate 128. Nothing allowed by mouth; rectal alimentation and stimulation; vomited repeatedly dark green material for forty-eight hours; bowels moved by enemata on the third day. Water and beef juice given by mouth on the fourth day. Wound healed primarily. No leakage from duodenum; uneventful convalescence. Discharged cured September 14, 1903. Six months later patient was in excellent condition. Had excellent appetite; suffered no pain after eating.

RESULTS OF PREVENTIVE MEDICINE IN PROVIDENCE, R. I., 1885–1902.

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It is an unquestionable fact that the crude mortality rate in our American city population has declined noticeably in recent years. It is generally conceded that this satisfactory result has been brought about by improvements in sanitary science, practically applied by municipal authorities, and by progress in medical science, made possible by modern pathological researches. Due credit should be given both to health organizations and the medical profession for the almost marvelous results which are being wrought, silently but effectively, in the warfare of science with disease.

I wish here to direct attention to a few specific facts relative to improved mortality in Providence, R. I. The excellent results to which the following facts bear witness are doubtless to be accredited, in large part at least, to the efficient labors of the Superintendent of Health and the City Registrar, Charles V. Chapin, M.D. His annual reports in his two official capacities are models of their kind, and the figures here presented have been compiled from the report for 1902 as Superintendent of Health of the City of Providence.

The physicians of Providence are required to report the cases of certain communicable diseases which come to their notice, and these data, with the number of deaths from the same diseases, make possible the calculation of the ratio of fatalities to cases reported. Such records are available for Providence for a period of eighteen years for typhoid fever, diphtheria, scarlet fever, and smallpox. Of the last-mentioned disease there have been but seventy-two cases and thirteen deaths in eighteen years, and smallpox may therefore be dismissed from the present discussion as being relatively unimportant as a cause of sickness or death in Providence.

In the eighteen years (1885–1902) under observation there have been 3,090 cases of typhoid fever reported in Providence, and the following table is significant:

MORTALITY FROM TYPHOID FEVER, PROVIDENCE, R. I., 1885–1902.

Years.	Cases.	Deaths.	Per cent. of Cases Resulting Fatally.	Rates per 10,000 Population. Case Rate.	Death Rate.
1885–1890	951	337	35.4 per cent.	12.6	4.5
1891–1896.....	1,178	319	27.1 "	13.8	3.8
1897–1902.....	961	229	23.8 "	9.3	2.9
1885–1902	3,090	885	28.6 per cent.	11.7	3.4

It is shown by the above table that the ratio of deaths to cases has declined from 35.4 in the first six-year period to 23.8 in the last six-year period. Here appears to be evidence that medical treatment has had more to do with the improved mortality than sanitary science. The number of cases of typhoid fever reported was larger per 10,000 of population in 1891–96 than in 1885–90, but the ratio of deaths to cases was so much less in the period 1891–96 that the typhoid fever death-rate was only 3.8 per 10,000 of population in 1891–96 as against 4.5 in the period 1885–90. In the last six-year period sanitary improvements and medical science have apparently both operated effectively, the one to reduce the number of cases; and the other to reduce still further the ratio of deaths to cases.

In the period 1885-1902 there were 6,213 cases of diphtheria brought to the attention of the Provi-

dence Health Department. The following table succinctly states the essential facts:

MORTALITY FROM DIPHTHERIA, PROVIDENCE, R. I., 1885–1902.

Years.	Cases.	Deaths.	Per cent. of Cases Resulting Fatally.	Rates per 10,000 Population. Case Rate.	Death Rate.
1885–1890.....	1,618	532	32.9 per cent.	21.6	7.1
1891–1896.....	1,987	383	19.3 "	23.3	4.5
1897–1902.....	2,608	313	12.0 "	25.2	3.0
1885–1902	6,213	1,228	19.8 per cent.	23.6	4.7

The figures presented in the above table are especially striking. It is shown that the ratio of deaths to cases has steadily declined, the average for the first period being 32.9 per cent. and for the last period 12.0 per cent. On the other hand, diphtheria cases have increased, both in actual numbers and relatively to the population. So great has been the improvement in the medical treatment of this disease, however, that the death rate has declined from 7.1 per 10,000 of population in 1885-1890 to 3.0, or less than one-half, in 1897-1902. It is probable that cases of diphtheria are diagnosed with more certainty now than formerly, and that this fact, together with greater vigilance on the part of health officials, may account in part for the increase in the number of cases reported. On the other hand, many suspicious cases which formerly would have passed for diphtheria are now, under the improved methods of diagnosis, dismissed from this category. It is not my purpose here to discuss the efficacy of antitoxin as a method of warfare against this particular disease. I may, however, venture the suggestion that the improvement in mortality under this head may be largely due to the undoubted fact that diphtheria cases are more quickly taken in hand now than was formerly true, and early treatment of this disease is especially important if the best results are to be effected.

During the period 1885-1902 there were 8,343 cases of scarlet fever brought to the notice of the Providence Health Department, 700 of which terminated fatally. The following table sets forth the facts:

MORTALITY FROM SCARLET FEVER, PROVIDENCE, R. I., 1885–1902.

Years.	Cases.	Deaths.	Per cent. of Cases Resulting Fatally.	Rates per 10,000 Population. Case Rate.	Death Rate.
1885–1890.....	2,127	333	15.7 per cent.	28.4	4.4
1891–1896.....	4,070	304	7.5 "	47.8	3.6
1897–1902.....	2,146	63	2.9 "	20.7	0.6
1885–1902.....	8,343	700	8.4 per cent.	31.6	2.7

The ratio of deaths to cases reported shows an even more noticeable decline in the statistics of scarlet fever than in typhoid fever and diphtheria. From 15.7 deaths in every 100 cases to 2.9, is, indeed, a noteworthy result. Fatalities among scarlet-fever patients were less than one-fifth as frequent in 1897-1902 as in 1885-1890. In the period 1891-1896 there were nearly as many cases reported as in the two other periods combined, but, in consequence of the reduced ratio of deaths to cases, the actual number of deaths was less in that period than in 1885-1890. The scarlet-fever death rate per 10,000 of population has fallen from 4.4 in the first period to 0.6 in the last.

In all three of the diseases here considered, it appears that the death rates have steadily fallen in the last eighteen years when we consider the period as divided into three equal parts. Of the three causes of death the mortality from diphtheria has been uniformly highest. The mortality from typhoid and scarlet fever has been approximately the same in the first two six-year periods, and much less from scarlet fever in the last period.

The ratio of deaths to cases has been uniformly highest for typhoid fever and lowest for scarlet fever. A noteworthy reduction has taken place in these ratios for all three diseases, a reduction out of all proportion to the reduction in the number of cases reported, these having, in fact, increased in some instances, both in actual numbers and relatively to the population. This would seem strongly to point to the conclusion that improved methods of diagnosis and more skilful medical treatment have played a large part in bringing about the gratifying results indicated in the tables here presented.

FATAL GASTRIC HEMORRHAGE WITH AUTOPSY.

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In the case of fatal hemorrhage into the stomach, which is here described, we have to consider some features of considerable interest, not alone from the fact that death from gastric hemorrhage is itself rather rare, but also from the fact that it brings up, in a striking manner, the whole subject of internal hemorrhage, which has always possessed a fascination out of proportion to its frequency. The reason for this is easy to understand when we consider its usually sudden and unexpected appearance, and the terrible rapidity with which it destroys life before we are even aware that our patient's vital forces have been threatened by so ominous an enemy.

There is perhaps no other condition in medicine in which every moment is full of such golden opportunity for timely aid, or in which the result of delay is such extensive devastation. Probably in the majority of cases of wholly concealed hemorrhage, if we except postpartum hemorrhage, before we awaken to the danger the patient's life has ebbed with the receding tide of blood and he is beyond the reach of all our endeavors.

Probably the most frequent of these concealed hemorrhages are those occurring in connection with childbirth and the puerperal period; but this form of hemorrhage, by its very frequency, furnishes a safe-guard. The obstetrician, aware of this danger, is ready to recognize it and to combat it should it occur; yet death has occurred from this cause unsuspected, and in the hands of the most able obstetricians.

It is in these cases that the necessity for close and careful observation is emphasized—of the clinical features of every case. The difficulties of diagnosis in such cases may best be appreciated by citing a case such as the one here described: A man in failing health, with pallor, weakness, and shortness of breath on exertion, with local symptoms slight or absent, has either a sudden exacerbation of these symptoms or a more or less gradual aggravation of them; the pulse fails, the patient sinks and dies. The case comes to autopsy and the physician is astonished to find that one of the hollow viscera is filled with blood, and only then recognizes the significance of the previous symptoms.

The symptoms of hemorrhage are too well known to require repetition. There is no one symptom—unfortunately—pathognomonic of hemorrhage, yet the train of symptoms, if carefully noted, is sufficiently characteristic to justify a diagnosis. Generally speaking, it is well for the physician to watch carefully cases of inexplicable prostration which show the three cardinal symptoms of anxiety, restlessness, and thirst.

The diagnosis of hemorrhage, without the external appearance of blood, is always a matter of great difficulty. The diagnosis previous to death, in this

case, constitutes one of its most interesting features.

I. W. C., married, aged fifty years, entered the medical ward of the University Hospital a little after noon, June 30. He was able to walk fairly well with the support of two colored boys, who had brought him to the hospital, supporting him on either side. His pallor and exhaustion were noticed, and he was put to bed at once and given his bath in bed, instead of being sent to the tub as was customary with ambulatory patients.

Immediately after the bath, I proceeded to make the usual physical examination, assisted Mr. Gentry, to whom the note was dictated.

The probationer nurse took his temperature, which was 95° F. The following is the note dictated to the clinical assistant:

Physical Examination.—Patient is a rather heavily built man. Height, five feet six inches. Muscles very flabby, subcutaneous fat well preserved, skin has a blanched hue, with a faintly yellowish tinge. Expression apathetic, eyes sunken, conjunctivæ clear, with a pearly luster; pupils react readily to light and accommodation and are of equal size. Superficial capillaries of both cheeks, and both alæ nasi dilated. Patient very listless and drowsy. The skin all over the body is pale and cold. Extremities cold; finger tips slightly clubbed, and nails somewhat incurved; tongue pale and coated with a whitish fur; teeth very bad; slight pulsations of the vessels of the neck.

Chest.—Well developed. Supra- and infraclavicular spaces on the right side slightly sunken; right shoulder a trifle lower than the left; right thorax somewhat deficient in size; expansion good, little deeper on the left side; both right supra- and infraclavicular spaces give a slightly diminished percussion resonance, with slightly elevated pitch; apex of right lung reaches clavicular level; apex of left lung rises somewhat above the clavicle; costal angle about 45°; respirations are slow and slightly irregular.

Breath sounds roughened over right apex; slight friction murmur; a few low-pitched sonorous râles are heard, accompanied by a prolonged expiratory murmur; the skin over the front of the chest appears somewhat œdematous. . . . Respiration is of the Cheyne-Stokes' type. . . .

Heart.—Impulse feeble and diffuse, most marked in fifth interspace, about 4 cm. within the left mammillary line. The P. M. C. I. lies in the mammillary line; cardiac impulse fairly forcible at the apex, and is accompanied by a soft systolic murmur; second aortic and pulmonic sounds very distant and feeble.

The patient during the course of the examination, roused from his apathy, and became very restless. He now appeared to be in great distress and struggled to a sitting posture in a severe dyspnœic seizure. He appeared at once evidently desperately ill. The marked pallor noted on entrance had deepened to an extreme lividity; the eyes became sunken, the features pinched, the skin cold and covered by a profuse sweat. The pupils dilated widely and became irresponsive to light; the expression showed great anxiety, and he complained of smothering; thirst was intense and he swallowed water eagerly. Owing to the Cheyne-Stokes' respiration, which still persisted, his dyspnœa was ascribed to renal asthma, and he was given morph. sulph. ¼ gr., with little relief, and whiskey and strychnine by mouth. While these were being given, the patient had an involuntary evacuation of the bowels, and on turning aside the bedclothing, about two ounces of black tarry matter could be seen, and on close examination a reddish stain noted on the linen.

This latter occurrence seemed to offer a rational explanation of the previous symptoms, and a diagnosis was made of internal hemorrhage, probably gastric, and measures were immediately taken to combat it.

The patient still remained restless, but his progressive weakness prevented him from rising. The patient's right breast was hurriedly prepared by Mr. Gentry, the long needle introduced, and 400 c.c. of hot normal saline solution injected. Miss Dilworth, the junior nurse, was directed to take the patient's pulse. She stated that it became perceptible at the wrist after the infusion. All of the solution introduced was readily absorbed. He was now given 700 c.c. additional, which was also rapidly absorbed. The foot of the bed was elevated, the patient covered with blankets, and surrounded with hot water bottles. A drachm of ether was given hypodermically.

The pulse still failing, preparations were made to transfuse directly into a vein. The median basilic was dissected out, ligated, and the needle introduced. About 400 c.c. further were allowed to flow into the vein. This latter was not taken up, as the circulation had almost wholly failed. The patient was now seen to be *in extremis* and the needle was at once withdrawn, the vein ligated, and the arm hurriedly dressed and bandaged. The pulse was gone in the carotids, and the heart beat imperceptible; the lower jaw had fallen.

Respiration persisted for about a minute, consisting of few inspiratory gasps, at intervals of about twenty seconds.

Autopsy, by José Hirsh, M.D. Died at half-past three. Autopsy at 4.15 P.M., three-quarters of an hour after death.

Rigor mortis not present. Body length, 165 cm. Well-built man, quite muscular, abdomen soft, not distended. Pupils dilated; diameter 7 mm. Teeth badly formed; incisors of the upper maxilla missing; no post-mortem lividity.

On the posterior surface of the thigh are two abrasions, and on the anterior surface of the right arm above the elbow is a small opening in the skin, which is the seat of a transfusion. No scars or lesions about the body. No scars about prepuce. A large amount of subcutaneous fat is present.

Peritoneal cavity dry. Peritoneum smooth and glistening.

Tissues.—Muscles on the chest very moist and œdematous, especially on the right side about the pectoral muscle, where the patient has been transfused.

Abdominal cavity, on inspection appears normal Omentum well infiltrated with fat.

Intestines.—Normal in appearance not distended. At the ileum, cæcum, and sigmoid flexure are seen moderate-sized sacculations, the contents of which appear dark through the intestinal wall, and on section they are found to be distended with partially clotted blood; the three sacculations probably containing from three to four pints.

On opening the chest, the lungs are found perfectly free, not adherent anywhere. No fluid is to be found in the pleural cavity.

Appendix is seen lying on the under surface of the cæcum, extending downward toward the pelvis; length, 10 cm.

Pericardium contains a small amount of yellowish fluid. Fat in the mediastinum is œdematous, and contains a small quantity of air.

Heart.—Apex of the heart at the fifth intercostal space slightly within the mammillary line. The

anterior surface is covered by a rather large amount of fat. The heart is slightly enlarged; weight 390 gms. The right auricle is smooth; tricuspid valve, normal. Right ventricle, 6 mm. in thickness. Left auricle, smooth. Mitral valve presents numerous thickenings along the edges and feels hard and dense. Thickness of the left ventricle 2 cm. The coronary arteries are rather sclerotic.

Left lung rather shrunken. No nodular masses to be felt. Crepitates freely. At the root of the lung are seen small, hard, black bronchial glands. One section has a gray mottled appearance, showing no areas of inflammation, bronchi nowise conjested. The lung is rather dry, and does not readily exude fluid on pressure. The right lung does not show marked division of its lobes, the middle lobe being rather small. Mottled appearance, crepitates freely, some pigmentary deposits about bronchial glands. On section the same appearance is seen as in the left lung.

Stomach is markedly distended and shows a dark appearance through its walls, and on section fluid and partly clotted blood exudes to the amount of about two gallons. The weight of the whole being estimated at about ten pounds. Near the cardiac end on the posterior-surface there is a large sloughing mass, about 8 cm. long, 5 cm. wide. The entire mucosa in the neighborhood has sloughed away from this space. Numerous foul-smelling granulations arise. The ulcer has entirely perforated through the stomach and is firmly adherent to the left lobe of the liver. This adhesion is very firm and can only be separated by considerable force. The stomach about this area is congested, but shows no other areas of ulceration.

On the outer surface of the stomach where adherent to the liver there is present an ulcerated area about 4 by 3 cm., tissue soft and necrotic.

The base of the ulcer contains a mass of cauliflower granulations, which are soft and easily broken down. The ulcer begins about 1 cm. from the œsophageal opening, but does not involve the œsophagus.

The opening of the gall duct into the duodenum contains a small amount of bile, but no stones.

Liver is normal; weight, 1,800 grams On section somewhat glazed, not congested, under surface of right lobe has a small nodule, which on section is perfectly white, umbilicated at the center, and contains a small amount of exudate and fluid.

The m.m. of the gall-bladder is deeply bile-stained, and presents a smooth surface—no stones.

Spleen 12 by 6 by 2 cm.; weight, 175 gm. On section somewhat thickened and the malpighian bodies stand out more or less prominently.

Left kidney.—Slightly enlarged; weight, 170 gm.; surface rough, easily stripped off capsule. Substance of the kidney pale; cortex slightly contracted. Malpighian bodies stand out more or less prominently.

Right kidney.—Slightly larger; weight, 180 gm.; surface rough, capsule easily stripped off. Substance of the kidney pale; cortex slightly contracted. Malpighian bodies normal; size 8 by 5 by 2 cm. It presents on its surface small cysts, containing a rather dirty-brown fluid. Substance mottled and slightly hemorrhagic. Cortex somewhat congested. Malpighian bodies well marked, size 10 by 5 by 2½ cm. Capsule easily stripped off.

Bladder.—Somewhat thickened, otherwise normal.

Brain.—Vessels not congested, surface rather dry, and covered by a semigelatinous mass. Vessels not atheromatous. Ventricles do not contain much fluid and are not enlarged.

Aorta perfectly smooth and normal.

In addition to confirming the clinical diagnosis of death from gastric hemorrhage, the autopsy showed several other interesting features. The ulcer, on sectioning and microscopic examination, proved to be due to a colloid carcinoma. The fact of the ulcer having penetrated the stomach wall and having invaded a considerable part of the substance of the left lobe of the liver, without exciting any evidence of a peritonitis, either local or general, is one that has been frequently observed in colloid carcinoma. In one case coming under Osler's observation, the ulceration had destroyed a large part of the pyloric end of the stomach, and nearly the whole of the left lobe of the liver lay within the gastric cavity.

The small cyst noted on the inferior portion of the liver was due to the echinococcus.

A meager history was obtained from the man's wife after death. She absolutely denied his ever having vomited blood or dark fluid, or, in fact, having vomited at all. She denied the passage of blood by the bowels. He had been under the treatment of a physician for several weeks for "nervous gastritis," and not improving he was sent to the hospital. His wife was much incensed by his death occurring so soon after entering the hospital. It is probable from the man's appearance that he had been losing blood in small quantities for some time, and that a sudden and overwhelming hemorrhage had occurred synchronously with his entrance into the hospital.

The remarkable tolerance of both the bowel and stomach to the blood which they contained, can only be explained by the patient's fatal prostration before vomiting could occur.

The promptness of treatment in this case must necessarily have served to prolong life, though the large amount of saline solution thrown into the circulation (about two quarts) only formed a small portion of the blood in the stomach alone. If the blood had been extruded more slowly, and the stomach made an attempt to contract on its contents, it seems possible that life could have been prolonged until a thrombus could form in the eroded vessel, and a fatal issue averted. The loss of blood in gastric ulcer is sometimes enormous, but death only rarely follows. A more common cause of fatal hemorrhage is that from the dilated oœsphageal varices in cirrhosis of the liver. Fatal hemorrhage from colloid carcinoma or other malignant affections of the stomach must be considered as extremely rare. VanValzah says, "Bleeding from carcinoma is rarely profuse . . . erosion of an artery may occur . . . causing fatal hemorrhage." He cites no case in which this occurred. Hemmeter, Cruveilhier, Budd, Finny, Powell, and Welch cite cases of death from gastric hemorrhage due to ulcer, but mention no cases due to carcinoma, though several of them mention such a possibility. Bouveret cites the only case found after a fairly extensive search of the literature on the subject. The following is a short translation . . . "the vomited matters in carcinoma contain blood constantly, but it is rare that the amount is abundant, and especially rare that it is pure. . . . "A patient with carcinoma of the stomach had a hemorrhage sufficiently profuse to cause collapse." . . . "the second hemorrhage proved fatal" . . . the stomach contained an enormous clot weighing 500 gm. . . . the coronary artery was opened. Bouveret states that severe hemorrhage occurs in 7 to 8 per cent. of all cases of carcinoma gastrica. (Bouveret, "Maladies de l'Estomac.")

The diagnosis of fatal hemorrhage without hæmetemesis seems to have never been made by any of these observers. Cruveilhier and Budd each

report cases, in one of which the stomach and in the other the stomach and intestinal tract were filled with blood. The diagnosis was made by autopsy. In Finny's case the ulcer had penetrated the left ventricle of the heart. Ewald cites a case in which even after several severe attacks of hæmatemesis, in the last of which the patient died, the immediate cause of death was doubtful, owing to some of the very nervous symptoms noted in the present case. He described the patient as . . . fully unconscious, faint conjunctival reflex, small wiry pulse, retracted abdomen, cold skin. . . . Cheyne-Stokes' respiration was present. He suspected the presence of a cerebral appoplexy, but the case proved at autopsy to be simple hemorrhage. Osler cites a case in which a middle-aged woman fell suddenly dead on the floor. At the autopsy about five pounds of blood were found in the stomach.

THE LOCAL TREATMENT OF ACUTE AND CHRONIC GONORRHŒA.

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The treatment of gonorrhœic infections by means of urethral injections stands to-day as the most approved principal method at our disposal; the success of this plan of treatment is dependent upon the drugs used for injection, the use of appropriate internal medication in selected cases, and the proper adaptation and variation of the treatment in accordance with the pathological conditions present and the individual requirements of cases.

The experience of genitourinary surgeons in the local treatment of gonorrhœa has led to the now-accepted conclusion that the qualities which a drug used for injection should possess are, non-irritating character and bactericidal strength sufficient to destroy the gonococci on the surface and in the deeper layers of the urethra. As a result of years of experimentation with all the known antiseptics, from bichloride of mercury to boracic acid, silver has been evolved as the most efficient agent for injection into the urethra; the problem has been to obtain silver in such a form that it would be free from irritating properties and possess the ability to reach the gonococci in the deeper tissues.

Silver nitrate, which is indispensable in certain chronic conditions of the urethra, is, because of its irritating properties and its inability to penetrate beyond the surface, ill-adapted to the large majority of cases; consequently the other salts of silver have been tried as substitutes for the nitrate. Some of these newer silver salts have proved of value in the acute cases, but are of limited utility because of the small amount of silver contained (4 to 11 per cent.) and because strong solutions possess, although to a less extent, the irritating properties of the nitrate. It was, therefore, with much interest that I read in the Medical Record, May, 1902, of the discovery of a new silver salt (argyrol or silver vitellin) which contained 30 per cent. of silver and, according to several of the most conservative genitourinary surgeons (Belfield, Swinburne, Christian, Lewis (could be used in strong solutions in an acutely inflamed urethra without producing irritation.

My experience with argyrol began last July in the service of Prof. Orville Horwitz at the genitourinary dispensary of the Jefferson Medical College Hospital, since which time I have observed its effects in at least 2,500 cases of acute and chronic conditions of the genitourinary organs; I have had, therefore, an exceptional opportunity to study the drug clinically, and desire to record my personal observations and conclusions, the value of which consist chiefly of a description of the methods of use which I have found most satisfactory.

Acute Gonorrhœa: Although argyrol is used at the clinic in all cases of acute gonorrhœa where injections are indicated, my personal observations are based upon cases occurring in private practice, as my work at the dispensary consists of the treatment of chronic conditions. The methods I use in treating acute cases vary with circumstances. If a patient presents himself during the first forty-eight hours, I try the abortive method, which is as follows: The anterior urethra is washed with warm water in order to remove the accumulated discharge; an ordinary hand syringe is used for the purpose. Then I inject two drachms of a twenty-per-cent. solution of argyrol into the anterior urethra and hold it there for ten minutes; while making this injection I instruct the patient carefully concerning all the details as to the proper method of doing it. He is then given a twenty-per-cent. solution for use at home and the injection, as described above, is repeated every three hours *night and day* for two or three days; the patient reports at the office once daily for observation. This treatment is a troublesome one and expensive; but the fact that I have seen six cases of severe acute gonorrhœa, so treated, aborted in from four to ten days justifies its employment in every case seen during the first forty-eight hours. Even if, as is usually the case, the disease is not aborted, my experience has proved the wisdom of using this method because of the great comfort it affords the patient and the fact that a cure is effected in a much shorter period; in this connection I use the word "cure" as designating disappearance of the gonococci, cessation of discharge, successful trial of the "beer test" and personal observation of the patient for as long a time as he can be induced to periodically visit the office.

In cases seen after the first forty-eight hours, the plan of treatment is governed largely by the financial condition of the patient. If comfortably situated I prescribe five-per-cent. solution argyrol, two drachms of which are injected into the urethra three or four times daily and retained five to ten minutes. A five-per-cent. solution is used because I believe the stronger solution of any silver salt, the better will be the results, and argyrol is the only one I have been able to use so strong in an acute gonorrhœa without intensifying the symptoms. If the patient is poor, I prescribe a one, two, or three-per-cent. solution according to his means, and have him visit the office every two or three days for an injection of a ten to twenty-per-cent. solution of argyrol; this plan I have found eminently satisfactory and one well adapted to the average run of cases. I do not irrigate acute gonorrhœa. The plan, as above outlined, has enabled me to discharge 85 per cent. of my private acute cases in from three to six weeks; the remaining 15 per cent. constitutes the usual proportion that drift into the chronic conditions which occur in spite of the most varied and energetic measures. One point concerning argyrol which is strikingly noticeable is its very positive influence in allaying the signs and subjective symptoms of inflammation, and the stronger the solutions employed, the more pronounced the effects.

Of chronic affections of urethra and adjacent structures, I see on an average ten to twenty-five cases a day at the clinic in addition to a considerable number in private practice.

Chronic anterior or antero-posterior urethritis is first irrigated with a warm saturated solution of

boracic acid. Every two or three days an applicator wrapped with cotton saturated in twenty-per-cent. argyrol solution is then passed into the urethra and moved gently to and fro, much in the same manner as local applications are made to the nasopharynx. The patient is given a five-per-cent. solution for injection three times daily.

In chronic follicular urethritis and Cowperitis a ten-per-cent. solution of argyrol is injected, preceded in the former condition by dilatation of the urethra.

Seminal vesiculitis is treated by thorough massage through the rectum while the bladder is full; the patient then urinates, after which one-quarter to one-half ounce of ten-per-cent. argyrol solution is injected by means of a Keyes-Ultzman syringe.

Cases of cystitis receive preliminary irrigation with saturated solution of boracic acid; this is followed by injection of one-half to one ounce of ten to twenty-per-cent. argyrol solution into the bladder, which is allowed to remain there.

In the treatment of chronic posterior urethritis I have found the suggestion of Swinburne valuable, *i.e.* that argyrol be incorporated into an ointment with lanoline as a base and passed into the posterior urethra by means of sounds. Swinburne recommends five-per-cent. argyrol, but my experience has been more satisfactory with a twenty-per-cent. ointment, which I apply on cup sounds. In addition to this, the patients are given preliminary irrigations (1 to 1,000), followed by deep instillations of ten-per-cent. solution of argyrol every two or three days.

Belfield of Chicago has reported good results from the use of argyrol in infection of the prostatic follicles in cases of enlarged prostate. I have found that irrigation followed by instillation of twenty-per-cent. solution into the deep urethra and bladder rapidly eliminates the infection of the follicles and affords relief from the symptoms. Infection of the bladder from habitual use of catheters is now less frequently seen than formerly, but when they do occur I inject one ounce of twenty-per-cent. solution into the bladder and allow it to remain there.

Of gonorrhœa in the female I have seen about seventy cases involving the urethra, cervix, and endometrium, all of which I have treated with argyrol either alone or in combination with other drugs. The method of using the drug was practically the same as that employed by Small at the University Hospital, and described by him in the *American Journal of Obstetrics*, January, 1903. My results in these cases are now being embodied in a paper which I have been invited to read at a coming meeting of the Philadelphia Obstetrical Society and which will be published later.

In all of the above mentioned chronic conditions of the urethra and adjacent structures, I have witnessed most decided improvement from the judicious use of argyrol in appropriate strength and at suitable intervals. Where formerly silver nitrate was practically the only drug used, I have been able, in the majority of cases, to replace it advantageously with argyrol and have consequently spared the patients the burning sensation and pain which always accompany the use of the nitrate. Furthermore the results, both in regard to relief of symptoms and therapeutic effect on the pathological conditions, are better than follows the use of the nitrate; I attribute this to the large amount of silver in argyrol, which permits the use of sufficiently strong solution to obtain the effect of the silver without producing irritation.

These chronic conditions constitute a large part of the genitourinary surgeon's work, and many of them tax his skill in diagnosis and treatment to the utmost, and even in the best hands often prove intractable; but it is my conviction that we have never had a single drug that so favorably influences the majority of these chronic conditions as does argyrol, nor one that can be so safely used by the average physician. We have not, however, attained the millennium of invariable success, and the prime factor of successful treatment still remains the careful study of the condition present, adaptation of proper means to the individual cases, and persistence in carrying out the treatment.

1315 South Fifteenth Street.

PRELIMINARY REPORT OF A SUCCESSFUL OPERATION FOR THE RADICAL CURE OF COMPLETE PROLAPSE OF THE RECTUM OF SIXTEEN YEARS' DURATION IN A CASE OF PRIMARY DEMENTIA.

By JOHN RUDOLPH KNAPP, M.D.,
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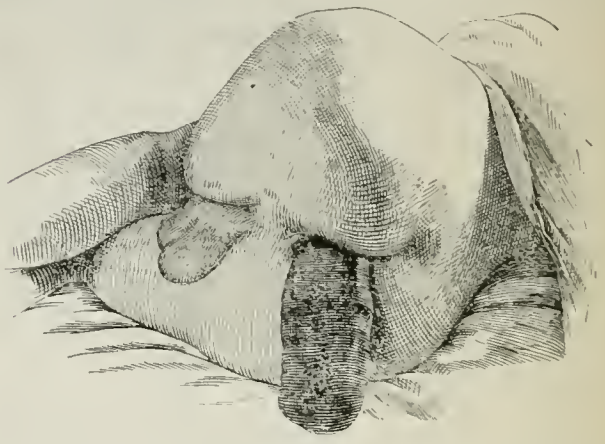
Case J. D., admitted to the Manhattan State Hospital, East, April 3, 1888. Age twenty years. Nativity, United States. Occupation, None. Single.

Duration of insanity, previous to admission, two years.

Form of insanity, primary dementia.

Family history, negative.

On admission the patient was very dull and stupid, untidy in habits, and had considerable diarrhœa. A physical examination showed that he suffered from a prolapsed rectum, which was said to have existed for one year. This was reducible by manipulation, but would return when the patient walked about, or with an attack of diarrhœa. During his residence in the hospital (fifteen years), the patient was almost continually confined to bed on account of the descent of the prolapse, when he would get up, as also because of the incontinence of fæces that would occur with the attacks of diarrhœa. Diarrhœa would be accompanied by mucus discharge, but never by any blood. Six months previous to operation the prolapse became irreducible.



On December 14, 1902, Dr. A. E. Macdonald, the Superintendent of the hospital, requested Dr. Joseph D. Bryant and Dr. William C. Lusk of the Consulting Board to examine the case. They did so, and a radical operation was recommended. It was proposed to make an incision through the anterior abdominal walls, reduce the prolapse by external manipulation, and anchor the sigmoid flexure by firm sutures to the anterior abdominal wall, and thus furnish an artificial support. Examination shows complete rectal prolapse, six inches in length, with sulcus at anal margin.

The figure shows the patient with the rectum prolapsed.

Preparation of the Patient.—The day previous to

the operation a complete physical examination of the patient was made. This failed to reveal any condition which might render the operation not justifiable. The examination of the urine resulted as follows: color and odor, normal; specific gravity, 1015; no albumin, sugar, or casts; uric acid and urates present, but not in excess.

The patient was placed upon an exclusive milk diet, calomel in one-half grain doses was administered every half hour until four doses had been taken. This was followed by two minims of croton oil in an ounce of castor oil, the object of which was to thoroughly empty the bowel.

The abdomen was shaved and scrubbed with tincture of green soap, followed by alcohol and ether, and then with a solution of bichloride of mercury. A bichloride dressing was then placed on the abdomen and allowed to remain twelve hours, when it was replaced by a dressing of sterilized gauze.

The day of the operation the patient was allowed no breakfast, or dinner, five copious enemata of soap and water were given and the bowel thoroughly cleansed.

Operation January 23, 1903, by Dr. Wm. C. Lusk.—One half hour before the administration of the anæsthetic the patient was given hypodermatically morphia sulphate grain $\frac{1}{4}$, atropia sulphate grain $\frac{1}{150}$, strychnia sulphate grain $\frac{1}{40}$.

The field of operation was rendered aseptic by scrubbing with a tincture of green soap and sterile water, after which alcohol and ether and bichloride solution were applied, followed by sterile water.

The incision passed through the left rectus muscle from a point about 1½ inches above the pubes upward for about five inches. The patient was put in the Trendelenburg position. A finger introduced into prolapsed cul-de-sac of Douglas determined an entire absence of adhesions at this situation. The depth of the peritoneal pouch extended to about one inch below the anal opening. The bladder was not prolapsed. The prolapse was now reduced with comparative ease by external manipulation. The outer intestinal tube showed considerable induration, but the invaginated portion presented a normal appearance. After reduction the rectum was drawn firmly upward by traction on the lower end of the sigmoid, after which the tension was eased off just a little, and the then lowest presenting portion of the sigmoid was sewed to transversalis fascia, as recommended by Dr. Tuttle, at the lower angle of the wound. The transversalis fascia at the seat of suture was bared by excising a little of the underlying peritoneum.

The method of suture was by interrupted stitches fastening each border of the transversalis fascia separately to the anterior longitudinal band of the sigmoid, thus leaving a V-shaped space between the edges of the fascia, through which the presenting portion of the bowel could gain an adhesion to the rectus muscle. One suture was placed at the lower angle of the wound in the transversalis fascia, and five others were inserted in either border immediately above it. All the sutures were of No. 1 ten-day chromic catgut, excepting the highest one on each side, which was of No. 3 silk. The length of the bowel sutured to the transversalis facia was about 1½ inches. The leaving of an area of bowel to unite with the rectus was similar to the method practised by Dr. Bryant who sutured the bowel into the abdominal wound.

The peritoneum and transversalis facia above the site of sigmoidopexy were united by a No. 1 continuous ten-day chromic catgut suture, and the remainder of the wound was closed by tier suturing. Sterile dressings were applied. The nates were strapped together with adhesive plaster. The foot of the bed was elevated and kept so for fourteen days.

The administration of the anæsthetic was begun promptly at 2.30 P.M. The first incision was made at 2.45 P.M., and the operation completed at 4 P.M. The patient was under the anæsthetic one and one-half hours, the operation proper lasting one and one-quarter hours. Nine ounces of ether were used. No stimulation was required. The patient reacted well from the effects of the ether and was able to answer ordinary questions in twenty minutes. There was a moderate amount of nausea for an hour and a half, accompanied once by vomiting. Cracked ice was given at frequent intervals.

Subsequent Treatment and Results.—Immediately following the operation, morphia sulphate grain $\frac{1}{6}$ was administered hypodermatically, and was followed by several hours of sound sleep. No food whatever was allowed until after twelve hours had elapsed. The temperature the following morning at 8 o'clock was $99\frac{3}{5}$, pulse 88, full and regular, respiration 18. For the next five days the patient received tincture of deodorized opium, minims 10, every four hours, the object of which was to confine the bowel and induce quiet. A restricted dietary was also ordered, and consisted of three pints of warm milk during twenty-four hours, two pints during the day and one pint at night, at intervals of two hours. On the evening of the fifth day, two ounces of olive oil were introduced by a Davidson syringe and soft rubber tube into the sigmoid flexure and two ounces into the rectum. The following morning the same procedure was repeated, and in addition drachm doses of equal parts of magnesium sulphate and rochelle salts were administered every half-hour until the bowels moved. After the administration of eight doses a soft movement from the bowels occurred unaccompanied by pain, and containing considerable mucus. For a week following this the oil injections were continued every evening and morning,and every other day the salt mixture was administered in drachm doses every half-hour until the bowels moved.

On the seventh day the abdominal wound was dressed and the superficial sutures removed. The deeper structures were in firm apposition, but a small quantity of pus was found immediately beneath the superficial sutures, but involving only the subcutaneous tissues. The finger introduced into the anal canal was grasped by the sphincters with a moderate degree of power.

The dietary at this time was increased to two quarts of milk in twenty-four hours, one and a half quarts during the day and one pint at night. The wound was dressed daily for the next week and began to heal by healthy granulation, after which the dressing was done every other day.

On the fourteenth day the patient was allowed solid food, commencing with gruels, soft boiled eggs, cornstarch and the like, in small quantities at first. As his general condition seemed to have suffered to some degree by the restricted dietary he was given cod-liver oil in one-half doses with tincture ferri chloridi, minims 15, three times a day. In addition to this strychnia, sulphate grain $\frac{1}{60}$ with spirits frumenti, ounce ½, every four hours. The latter being administered with the food.

Twenty-four days after the operation the patient was partaking of all varieties of solid food. The whiskey and strychnia were discontinued, bowels moved normally without enemata or salts and the wound was practically healed, although the dressing was still applied to guard against any possible

accident. He was, however, allowed to remain in bed a few days longer.

The patient being a dement, the temperatures were taken by axilla. The temperature the morning following the operation at 8 o'clock was 99⅘, rising in the evening at 6 o'clock to 100⅘, pulse 94, respiration 18. The next day the temperature at 8 A.M. was 100⅕, pulse 91, respiration 21; at 6 P.M. the temperature was 100⅘, pulse 93, respiration 22. After the dressing the temperature fell to normal and continued so with the exception that upon one occasion a slight rise occurred, which was attributed to an attack of indigestion.

At present writing, ten weeks after the operation, the patient walks about the ward with ease—not the slightest evidence of any return of the prolapse can be detected even when the patient is at stool.

The sphincter has perfectly regained its normal tone, the bowels move normally without enemata or laxatives, and there is no tendency to diarrhœa or constipation. The patient now goes to the closet of his own accord to attend to the calls of nature; he is less irritable, has gained in weight, and has been benefited in every way.

Clinical Department.

A CASE OF ADHERENT PLACENTA RETAINED AND DISCHARGED AFTER A LONG PROCESS OF DECOMPOSITION—RECOVERY.

By J. C. JOSEPHSON, M.D.,
BALTIMORE, MD.

On October 27, 1902, I was called to see Mrs. L., a Pole, about thirty-five years old, multipara. She had had trouble twice before with retained secundines during miscarriages, when she had also refused active interference and recovered. I found that the child had been born about one and a half hours before my arrival, but the placenta "had not all come off," as the good granny told me. In a slop pail by the bed I found the umbilical cord by itself which the granny had torn off, and some blood clots that she had taken for parts of the placenta. The woman was severely shocked. An attempt to deliver by the Credé method failed, and on inserting two fingers into the uterus I found the placenta firmly adherent by bands about three-quarters of a centimeter thick. An attempt to deliver manually was decisively resisted by both the patient and her friends, whether with or without an anæsthetic, or with or without additional help, on the ground that she was too weak, and that "she was going to die, anyway." The patient belongs to a class of old-world Catholics who are peculiarly resigned to the idea of dying, or rather prepared to die, on the least possible provocation in the way of ailment. It is, "He (or she) is going to die; call the priest." And this is said in the hearing of the patient, and the patient seems readily to concur. Especially in the case of labor the woman about to be confined presupposes that both she and the infant are in all probability going to die, and if either or both come out alive it is due to the great skill of the attendant, who is generally a midwife of most primitive qualifications. "Doctor," one of these said to me, "do you think I don't know what to do in similar cases? (we were talking about transverse presentations), "I rub in the belly with lard and oil and whiskey, and then either up or down it goes." In this case no amount of persuasion, warning, or even threats on my part would avail. As the patient was not bleeding at the time I thought I would wait for a few hours, and applied myself in the mean time to stimulating her with an intercellular saline injection, hypodermics of strychnine, brandy, etc., and when she had rallied to some extent I left her to attend to other cases. On returning late in the evening I found that the priest was with her, and when he was done I renewed my efforts to induce the patient and her friends to allow of active interference either by myself, or with the assistance of a brother practitioner. This was again strenuously objected to, and I was asked to wait until next morning. On the following morning the patient was in much better shape, but still declined to let me or anybody else do anything. "Doctor, the last time I had my miscarriage, the doctor also wanted to do what you would do now, and I wouldn't let him, and then he gave me powders, and from the powders it all came out of itself. Can't you give me the same powders?" There was the end of my patience, and I left her, warning her and her friends that she would get birth-fever and die. I did not see her again for four days. Then the husband came to me, begging me I should come and see her again, as she was very sick. I found that she had had a number of chills. Temperature 104°; pulse 160°; abdomen tense and painful (it had been greatly distended the day before according to accounts). The discharges were greenish and very fetid; in fact, the fetid odor struck you on entering the room. I advised again emptying the uterus with both hand and curette. This was again peremptorily objected to. "Give me something for the headache, something for the fever, and something for the belly-ache," the patient barely moaned out, and I was only allowed to insert two fingers, with which I dug out a lump of placenta and removed a few decomposed clots, following this with an intrauterine injection of a weak bichloride solution, which, by the way, I see specialists strongly object to. I refused to attend the patient any longer, thinking that she was certainly going to die, and I did not see her for two weeks. Then I was surprised to hear, on meeting her friends, that she was "getting better." Curious to know what had happened, I went over to see her. I found that she had had no medical attendant since I had seen her last. There was the same fetid odor about the patient, but her temperature was only 100°, pulse 120°, abdomen much softer and not so painful. She looked very weak, pallid and emaciated, just like a patient who had just been through the course of a severe septic fever. She told me that the placenta had been coming out in pieces, and on examination I removed a loosely-lying, decomposed, and very fetid piece of placenta with my fingers. The vaginal cul-de-sacs were very tender, and showed periuterine inflammation. I did not see the woman till three weeks later, when she was out of bed and apparently completely convalescent.

The Semi-Teetotal Pledge Association.—This association has adopted as its distinctive badge a button in the form of a large stud of enameled metal, on which is inscribed in red letters, "No Drinks between Meals." The *Hospital* remarks that, while the association has a membership of 1,700, it is not so sure that if the whole of the number parade the trade-mark of virtue by wearing a conspicuous badge, that courage will be imparted to the weaker brethren by so doing; possibly that may serve as a reason, but we doubt its efficacy. It will probably provoke that ridicule and banter which the weak cannot stand. After all, the movement is purely a matter of common sense and hygiene, and it will be a pity to endanger its principles by associating with fads and intolerance an association which has always stood in the way of teetotalism.

NON-OPERATIVE TREATMENT OF CHRONIC MAMMARY TUMOR.

By A. G. HENRY, M.D.,
CORTLAND, N. Y.

In August, 1900, I received a letter from a Mr. R. of the province of Ontario, Can., stating that his wife had a hard, rapidly growing tumor of the right breast, which had been diagnosed as malignant, and for which an immediate operation for removal was advised.

Mr. R., realizing the almost certainty of a return of the growth if excised—having lost a sister a short time previous from recurring cancer succeeding an operation for removal—wrote me if I would undertake Mrs. R's case.

As a result of my reply, he came with his wife on August 18, 1900. Mrs. R. was of medium height and weight, and light complexion. She was forty-seven years of age and the mother of one child—a daughter twenty years old. Her general health had not been good for some time, owing to dyspeptic troubles. Menstruation was regular and normal. The breasts were rather undersized.

The growth was situated about one and one-half inches to the outside, and a little above the right nipple. Its greater diameter was about one and one-half inches, its lesser one inch, and about the same in depth. It seemed attached to the chest walls. It was very nodular and very hard. There had been no injury received to the breast. Treatment was begun on August 19. At the end of the first week there was but little appreciable change in the size of the growth. At the close of the second week there was a very perceptible lessening in size. Progress was rapid from now on, and at the end of the ninth week the tumor had entirely disappeared. She left for home on October 21 in the best of health. There has been no recurrence of the growth up to the present time—now over two years. . . . Treatment consisted of electricity, locally applied, general body massage, with both deep and shallow friction movements to the lymphatic system generally.

Special attention was paid to movements in the vicinity of the growth, commencing with fine, almost imperceptible, touches over the tumor, and very gradually increasing the pressure upon leaving it. These movements were made away from the growth in all directions. Electricity was used daily for the purpose of stimulating absorption—dosage two to six milliamperes.

Phytolacca and thuja were practically all the medicines used, and these for their action on the lymphatics.

All flesh foods, as well as all foods in which flesh products were used (excepting butter, cream, and milk) were prohibited. Ere concluding I would state that for success in the treatment of all chronic affections requiring the daily use of massage and electricity, and a suitable dietary, the physician needs to have the patient at his own home or private sanitarium.

In the special work of dispersing mammary tumors, good judgment and considerable experience give the best results. As delicate a touch and as finely graduated pressure is necessary to success in working about a growth we wish to get rid of, as in manipulating pelvic adhesions and enlargements. Unskilful treatment is worse than no treatment.

A CLASSIFICATION OF INTRANASAL DISEASES FOR USE IN TEACHING.

By CARL E. MUNGER, M.D.,
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Whoever is in the habit of giving clinical instruction invariably remarks that the student is at all times prone to make his diagnosis offhand without taking into consideration the various pathological conditions of the different anatomical parts which go to make up a complex organ. In other words, to diagnose a single disease which might be present and ignore many times a much more important morbid condition present at the same time. I have noticed this, I might say, almost continuously while giving instruction in diseases of the nose and throat. The men who ever amounted to anything as diagnosticians were those who were willing to examine each part in detail, and determine the various lesions which might be present before arriving at a definite conclusion as to the name of a disease.

Recently, in giving a series of lectures on intranasal diseases, I determined to instill into the student's mind, if possible, the desirability of careful inspection of all the parts in detail, and prepared a classification of the diseased conditions arranged according to the regional anatomy of the nose, and which certainly formed a good working basis for both didactic and clinical instruction. This classification might have been more elaborately outlined, but was considered complete enough for practical teaching and study, and which is as follows:

- Internal Diseases of Nose
  - Mucocutaneous junction
    - Furuncle
    - Folliculitis alænasi
    - Eczema narium
    - Papillomata
  - Turbinates
    - Inferior
      - Atrophic
      - Hypertrophic
      - Purulent
      - Neuroses
      - Newg rowths
      - Membranous
      - Acute catarrhal
      - Mucous patches
    - Middle
      - Atrophic
      - Hypertrophic
      - Purulent
      - Neuroses
      - Polypoid degeneration
      - Cystic
      - Benign growths
      - Malignant growths
      - Membranous
      - Acute catarrhal
      - Mucous patches
  - Septum
    - Traumatic
      - Hæmatoma
      - Abscess
    - Deviations
      - Horizontal
      - Vertical
      - Oblique
      - Sigmoid
      - Dislocation of cartilages
    - Ecchondromata
    - Exostoses
    - Ulcerations / Perforations
      - Epistaxis
      - Crusts
    - Synechia
    - Mucous patches
    - Gumma
    - Caries and necrosis
    - Tuberculous deposits and ulceration
    - Hypertrophy
      - General thickening
      - Thickening of the erectile tissue of the vomer
    - New growths
      - Benign .. Papillomata
      - Malignant
        - Sarcoma
        - Carcinoma
  - Congenital defects and deformities
  - Foreign bodies, rhinoliths, and parasites

The Plague in Chile.—It is reported from Santiago de Chile that the bubonic plague has appeared at the seaport of Iquique, having been carried there by a ship bringing a cargo of rice from India.

A HINT IN URINARY ANALYSIS FOR GENERAL PRACTITIONERS.

By LOUIS FAUGÈRES BISHOP, M.D.,
NEW YORK.

In the physician's office laboratory two of the petty annoyances that he has to contend with in testing for albumin are dirty test-tubes and specimens that need filtration.

I have found the following plan a simple method of obtaining a clean test-tube and a clear specimen: Take an ordinary cotton tampon on a string, such as is used in gynecological work, push it to the bottom of a test-tube with a stick or glass rod and pack it in firmly Then pour the urine into the test-tube and pull out the tampon out very slowly by the string. This, on account of the atmospheric pressure, causes the urine to pass through the tampon and remain in the tube. The tampon carries out with it any particles that can be removed by filtration and at the same time cleans the inside of the test-tube. If there are several specimens to be filtered, the tampon can be rinsed under the faucet and used over again. I find by this method my test-tubes are always bright and clean inside, and there is none of the delay occasioned in using filter paper. The process can be repeated quickly two or three times if the first filtration is not satisfactory. In detecting very small traces of albumin, a perfectly clean test-tube is of great importance.

54 West Fifty-fifth Street.

Primary Sarcoma of the Appendix.—A case of this nature is reported by P. Peterson, his patient being a man of thirty-nine years with the usual history of pains in the right iliac fossa coming on at intervals, but causing no vomiting. The patient was seen in a severe attack of pain with slight fever and a mass distinctly appreciated in the fossa by palpation. A few days later, after acute symptoms had subsided, the abdomen was opened and the appendix exposed. It was found much thickened, firm to the touch, and bound down by adhesions posteriorly, whilst the omentum was coherent to its apex. The cæcum was also somewhat thickened for a radius of about ¼ of an inch round the attachment of the appendix. The adhesions were separated, and the appendix, together with the thickened part of the cæcum, was removed. The opening was then closed. The patient never rallied from the operation, and died a few hours later.

Careful post-mortem examination failed to show any trace of tumor formation elsewhere, and the part of the cæcum that remained appeared healthy. The appendix, on removal, was bent almost to a right angle and measured 16.5 cm. along the larger curvature, and 10 cm. in circumference at the thickest part. On microscopical examination the increase in bulk was found to be due to a round-celled sarcoma (Fig. 2) infiltrating all the coats with the exception of the peritoneal. The mucous membrane had almost entirely disappeared in parts, only the bases of the glands remaining. The neoplasm had evidently commenced toward the apical part of the appendix, and extended along the walls toward the cæcum; the small part of the latter that was involved showing very little infiltration.—*Practitioner.*

Shakespeare as a Medical Authority.—Some Shakespearian commentators would seem to consider the "myriad-minded" dramatist a sufficient authority on all matters necessary to man's existence. There is, however, a discriminating worship and discerning minds see in the wondrous portrayals of the great master a mirror, mysteriously polished it may be by the wonder-worker mind, which reflects in great measure the manners and opinions of his time. This is certainly the case as regards such medical matters as are dealt with by Shakespeare. Dr. John Knott, in the *Westminster Review*, has a luminous article on the medical knowledge of Shakespeare, in which this thought is admirably carried out. There are but few definite allusions to the anatomy and surgery of the skeleton. Of muscles as distinct entities in the framework of the human organism, Shakespeare appears to have had no knowledge whatever. His references to nerve and sinew are vague, and well indicate the indefinite ideas prevailing in his time. Regarding the circulation of the blood there are certainly many instances which seem to show that he had glimpses of some true knowledge, but it is quite certain that many anatomists and physiologists had at least conceptions of the truth before Harvey was born. It is of peculiar interest to note the references to venesection scattered through the plays. Shakespeare was keenly observant of the progress of physiological processes as indicated by his quoted studies on old age and approaching dissolution; but the science of pathology hardly existed in his day, and although we meet with references to rheum and certain other morbid states, there is but little of actual value in regard to manipulation of disease. The medical student would certainly do well to read his Shakespeare, but to appreciate fully its references to the healing art he should recognize the embryonic condition of scientific knowledge regarding the composition and constitution of the body which existed in the glorious Shakespearian age.—*Medical Press.*

Notes on Some Recent Advances in Ocular Therapeutics.—Cecil E. Shaw says that in eye work adrenalin has two distinct uses; one is to blanch the conjunctiva and so lessen bleeding in operations involving the cutting of that membrane, the other to reduce great conjunctival injection and so promote absorption into the eye. Acoin is a less well-known drug; its chief use in eye work is an addition to solutions for subconjunctival injections, of which it greatly lessens the pain. Protargol is less painful than the old solutions of silver, and not being precipitated by albumin it penetrates to all parts of the lachrymal sac. In troublesome cases of chronic conjunctivitis, however, the old nitrate of silver solution is, on the whole, more effective. Cuprol is well spoken of as a substitute for sulphate of copper, but the author has as yet had no personal experience with it. Euphthalmine is the most satisfactory mydriatic when we wish to dilate the pupil for ophthalmoscopic examination with the smallest possible disturbance of vision. The only disadvantage is its expense. Mydriasine has just been brought out by Squire. The author has had a sample for three days only, and so cannot give an opinion on it, but says that certainly one drop of a one-per-cent. solution causes full mydriasis in thirty to forty-five minutes, and in a case of suspected iritis it acted excellently, showing an adhesion of the iris to the lens capsule. Aspirin seems to act very well in affections of the eye due to rheumatism. Jequeritol and Jequeritol serum are said to be of use in cases of granular conjunctivitis with pannis.—*Medical Press and Circular.*

Chronic Diffuse Nephritis Unaccompanied by Albuminuria.—A. R. Elliott states that the presence of albumin in the urine in cases of chronic nephritis is uncertain, and that it consequently is but a very unreliable diagnostic guide. When present, associated with physical signs and other urinary indications, it serves to complete the diagnosis, and if absent, no inference is justifiable, and the diagnosis must be constructed without its aid. Much more reliable evidence of renal change is the lowered excretion of urea, which may exist months or years before the appearance of albumin, and especially important is the presence of tube casts in the urinary sediment. Casts are undoubtedly present with greater constancy in contracted kidney than is albumin, and in the diagnosis of this disease it may be stated that the morphologic evidence afforded by the presence or absence of casts may be accorded more weight than the existence or non-existence of albumin in the urine. While in the main they are associated, casts may frequently be met with when no albuminuria exists.—*Medical Examiner and Practitioner.*

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THE STRONG DRINK SITUATION AND THE VIEW POINT OF THE ALIENIST.

ALMOST every country of the world is taking up the drink question. The authorities in some lands have become seriously alarmed at the inroads which the unbridled consumption of alcohol has made and is making into the prosperity, health, and morals of their people.

In France the unrestricted sale of alcoholic beverages has already brought forth dire results. Prominent French physicians have begun a crusade against the drink habit. In Russia the excessive drinking among the peasantry has impelled the Government to step in and take control of the sale of spirituous liquors. Although in America drinking has never been so common nor carried to such an extent as in Europe, yet even here statistics tell us that there has been a decided increase in the consumption of alcohol. Great Britain has always had an unpleasant reputation as a country whose people were addicted to strong drink on a large scale, and it still, in this respect, retains its position in the front rank. The situation, too, is at the present time aggravated, in that adulteration of beverages containing spirits is the custom everywhere. Too much of the genuine article is bad enough, but when in place of pure or comparatively pure spirituous beverages, vile concoctions are substituted, the evil is intensified in a corresponding degree.

Dr. Robert Jones, Medical Superintendent of Claybury Lunatic Asylum, London, published a short time ago a paper treating of drink with regard to the production of insanity. Referring to statistics bearing upon this matter, he said "There are probably at the present time no less than 110,000 certified insane persons in England and Wales alone, of whom approximately about 50,000 are males and 60,000 females. If the Lunacy Commissioners' Blue Book for England and Wales be consulted, the proportion percentage of instances in which alcohol has been assigned as the cause of insanity to the yearly average number admitted into asylums in the five years, 1895-1900 inclusive, is 21.8 for males and 9.5 for females—the proportion is much higher in Scotland—and after allowing for the deaths of those whose form of insanity is more immediately fatal than those caused by alcohol, there are, I believe, upon the lowest computation, remaining in asylums, at the present time, no less than 10,900 males and 5,800 females who are mentally decrepit through the effects of alcohol. During the time that the London County Council's Asylum at Claybury has been opened, from 1893 to the end of 1901—a period of less than nine years—8,493 patients have been admitted, of whom 21.2 per cent. of the males and 12.6 of the females were definitely ascertained to owe their insanity to drink, a total of over 800 men and 594 women who were thus rendered incapable of productive work through their own acts. For the whole of London, during the period 1893-1901, 2,662 men and 1,677 women were received into asylums who owed their insanity to alcoholic intemperance."

Chronic alcoholism, according to Dr. Jones, implies an altered nutrition of all the tissues, particularly parenchymatous elements and epithelium, such as that of the blood vessels—causing thickening and ultimately fibroid changes. It has been stated to be one of the special causes of dementia paralytica. It certainly is one of the most important elements in the strain which predisposes to this breakdown, and it is a most fertile source of nervous diseases. The degeneration of the tissues consequent upon altered nutrition is so general and far-reaching that the resulting symptoms are of a most protean nature. Attempts have been made to differentiate these according to the particular form of alcohol taken—such as wines, beers, spirits, liquors, etc.—but the distinction is less psychical than physical, and the symptoms consist in the greater frequency of convulsive discharges from such as absinthe, of analgesia from wines, and of hyperalgesia from essences. The liver of the spirit drinker is familiar, as also the gross fatty changes in beer-drinkers.

The writer points out that many different considerations present themselves in regard to symptoms, such as (1) the diathesis, idiosyncracy, or the inheritance of the individual. An inheritance of insanity is found in about 33 per cent. of all such cases admitted into asylums. A person of neurotic inheritance is predisposed to the incidence of delirium, small doses of alcohol giving rise to marked unsteadiness and other functional disturbances; in others the nervous system almost entirely escapes, and the stress is felt upon the liver and kidneys. (2) Sex appears to have a marked influence, for although alcoholic indulgence is most common among men, women recidivists are more common and less curable. (3) Elimination is a personal factor dependent upon the activity of the various excretory organs, such as the skin, kidneys, lungs, etc., in any particular individual. (4) Exercise appears also to influence the symptoms, as life in the open air favors tolerance. Both men and women of sedentary habits suffer in comparison to the more active, and the more frequent incidence of peripheral neuritis in women is probably due to their indoor life. (5) Age is a modifying factor. The period of greatest incidence to the pernicious effects of alcohol corresponds closely with that upon which falls the greatest mental strain. Males between twenty-five and thirty, and those between thirty-five and forty, appear to be—according to Bevan Lewis—more susceptible to alcohol than those of any other age. The former is a period peculiarly characterized by intellectual advance, and one during which the habits tend to become independent and fixed, the other is an epoch during which the struggle for existence makes itself felt in the fullest force, and it is also an age during which, as Lewis points

out, the feeble and indifferent organisms often feel the want of artificial stimulus, to the use of which they often succumb.

The relation between drink and insanity is far more intimate than it was at one time believed to be. Perhaps the assertion that drink is the most potent cause of mental disorders would now pass without cavil. Certainly the brain is the organ which is most disastrously affected by excessive indulgence in alcohol, for although other organs may be seriously injured, the outcome of the habit is more frequently mental dissolution.

PROFESSORS AND MEDICAL MEN AS TRUSTEES OF COLLEGES AND HOSPITALS.

Dr. W. W. Keen, in his presidential address at the Sixth Congress of American Physicians and Surgeons, which opened at Washington on May 12, dealt partly with this subject. The speaker said that there were two classes of institutions to be considered: (1) medical colleges and (2) hospitals, whether they be connected with medical schools or not. As to the qualifications of a medical man for a trusteeship of either of these institutions, there should be, in the opinion of Dr. Keen, but two questions asked of a professor or a hospital physician or surgeon: First, which one of the candidates for the place has the best qualifications from the medical point of view? This should include not only his scientific knowledge but his ability practically to impart or apply that knowledge. Secondly, are his personal qualifications and character such as to make him a desirable incumbent of the position?

With regard to the frequent clashing which occurs between the medical board and the board of trustees, the speaker thought that it was in many instances due to misconception of motives. The medical board and the board of trustees often seem to think that their interests are conflicting, whereas if they would endeavor to work together, it would soon be discovered that in truth the reverse is the case. One of the best methods of bringing the medical board and the board of trustees into more intimate contact would be to have the dean or a committee of the faculty, or, in a hospital, if the staff is not too large, the whole staff invited to the meetings of the board. "Here," says Dr. Keen, "I can speak from personal experience. At the Orthopedic Hospital and Infirmary for Nervous Diseases in Philadelphia there are three surgeons and three physicians. These members of the medical staff are invited to meet with the board of managers at each monthly meeting, excepting the annual meeting, when the medical staff is elected. They are free to express their opinions on any topic relating to the management of the hospital to which their judgment may contribute something of value, but when a decision is taken they have no vote. It is purely in an advisory capacity and for the purpose of giving and receiving information that they are present. The plan works exceedingly well."

The next point touched upon by the author is one of great importance, and concerning which the medical profession is by no means of one mind. This is the age at which boards of trustees shall retire college professor, or hospital physician or surgeon from the active duties of his post. There are some who hold that experience counts for so much that a man should keep his position, so long as he is able to get about at all, while others as stoutly maintain that such positions are best filled by young or comparatively young men. As a matter of fact, the truth lies in the mean, and, as a rule, a professor or member of a hospital staff should be neither young nor old. Dr. Keen believes that boards of trustees should fix a retiring age in the interests of the students and the patients. As age advances, a man s opinions and his practice become "as petrified as his arteries." He is incapable of constant study of adding to his knowledge or of keeping up with the feverish strides of medicine. If no rule exists, he is allowed to continue his inefficient or even disastrous work, or by some harsh suggestion is compelled to give place to another more competent man.

The following rules are in force in some of the larger institutions: At Harvard, the age when a professor may request to be retired is 60, provided he has been in the service of the university for twenty years, with a reduced pay ranging from one-third to two-thirds of his salary. At 66 he may be retired by the President and Fellows, partly or wholly. At Yale the retiring age is 65, after twenty-five years of service, and on half pay, but the retirement is not compulsory. At Columbia the retiring age, after fifteen years of service, is 65, either at the request of the professor or upon motion of the trustees, and on half pay. The only hospitals in the United States in which a retiring age is fixed are the Massachusetts General Hospital and the Boston City Hospital. At the former the compulsory retiring age of the surgeons is 63, and of the physicians 65. At the Boston City Hospital the visiting surgeons are retired at 65, but the physicians, gynecologists, and all the other medical officers continue in service indefinitely. The author is strongly of the view that an age limit of 65 should be compulsory, and so not be invidious in any given case.

As to whether there should be a certain number of doctors on the board in hospital and college management, Dr. Keen believes that a small proportion of well-chosen medical men is a distinct advantage in such boards of trustees. By a "small proportion" he means not more than 20 per cent. Such medical men should be selected for trustees by their mental training, social relations, and personal character would be, so far as it is possible for human nature to realize such a position, absolutely free from influences arising from personal jealousy or professional bias.

The question of having medical men on the board of trustees of hospitals has been discussed with much bitterness on more than one occasion in Great Britain. In one London hospital in particular the trustees and medical staff came to an open rupture, and the affairs of the institution and the quarrelings of the rival factions were published at length, in both lay and medical journals. The upshot of the matter was that public opinion showed itself in favor of medical men having some voice in the management of hospitals. This, indeed, is the only reasonable way of regarding the question. An entirely lay board of management can, if its members so wish, hamper the action of the medical staff to

the detriment of the patients. There should then, as Dr. Keen urges, be a certain leaven of medical men on the boards of trustees of all public medical institutions not sufficient to leaven the whole mass, but enough to make its influence felt.

EDUCATIONAL REQUIREMENTS FOR ADMISSION TO A MEDICAL COLLEGE.

The raising of the standard of medical education throughout the United States, so that it may be placed on a uniform basis, is the fondest hope of the medical reformer. Matters in this direction, if not travelling apace, have at least made satisfactory progress. With this consistent and uniform elevation of the standard of medical education, the raising of the standard of preliminary education in arts must go hand in hand. The time has passed forever when a man deficient in general knowledge can enter upon the study of medicine. It is freely allowed that a certain amount of knowledge and even of culture is necessary in these days for the full equipment of a medical man. As to what should constitute the minimum requirements for admission to a medical college, has not, as yet, been clearly defined, nor settled by the unanimous decision of the best-known authorities on educational affairs.

Dr. William H. Wathen, Professor of Obstetrics, Abdominal Surgery, and Gynecology in the Kentucky School of Medicine, Louisville, delivered an address before the Association of American Medical Colleges in New Orleans, May 4, in which he dealt with the above question at some length. The first part of the article is taken up with a comparison of the systems of education in vogue in England, Germany and France, and the United States, showing that, upon the whole, the advantage in educational methods lies with this country. Dr. Wathen thinks it will be concealed that in European countries but few pupils can be properly educated for admission to professional schools except through colleges and universities, while in the United States they can be well prepared in our free public schools. Whereas, however, as the curricula in the primary, intermediate, and secondary schools differ, not only in various States, but even in the different schools of each State, both in time and in amount and character of work required, the speaker opined, that we should, in accepting a high-school diploma as a minimum qualification for admission, correctly understand and determine the time requirement, and in a general sense the amount and character of education given—being liberal in the allowance of electives. In view then of the fact that most of our States and cities in which the public-school system is encouraged and fostered require an attendance of twelve years of not less than forty weeks each from the beginning of the primary to the completion of the secondary course, the association should finally expressly provide that the diploma of no high school obtained in less time shall be accepted as a minimum requirement for admission to a medical school.

Dr. Wathen next proceeded to criticise the attitude of our well-known universities in respect to the shortening of the period of university residence. These universities, or at any rate a few of them, combine to a certain extent literary and medical work, so that it is possible to obtain a degree in arts and in medicine in within six or seven years, or, under exceptional circumstances, in five years. It may be said that Oxford and Cambridge pursue a somewhat similar method. As to the subjects to be studied to best prepare a man for his medical course, the speaker is of the opinion that the study of too much mathematics, as also some of the collateral sciences, should be discouraged, the time would be better consumed in a careful study of English and Greek and Roman history, and in the life and growth of language, especially of the philology of the languages that may be traced to an Aryan or Indo-European origin. Says Dr. Wathen, "Of all languages, except our native tongue, the study of Latin is of the greatest value, and, excluding the commercialism of German and French, Greek should be next in order, for even an imperfect knowledge of these two languages will enable the student easily to understand the etymology of the many compound technical terms in the study of medicine, which a knowledge of no other language will do. German can never be of much value in the study of the rich scientific literature of that language, unless it can be read with ease and correctly translated, and this cannot be done by the American student of four years' study of five hours a week in our high schools. Again, in the near future, all that France or Germany may discover or develop, if of real value, will be promptly given to us in a translation by scholars educated in German or French, English and the Sciences; and even to-day we find many such translations in libraries throughout the country."

Finally the speaker suggested that the association of medical colleges should be urged not to give time credits for work done, except in a recognized medical college, and to insist upon a discontinuance of the combined academic and professional courses. He also advanced the proposition that it might be found necessary to reduce the academic and arts course to three, and probably to two, years.

The true stumbling block in this country, to the attainment in every part of it of a thorough medical education, is the lack of a uniform standard. The best universities perhaps ask too much of its medical students, while there are too many universities and medical schools which most certainly ask too little. Of course a four years' medical course is a *sine quâ non*. Indeed, it is an open question if this period be sufficiently long. However, there can be no doubt that no time credits for work done should be given except in a recognized medical college, and it might be as well to shorten the academic and arts course in the universities to three years. What is needed above all is to have a uniform high standard of medical education in every State in the country. The requirements for entrance to a study of medicine should also be demonstrative of the fact that the would-be medical student has received a liberal education, that he has a fair knowledge of Latin, and, if possible, also of Greek and German. There is no reason, so far as can be judged, why more time should not be given to the study of German. A reading knowledge of German is of infinite service to the medical man, and in spite of the statement of Dr. Wathen that translations, of that language answer the purpose well enough,

we feel more or less confident that to be able to read the language with some degree of facility is an immense advantage to the man who desires to keep abreast of the best scientific literature. A fitting slogan for the American medical profession would be "Make a uniform high standard of medical and literary education throughout the country."

The Bacteriological Impurities of Vaccine Virus.

The superlative importance of procuring vaccine virus as free from impurities as possible, is so obvious as to require no emphasizing. The prejudice which has existed for long years against vaccination has mainly risen from the use of lymph which contained harmful microorganisms. Consequently the object of medical men—especially of those versed in laboratory work—has been to discover a method of preparing vaccine virus which shall practically render it safe.

Dr. Monckton Copeman claimed to have reached this end when he devised the method of mixing the pulp with the best quality of sterile glycerin. Glycerinated calf lymph has now had about twelve years' trial, and, in the opinion of the majority of medical men in Great Britain, in Germany, and in this country, has stood the test remarkably well. But nevertheless there have been numerous accidents even when using this preparation, and latterly several laboratory workers have been seeking the cause of these iunfortunate occurrences.

Dr. Milton J. Rosenau, Director of the Hygienic Laboratory of the Public Health and Marine Hospital Service of the United States, has recently issued a bulletin describing his investigations with regard to the bacteriological impurities of vaccine virus. The experiments carried out at the above laboratory seemed to have been sufficiently exhaustive, and the conclusions reached are necessarily of much value. Some of these are as follows:

The vaccines of ten different manufacturers were examined during a period of more than a year. Of 190 dry points examined, an average of 4,354 bacteria per point were found. Of 244 tubes of glycerinated virus examined, an average of 1,742 bacteria per tube were found. A number of these capillary tubes contained over 10,000 bacteria, and one as high as 30,000. This is. of course, much more than a carefully prepared glycerinated virus should contain. The pus cocci and other bacteria, pathogenic for laboratory animals, were found in both the dry points and the glycerinated virus. The investigators demonstrated that some of the glycerinated virus marketed during the winter of 1901–2 contained an excessive number of bacteria, which decreased notably after a few weeks, indicating the sale of a "green" or unripe product; that is to say, the virus was not glycerinated a sufficient length of time before it was sold. It was also made plain, from the studies of Dr. Rosenau and his co-workers, that too much confidence was placed by the producers in the germicidal power of glycerin. The excessive impurities found in some of the glycerinated virus upon the market was believed to be largely due to this over-confidence in the germicidal value of glycerin. Glycerinated virus, when properly prepared and kept a sufficient length of time, is freer from impurities than dry points with fresh "lymph" There is practically no vaccine on the market free from bacterial contamination, although the product of some manufacturers is remarkably pure.

It would seem then that the moral to be extracted from the foregoing statements is that the germicidal action of glycerin is much exaggerated, and that greater care is needed in the manufacture of vaccine virus. The introduction of glycerinated virus, although a great advance on former methods of preparation has by no means rendered vaccination a perfectly safe procedure. Excessive precautions must yet be taken to so free vaccine virus from bacteriological impurities that it will be, to all intents and purposes, harmless.

Increase of Lunacy in Scotland.

The annual report of the British Commissioners in Lunacy shows that the number of insane in Scotland is increasing almost by leaps and bounds. In earlier years the recurrent increase in annual percentages might be explained as the natural result of the efforts put forth to bring the cases of existing insanity under official cognizance. Now, however, this excuse will not stand. Lunacy is increasing at a rapid rate, and the fact is obvious that lunatics are being manufactured. There are curious features in regard to the increase of insanity in Scotland, which seem to upset established notions as to its causation.

The Edinburgh *Evening Dispatch*, referring to the matter, says: "The annual report of the Lunacy Commissioners for Scotland offers ample and attractive material for the propounder of paradoxes. How is it that in the sober, clean-living, and easy-going northern and insular districts lunacy should be so much more prevalent than in the southern districts, where drink, and vice and crime, and bustle, and every sort of offence against good living, so much more abound? The facts seem to defy the most plausible theories. We have Dr. Clouston telling us in each annual report of Morningside Asylum that drink is one great outstanding cause of the lunacy with which he is called upon to deal, and yet when we widen the basis of observation, we find that lunacy is most prevalent in the soberest districts of the country. The Lunacy Commissioners themselves only obscurely hint at possible reasons for this paradox. The theory of intermarriage seems quite inadequate. If we take the island of St. Kilda, we have a community of seventy or eighty persons who have been intermarrying for generations, and in the memory of man have not furnished a single case of insanity. A much more formidable cause is probably the constant drain of the healthiest and most vigorous part of the population from the outlying to the industrial centers, with the result that in these outlying districts the renewal of the population is largely left to the least fit. Possibly there are other and more superficial reasons. A wag of a doctor in Skye used to allege that in that island insanity was mainly due to Free Kirkism and strong tea. The strong tea, he argued, produced chronic indigestion and melancholia, and Free Kirkism completed the ruin." There probably is a certain relationship between a disordered stomach and a disordered mind, and sensational religion is apt to overturn the mental balance of those whose minds are somewhat weak, but as causes of insanity, dyspepsia and religious fanaticism are not the most important factors. The position of affairs in Scotland as regards the class of individuals most subject to insanity deserves the close attention of alienists.

Transmissibility of Human Tuberculosis to Cattle.

Great differences of opinion still exist as to the possibility of transmitting human tuberculosis to members of the bovine tribe. Koch and his large following hold that the disease in man and in cattle

is distinct, and that consequently there is no reason to fear that the human race may contract tuberculosis from drinking the milk derived from a cow afflicted with the malady. There are, however, a very large number of scientific men who have by no means accepted the dogmatic statements of Professor Koch, but who have conducted careful experiments in order to prove the disputed point one way or the other. Among these the Americans, Ravenel and Salmon, have been foremost, both of whom have summed up enough to show that under certain conditions human tuberculosis can be transmitted to cattle. The most recent investigators into the matter are Professor Hamilton and Mr. M'Lauchlan Young of Aberdeen, who, after making a series of exhaustive experiments, arrived at the following conclusions: (1) That although human tuberculosis is probably not so virulent for the calf as that derived from bovines, yet it can be readily inoculated upon that animal. (2) That this holds good whether the tuberculosis inoculated be derived from tuberculous lymph-glands, tuberculous lung, tuberculous sputum or urine. (3) That it produces this positive result, irrespective of whether it be introduced by feeding the animal with the tuberculous material by subcutaneous inoculation upon a peripheral part, by respiring a spray containing the bacillus, or by infection into the venous system. (4) That the organs most affected are those in immediate connection with the part operated upon. (5) That the lymphatic system is constantly involved in the resulting tuberculosis. (6) That when administered by the mouth, tuberculous sputum induces an abdominal lymph-gland tuberculosis, without the intestine being necessarily involved in any way. (7) That when tuberculosis from a human source has been ingrafted upon a calf, it gains enormously in virulence by being reinoculated upon a second calf. (8) That the morphological characters of the bacillus may vary according to circumstances, and are no guide to the source of the organism under observation. (9) That the above facts go to favor the view that the human bacillus and that of bovines are identical, but modified somewhat by their environment. (10) That our results are a direct contradiction to those alleged to have been obtained by Koch and Schütz.

The foregoing conclusions, taken in conjunction with those of many other investigators who, since Professor Koch's announcement, have undertaken experiments on the subject, lead one to think that the German scientist must be mistaken, and that, in fact, human tuberculoses can be transmitted to cattle and *vice versa*. At any rate, no precautions regarding a pure milk supply should be relaxed, but rather every effort should be put forward by municipal authorities and health boards to ensure to the public at large milk as free from contamination of any kind as is possible.

The Combat against Tuberculosis.

The Committee on Tuberculosis of the Charity Organization Society of the City of New York has published an address delivered under its auspices by Dr. S. A. Knopf on February 9, 1903.

The speaker treated of the duties of the individual and the Government in the combat against tuberculosis. The whole subject was ably dealt with, all precautions against contracting consumption being discussed in detail. Speaking of the duties of municipalities with regard to combating tuberculosis, Dr. Knopf said: "Each city should have an efficient committee on tuberculosis, composed of a number of general practitioners, health officers, and trained charity workers. This commission should have its offices in a building connected with a special dispensary for tuberculous patients. Each patient applying should be carefully examined for the following purposes: (1) To determine the applicant's condition by medical examination. (2) To visit his home if he has been found tuberculous, and to institute such hygienic measures as seem necessary. (3) To examine the other members of the family, in order to find out if any of them have also contracted the disease, and, if so, to counsel proper treatment. (4) To report in full to the sanitary authorities concerning the condition of the patient's dwelling. Its renovation, or even destruction, may be imperative when it is evident that tuberculosis has become "endemic" there, owing to the condition of the soil or to other sanitary defects. (5) To determine the financial condition, whether the patient is or is not able to pay, and whether or not by his being taken to an institution the family will become destitute. If the latter should be the case, it would be necessary for provision to be made in some way for the family. In many cases a letter of inquiry sent to the former medical attendant of the patient would materially aid in the work of the investigating committee.

Dr. Knopf defines the duties of the State Government as follows: "Our State legislators should do their utmost to enact such laws as will secure always proper ventilation and light in public and private buildings. How necessary such laws are you will believe when I tell you that there are in Manhattan over 200,000 and in Brooklyn over 125,000 dark interior rooms without a window of any kind and having no means of light and ventilation." Without the earnest coöperation of municipal and State governments, little can be done in the fight with tuberculosis. With the aid, however, of the authorities in the States and cities, there is reason to hope that the campaign against consumption may be brought to a successful issue.

Blue Electric Light in the Treatment of Neuralgias.—Gabriele Arienzo applied this treatment in six cases with excellent results. The apparatus used consisted of a bell-shaped reflector, large enough to converge all the light from a lamp of thirty-candle power. The patient was placed about 15 cm. from the lamp; the duration of the treatment was from ten to fifteen minutes. The author concludes, from the results obtained, that the blue rays penetrate to the deeper tissues and reach the organs beneath. They are endowed with marked anæsthetic properties, which fully justify their use experimentally in neuralgia. The action is probably due to changes in the circulation induced in the afferent and efferent blood vessels of the nerve, or else to some specific action of the blue light itself.—*Annali di Elettricità Medica e Terapia Fisica*

Are There Variations in the Course of the Facial Nerve Having Bearing upon the Mastoid Operation?—B. Alex. Randall calls attention to the necessity of careful avoidance of injuring the facial nerve. If it were possible by watching for twitchings of the face, as is sometimes claimed, to get timely warning that we are approaching it dangerously, we might rest on this precaution, but he is sure that severe and persistent injury is too often inflicted unheralded by any such warning. Hence arises the absolute necessity of knowing the exact anatomical relations of the nerve. Randall teaches that the descending portion of the facial canal is almost exactly vertical and forms one of the most constant features of the temporal bone. The nerve crosses the oblique plane of the drum-head some 3 mm. back of the plane of the posterior margin of the annulus. Therefore in removing the back wall of the meatus we should aim to cut a little below the tympano-mastoid suture in order to be sure to remain in safe territory.—*Archives of Otology.*

News of the Week.

New York Infant Asylum.—Dr. Edwin B. Cragin has been appointed consulting obstetrician to this institution, in the place of the late Dr. T. Gaillard Thomas.

College of Physicians of Philadelphia, Section on General Medicine.—At a stated meeting, held May 18, Drs. J. Alison Scott and Robert LeConte reported a case of purulent pericarditis and exhibited the patient. Aspiration was first performed to evacuate the fluid accumulated in the pericardium, which, at this time, was almost clear and contained pneumococci. Later the fluid became purulent and part of a rib was exsected, the pericardium incised, and the pus permitted slowly to escape. The result was eminently satisfactory, the patient making a slow but perfect recovery. Drs. Joseph Sailer and Joseph S.Evans reported a case of infection with the colon-bacillus simulating typhoid fever. Dr. Thomas L. Coley presented a case of splenomegaly with enlarged liver. The man gave a history of malarial fever during many successive years, but plasmodia were not detected in the blood. There was a slight reduction in the number of red blood-corpuscles, a moderate reduction in the hæmoglobin percentage, and no deviation in the number of leucocytes. There had likewise been no hemorrhage from the mucous membranes.

Association of Medical Librarians.—The sixth annual meeting of the Association of Medical Librarians was held Saturday, May 16, 1903. A large number of librarians and physicians, representing the medical libraries throughout the country, assembled in the morning at the Library of the Medical Society of the County of Kings, Brooklyn, N. Y., and, after an inspection of the building, were entertained at luncheon at the Union League Club by the local members, Dr. Wm. Browning, Dr. J. M. Winfield, and Mr. A. T. Huntington. The scientific session was held in the afternoon, at the New York Academy of Medicine, the President, Dr. Wm. Osler, in the chair. Papers and discussions were contributed by Mr. C. P. Fisher of Philadelphia, Dr. T. G. Lee of Minneapolis, Mrs. G. W. Myers and Dr. E. H. Brigham of Boston, Mr. J. S. Brownne and Dr. W. S. Dennet of New York, Mr. A. T. Huntington of Brooklyn, and others. The officers elected for the ensuing year were as follows: *President*, Dr. William Osler of Baltimore; *Vice-President*, Dr. Abraham Jacobi of New York; *Secretary*, Mr. Albert T. Huntington of Brooklyn; *Treasurer*, Dr. George D. Hersey of Providence; *Executive Committee*, Mr. John S. Brownne of New York, Mr. Charles P. Fisher of Philadelphia, Dr. James M. Winfield of Brooklyn; *Manager of the Exchange*, Miss M. C. Noyes of Baltimore. The next meeting will be held in June, 1904, at Atlantic City, N. J.

Eleventh International Congress of Hygiene and Demography.—The following Committee of Organization for the United States, for the Eleventh International Congress of Hygiene and Demography, to be held in Brussels, September 2-8, 1903, has been appointed, at the request of the Belgian Government, by the State Department: Drs. E. A. de Schweinitz and A. B. Richardson, the Columbian University, Washington, D. C.; Dr. John Marshall, University of Pennsylvania, Philadelphia, and Dr. Harrington, Professor of Hygiene, Harvard University, Boston, Mass. The committee desires to secure the co-operation of all those in this country who are engaged in hygienic work, both in attendance at the meeting in Brussels and in sending papers to the Congress. The Congress will be divided into two sections, (1) Hygiene, and (2) Demography The subjects which will be considered are the relation of bacteria and parasites to hygiene, the hygiene of foods, the treatment and prevention of communicable diseases, etc. The important subject, in its various phases, of the communicability of tuberculosis will be discussed by prominent men. The fee for membership is 25 francs, which may be sent to the Secretary-General, M. le Dr. Felix Pulzeys, Rue Forgeur, 1, Liége, Belgium. Those proposing to attend or send papers are requested to notify Dr. E. A. de Schweinitz, Washington, D. C.

Campaign against Tuberculosis in New Haven.—The New Haven Medical Association has begun an organized and systematic anti-tuberculosis campaign in that city, and purposes to enlist the help of all public-spirited citizens, those who think and do things in the community, both lay and medical. One feature of the campaign will be a series of lectures of a popular nature, the first of which was delivered on Friday last by Dr. S. A. Knopf of New York.

The Maine Medical Association.—The semi-centenary of this society was celebrated at Portland on Wednesday, Thursday, and Friday of this week, January 3, 4, and 5. The President's address, which was devoted to the history of the association, was delivered by Dr. Hunt of Greenville on Wednesday afternoon. On Thursday evening the annual banquet of the association took place at the Lafayette Hotel. Friday was devoted to an excursion among the islands of Casco Bay and a "shore dinner." The medical history of Maine outside of the association, was treated of in two papers by Drs. J. L. M. Willis and Willis B. Moulton, the former reviewing the period from the settling of the State to 1853, the latter from 1853, the year of the foundation of the association, to 1903.

A Stain for the Gonococcus.—A misprint occurred in the third line of the formula for this stain, published on page 844 in the issue of the MEDICAL RECORD for May 23. The word written was chionin, two letters having dropped out in the form before printing.

An Osteopath Bill Vetoed.—Governor Yates of Illinois has vetoed a bill recently passed by the Legislature of that State, aiming to give a special status to osteopaths. The bill provided for an examination in "osteopathy" of all candidates who might have been in attendance for a specified time in an osteopathic college. The act also provided for the appointment by the State Board of Health of an examiner, who shall be a graduate of a recognized college of osteopathy and who should examine applicants upon the theory and practice of osteopathy. The Governor objected to these additions as being unnecessary, the present law providing for "the examination of those who desire to practise any other system of treating human ailments who do not use medicines, internally or externally, and who do not practise operative surgery." Under this provision the State Board of Health has examined and licensed over 350 osteopaths, not as osteopaths, however, but as licentiates empowered to practise osteopathy or any other system of treating human ailments, without the use of medicine or surgery, they see fit. The specially objectionable feature of the bill, however, was, that it compelled the State Board of Health to grant a license to practise to every osteopathist who should have been a graduate of a regular college of osteopathy, and who should have been practising in the State on the first day of March, 1903, who should be recommended to said Board by the Executive Committee of the Illinois State Osteopathic Association.

The New York State Board of Charities.—At the meeting of this Board, held in New York City, on May 27, the resignation of President William R. Stewart, which had been laid on the table at the annual meeting in April, was accepted at his urgent request. Commissioner E. V. Stoddard of Rochester, formerly Vice-President of the Board, was unanimously elected President, and Dr. Stephen Smith of New York City was unanimously elected Vice-President. The Board approved plans for the construction of a hospital for consumptives at the Westchester County Almshouse, and voted to appoint William C. Rogers of Rochester Inspector of Almshouses in place of Inspector Dorr, resigned.

Dr. James R. McLane has resigned as dean of the College of Physicians and Surgeons, the Medical Department of Columbia University, in this city. Dr. McLane was actively connected with the College as Professor of Materia Medica and Therapeutics, Professor of Obstetrics, and Dean, for more than thirty-five years.

Dr. Norman M. Harris, associate professor of bacteriology at the Johns Hopkins Medical School, has accepted a call to the University of Chicago.

The New York State Hospital for Crippled and Deformed Children.—Under the Supply Bill recently approved by Governor Odell and making an appropriation of $50,000, steps are being taken to secure a new site for the New York State Hospital for Crippled and Deformed Children, now situated at Tarrytown. A committee of the Board of Managers had several sites under consideration, all in Westchester County. Immediately on their choice of a site a suitable hospital building will be begun.

Collision between an Electric Car and an Ambulance.—While responding to an ambulance call from Lexington Avenue and Thirty-second Street, one evening last week, a Bellevue Hospital ambulance driven by Patrick Devens, in charge of Dr. Warren, was run into by a northbound Third Avenue car at Thirty-second Street and was almost demolished. Dr. Warren was thrown from his seat and landed on his head against an elevated pillar. He was unconscious when picked up and had a badly lacerated wound of the scalp. Devens was badly bruised. The horse's leg was broken and the animal was shot.

Obituary Notes.—Dr. A. Tagert of Chicago died of pneumonia on May 27, at the age of fifty-seven years. He was a graduate of the Medical Department of the University of Vermont in 1866, and had practised in Chicago for thirty years. He was President of the Kedzie Hospital.

Dr. G. P. Andrews of Honolulu, H. I., died May 9, 1903.

Dr. James C. Channell died at Wrightsville, York Co., Pa., on May 19, at the age of sixty years. He was graduated from the Medical Department of the University of Pennsylvania in 1871. He served during the Civil War as Lieutenant in the One hundred and ninety-fourth Pennsylvania Regiment.

Dr. John Gosman died at Doylestown, Pa., on May 24, at the age of seventy years.

Dr. T. C. Rich died from appendicitis at Williamsport, Pa., on May 27. He was graduated from Jefferson Medical College in 1887.

An Improved Means of Using Salicylic Acid.—W. L. Johnson reports a number of cases in which aspirin, an acetyl derivative of salicylic acid, was used with excellent results. Severe headaches have been relieved, as well as the pains of rheumatism, dysmenorrhœa, grippe, etc. The main advantages of this drug are that it does not, like the salicylates, irritate the stomach, and that it only rarely gives rise to tinnitus or other by-effects of the other drugs.—*Massachusetts Medical Journal.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HOSPITAL FUNDS—CONVALESCENTS AND THE PARKS—LIVERPOOL'S NEW LABORATORIES—CRITICISM—RHEUMATISM AND MICROBES—KING SANATORIUM—ANTI-VIVISECTIONISTS AGAIN—DEGREES FOR DENTISTS—EDINBURGH'S NEW HOSPITAL.

London, May 15, 1903.

Great efforts are being made to secure second collections of all three hospital funds for this year. The Lord Mayor presided on Wednesday afternoon at a meeting of the Council of the Sunday Fund. The report stated that the King and Queen would attend the service at St. Paul's Cathedral on June 7, which is appointed as Hospital Sunday this year. The Dean has been approached as to the appointment of about ninety stewards, who are to give a donation of 30 guineas each and of 20 guineas if similar services are held in future years. A letter was read from that magnificent supporter of the fund, Mr. George Herring, making the same offer as last year, viz., either to present a check for £10,000 or to add one-quarter to the amount collected in all places of worship, but as so much energy is being shown this year he must limit the amount to £100,000, so that if the collections exceeded that sum, which he sincerely hoped it would, his own donation would be only £25,000.

No wonder this statement was received with cheers. Then came a letter from Mr. A. Herring, asking for two seats, and requesting the Lord Mayor to put his name down for £1,000.

His Lordship said he hoped this historic year the hospitals would receive £250,000 from the three funds—£100,000 from King Edward's fund, as much from this Sunday fund, and £50,000 from the Saturday fund.

The County Council has adopted the principle that any of the unused houses in the parks under its control may be used as convalescents' homes, if suitable for the purpose, and if no legal obstacle prevent. This plan has been before the public ever since the Guards invalided from South Africa were accommodated at Golden's Hill. Objections were felt at the time but were not pressed, as that was a temporary measure. Since then the question has been discussed with considerable warmth, which was duly reflected in the Council when the subject came up last week. Owners of property in the neighborhood fear that such use will cause depreciation, or that infectious cases will be ultimately admitted. Others fear that the County Council is desirous of municipalizing the hospitals, and that this proposal is favored as a step in that direction.

Infectious diseases are dealt with by the Asylums Board, and it is not at all probable that any such would pass to the proposed homes in the parks, which would be devoted to convalescents from the hospitals, especially children. Sir W. Collins said the "lungs of London existed for health and recreation," and admitted that probably the recreation had been overdone, and that health now demanded more attention. This was a fair hit at the suggestion to set up a municipal music-hall. Another equally preposterous proposal was to devote a part of the Golden's Hill Mansion to the residence of the park constable! It was actually proposed to instruct the architect to prepare plans for alterations for this purpose. Other proposals were refreshment rooms, public conveniences, and so on.

Really, convalescent homes would seem more fitting than these. But there was no need for the temper displayed by some of their advocates—one clerical defender professing to "despise the selfishness of wealthy opponents," ignoring the fact that these wealthy persons had contributed largely to the purchase fund, on the express understanding that the park was only to be used as an open space.

Liverpool may well be proud of her wealthy citizens. Another of them has directed his munificence to the encouragement of medical research. Mr. William Johnston has erected and equipped laboratories of such importance that Mr. Long, President of the Local Government Board, went down to Liverpool on Saturday last to open them. In formally declaring them open, Mr. Long dwelt on the close connection between the development of science and especially of preventive medicine and commerce. One of the objects of these new laboratories, he was informed, would be to increase knowledge concerning vaccines, sera, or any preventives of disease. Such work, from the point of view of commerce or of government regulations as to diseases, must be of the greatest advantage to the country as a whole. Alluding to the proposal to establish a separate university for the city, he

complimented Liverpool on having contributed some £200,000 to the fund, and on the further epoch-making incident that their city was willing to be rated for the purpose of maintaining university training. "Peace hath her victories as well as war" might be rightly the motto for large-hearted citizens like Mr. Johnston. Might his benevolent work have great triumphs in saving human life!

Principal Dale proposed and Sir Alfred Jones seconded the vote of thanks to Mr. Johnston for his munificence and to Mr. Long for opening the buildings. Sir Alfred said he believed the King of the Belgiums would shortly visit the School of Tropical Medicine, to which his Majesty was a generous contributor.

The new buildings thus hopefully inaugurated are 90 feet long and adjoin the Thompson-Yates laboratories. There are four floors, devoted to separate departments, each under its own professor. Comparative pathology under Dr. Annett occupies the basement. Tropical medicine the ground floor under Professor Ross. Other departments are physiology, pathology, biochemistry, and cancer research—the last under Dr. Grunbaum These Johnston laboratories are the first that have been erected in this country to be devoted exclusively to research work in biochemistry. The general supervision will be undertaken by Prof. B. Moore, who will occupy the Johnston chair of biochemistry.

Some interesting facts relating to cretinism were mentioned at the pathological society last week, when Dr. C. G. Seligmann read a paper on the condition in calves. He said that in every herd of Dexter Kerry cattle observed in this country a number of monsters were born, the type being constant; in fact, these calves were cretins. The deformity has not been observed in other breeds. The condition arises in fetal life, and is associated with a diseased state of the placenta. Out of eighty-two calves nineteen of these showed the characteristic short basis cranii, short limbs, etc., and in all the thyroids which were examined there was absence of colloid, with the usual malformed or ill-developed vesicles, choked with more or less spheroidal cells. Œdematous changes were noted in the placenta extracts of those thyroids caused no fall of blood-pressure. Dr. Andrews suggested that the condition of these thyroids was allied to achondroplasia, though he had never found in that disease such a condition of the thyroid. Mr. Shattock said the condition of these calves was just like that produced by the removal of the thyroid in young animals. Removal of the gland in the pregnant mother did not affect her, but it was found that the gland of the fœtus hypertrophied, as if to supply the maternal defect. Perhaps the disease of the placenta prevented such interchange, or, possibly, the cows of this herd were themselves in a sub-cretinoid state. Otherwise it was not easy to explain the facts. In reply to this and other questions, Dr. Seligmann said there was no evidence of a sub-cretinoid condition of the cows. A cow which had thrown a cretinoid calf might produce a healthy one at a subsequent pregnancy. No enlargement of the thymus had been found.

At the same meeting a paper was read by Mr. G. E. Gask on a case resembling acute rheumatoid arthritis in a woman of twenty-nine years. The symptoms came on during the puerperum. A few days after labor the right knee became hot, red, and swollen. Other joints became affected, both knees, both ankles, both wrists, and the metacarpals were attacked. Salicyates gave no relief Bacteriological examination of the synovia from the knee joint revealed, both in films and cultures, an organism indistinguishable from streptococcus pyogenes. But injected into a mouse subcutaneously, and into a rabbit imtravenously, it proved non-virulent. Mr. Gask classed the case a rheumatoid arthritis, though some might be inclined to look upon it as a mild attack of rheumatic fever. Certainly we may recognize the existence of an acute stage of the rheumatoid affection, but it is hardly practicable to differentiate it unless the chronic lesions follow. The organism found, too, is not more characteristic than the clinical symptoms, and does not fulfil the conditions laid down by bacteriologists, inasmuch as it proved non-virulent to the animals into which it was injected. It appears to me, therefore, that it cannot be held for certain that the cause in this case was the microbe, though that is not improbable. Whether the organism found may be a variation, brought about by environment or other circumstances, is a question which opens the wider one of whether specific varieties may be evolved from a primitive streptococcus, a problem too intricate for me to enter on here. I may, however, recall the recent research of Drs. Poynton and Paine, who found in rheumatic fever a minute organism which is steptococcal in liquid media, but staphylococcal in arrangement on solids. This produced in rabbits lesions identical with those of the cases, and in these lesions of the animals they again found the organism. The virulence of this microbe was low and was not easily raised, but it appeared to be constant.

With regard to the relations between acute rheumatism and other rheumatic conditions, spa physicians, who see most of the chronic forms, are pretty well agreed that the differences were essential. This was emphasized at recent meetings of the Bacteriological Society, particularly with reference to the dietary suitable to each. Though the majority would restrict the diet in acute or subacute cases, they were for more nutriment in chronic cases. Dr. Luff expressed this view, especially with regard to rheumatoid arthritis, which, he said, is essentially a disease that requires good feeding—a diet as liberal as the digestion will allow. There was some regret expressed that English spa physicians did not find that patients who required restriction were as willing to submit at home as when they went to foreign resorts. Perhaps the real difficulty arises because the caterers in hotels and other establishments are reluctant to let the doctors control their menus.

Stirred up, apparently, by the statements of the anti-vivisectionists last week. several questions have been asked in the House of Commons. Further I hear that an action for libel is being brought against Mr. Stephen Coleridge.

A site of 150 acres has been selected for the King's Sanatorium. It is in a delightful part, not far from Haslemere.

The London University is likely to follow the example of Birmingham in granting degrees in dentistry. Then we may be sure the Northern universities will not be long behind.

In the course of their visit to Scotland, the King and Queen opened the new Edinburgh hospital for infectious diseases, which has cost £350,000. Accommodation is provided for 600 patients.

THE ADAPTABILITY OF WESTERN TEXAS CLIMATE FOR THE TREATMENT OF CONSUMPTIVES.

To the Editor of the Medical Record:

Sir: Desirous of adding my quota of experience to a cause which I consider more worthy of consideration than any other before the medical profession of our country to-day, namely, the proper caring for our American consumptives, and believing that my many years of observation upon the subject have borne some practical results, so far as benefiting these cases is concerned, I beg to recommend a climate which certainly will be beneficial to all who resort to it in the early stage of phthisis.

Without consuming space upon the climates of New Mexico, Arizona, and Colorado, the three most famous territories in America, and justly so, for the relief of consumptives, or upon other less favored localities, the writer simply desires to introduce his adopted State to the consideration of the medical profession of this country, with the sole object in view of pressing her claim for recognition as one of the most favored spots on earth for the sure and prompt eradication of phthisis pulmonalis, if such cases take advantage of her climate in the early stage of that disease.

Western Texas, that portion of the Great Lone Star State especially adapted for the cure of phthisis, and of which this letter is particularly descriptive, comprises all that territory situated between the Colorado river on the east, the Rio Grande on the west, the thirty-second parallel of north latitude on the north, and the Gulf of Mexico on the south. In extent it is larger than all England, and is easily capable of accommodating over 10,000,000 human inhabitants.

The surface of this country is mainly undulating, except along its southern boundary, which is level, and rises from an elevation of 500 feet in the east to one of 5,000 feet, or higher, along its western border. Within the limits of the country just described, it is safe to say, can be found the natural sanitarium of the world. The winters here are comparatively short and mild, while the summer heat rarely if ever attains a degree to be oppressive, while summer nights are always cool and delightful.

Three or four important lines of railroads traverse West Texas, so that most portions of the country can be easily reached by health-seekers, and along these lines the luxuries of life can nearly always be found; if proper effort is made to procure them. Moreover, an abundance of pure water can readily be obtained, as likewise an abundance of nutritious foods.

Cities, towns, and villages to the number of a hundred or more are interspersed all through this region, and the residents thereof are, in the main, quiet, peaceable, and intelligent. A few years ago nearly all of West Texas was

one vast cattle ranch, or, more correctly speaking, a continuous link of them; but to-day most of these pastures have been converted into beautiful farms, and the cowboy, with the Indian, has retreated before the school teacher and the industrious farmer.

The winters and summers of West Texas are comparatively mild, the degrees of heat and cold never attaining the extremes observed in many of those localities elsewhere resorted to by health-seekers, consequently invalids are thus enabled to be in the open air for a longer period of time than perhaps in any other State in the Union. A remarkable peculiarity of the atmosphere in West Texas is shown by the fact that, in the center of this health district in mid-summer, fresh meat suspended in the open air will remain there indefinitely without tainting; and incised wounds, under any sort of care, rarely even suppurate. In other words, the atmosphere here is inimicable to pyogenic germs, and in this property its anti-bacillary qualities no doubt reside. It has been asserted by authorities on phthisis that there is nothing specific in any atmosphere for this disease, but in the light of recently discovered facts this statement to the writer seems questionable. The climate of West Texas will restore to health 85 or 90 per cent. of all phthisical cases consigned to its care in their incipiency; and this too with so much certainty that climate in this instance could properly be styled specific.

Nor is its benefits confined to incipient cases alone, since hundreds of human beings to-day are enjoying excellent health in Western Texas, who were carried there upon their beds in search of health many years ago.

So large is the territory under consideration that a description of the various resorts to be found there would be out of the question in an article like this, therefore only brief mention can be made of some of them, except of one.

San Angelo, at the western terminus of the G. C. & S. Fé Railroad, and Llano on the Austin Branch of the Central are excellent and famous health resorts, situated respectively about 1,800 and 1,000 feet above tide water, and each quite accessible by rail.

Marfa and Ft. Davis are further west and very much higher, being 5,000 feet above the sea. These are along the line of the Southern Pacific Railroad, but are not so easily reached as the first two mentioned, by reason of their distance. Perhaps the best locality for consumption in all Texas, if not the best adapted place in the world for such cases, is at Comfort. This little German village of 600 inhabitants is situated in Kendall County, on the San Antonio & Aransas Pass Railroad, just fifty-two miles northwest of San Antonio. It is about 1,700 feet above sea level, and is surrounded by hills and mountains of considerable magnitude. Along the south side of the village runs the Guadalupe, a most beautiful stream of clear water, while the whole face of creation around is dotted with elegantly-kept farms, teeming with luxuriant verdure nearly all the year round.

The air here is pure, elevated, crisp, and dry, and for the most part of the year it is warm, thereby constituting an ideal lung food. This atmosphere is inimicable to putrefaction, and the bacilli of tuberculosis rapidly die out under its strong influence. Here one never feels fatigued, and therefore "that tired feeling," so often complained of by denizens of lower districts, is never heard of here.

Comfort being only fifty-two miles from San Antonio, and on a railroad, is quite easily reached from that city. There are some excellent physicians located here, and nearly any luxury desired can be obtained without delay. It is at Comfort, Tex., where Camp Reliance is located and where invalids, both male and female, reside in tents all the year round for the cure of their disease, relying on the "open air" method.

Probably the first questions suggested to the reader of this article would be: First, How can one reach Comfort? Second, What would the round trip cost? Third, How long should one remain in that climate before he could safely consider himself cured? Fourth, What accommodations are obtainable out there? Fifth, What vicissitudes would one have to undergo while remaining out in Texas?

These are all pertinent and practical questions, and experience shows that they are the usual inquiries made by prospective health-seekers to Texas physicians. The writer can only answer number one and two by basing the invalids out of San Antonio. As is well known, this last named city is the great mecca of the southwest for consumptives. Here they annually flock by the hundreds, and from San Antonio many of them scatter out in all directions in search of better places, as information directs them. There are four great lines of railway running into San Antonio, and all of them transport invalids to this section. These lines are the Southern Pacific, the San Antonio & Aransas Pass, the Missouri, Kansas & Texas, and the International & Great Northern railroads.

Take whichever route is most conveniently reached; though the S. A. & A. P. has established a route out of Chicago via the M. K. & T. road by which passengers can go through to San Antonio without change of train, a great advantage to the invalid traveler.

From San Antonio your trip, fifty-two miles, is over the S. & A. P. R.R., familiarly called the "S. A. P.," a beautiful and picturesque route, and the fare is $1.55 each way.

Second, at Comfort, or anywhere around in the neighborhood, good accommodations can be obtained in hotel, on ranch, or in tents, at from $25 to $30 a month, and your stay in this country should be from four to six months, according to the severity of your case, in order to secure permanent benefits therefrom. Thus in mild cases the round trip from San Antonio to Comfort and back should cost you not exceeding $200 for a six months' trip, including everything. As a matter of course, severer cases require a longer stay, while those bed-ridden who go should expect to remain there a year, or even longer.

Answering question five the writer will state that there are no vicissitudes in store for invalids who go to Comfort over and above occasional inconveniences common to all travelers. The climate there is very nearly perfect; the people (nearly all German) are quiet, honest, industrious, and sociable, and it is this very character of the people and quality of the atmosphere that make for Comfort the ideal place for invalids to go to.

There is also an abundance of nutritious food to be found in that country, such as milk, eggs, butter, fresh meats, and vegetables, while game and fish abound plentifully, nearby.

Finally, the invalid is in hailing distance of civilization, a most important point to be considered in treating these, cases, telephone and short railway connections being had with San Antonio, the largest city in the southwest, and the most attractive one in the State.

This proximity to so well a supplied base as San Antonio, with its luxuries and attractions, along with all the natural advantages just enumerated, make the little village of Comfort, in the opinion of the writer, ahead of any place in Texas, if, in fact, it is not the superior of any to be found in all this country as a resort for the proper accommodation and treatment of consumptive cases.

Since writing the above, it is learned that a station has been established at Camp Reliance, on the S. & A. P. R.R., just fifty miles from San Antonio, and that tourists are finding this an excellent resort to stop at. The writer would be pleased to give further information to any one who might desire such upon the climate and resorts of West Texas.

C. H. WILKINSON, M.D.

GALVESTON, TEX.

PROFESSIONAL SERVICES TO EACH OTHER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The excellent editorial article under the above caption in the MEDICAL RECORD for May 16 is one that must appeal to very many of us. It is a question that I had to consider seriously and at length, and for some years have put my practice in the matter on grounds that are least comfortable, and some one may like to have the outline. I am not yet so busy that I need to charge physicians a fee for operative work or for consultations, for themselves and members of their immediate families. It is a pleasure to offer such services, and to say that their are no obligations, and that even a gift of any sort would make me feel uncomfortable. If I have to go out of town to work, it is my custom to make a regular charge of twenty dollars per hour for time, and to add the expenses of the trip, but to make no charge for services rendered. It is necessary to make the same charge to physicians as to laymen for time, in out-of-town work, in order to avoid actual loss.

In selecting a physician for medical work in my own family, it was stipulated that he was to charge his regular fees for visits. Madam often wants him to come in to see the children and other members of the family when there is no real necessity, but the effect of the visit is always worth more than it costs, and we are free to call him when we want him, without leaving the question of necessity to him at all.

M.

Researches on Hibbertia Volubilis.—J. Reid describes the chemical characteristics of the extracts from the fruit and pistils of this plant, which grows in New South Wales. Internally the preparations lower blood-pressure and dilate the pupil without any impairment of accommodation. They irritate the tongue and gullet, and probably possess aphrodisiac properties. Certain preparations cause slight nausea, salivation, and blackish stools. The author thinks the drug may have some value as a germicide.—*The Lancet.*

Progress of Medical Science.

Journal of the American Medical Association, May 30, 1903.

The Treatment of Empyema by Continuous Aspiration.—W. Van Hook gives the details of two cases. He advocates the plan of irrigation suggested by Perthes, which consists in making an adequate chest opening, resecting a rib if necessary, and then maintaining continuously a pressure less than that of the atmosphere in the pleural cavity, so that the lung may be made to approach more rapidly to the chest wall. A pump is used which is actuated by the running water of the hydrant. There must be constructed a proper cover for the wound; then there must be a continuously acting air pump to remove the air from the pleural cavity, and finally there must be a collecting vessel supplied with a manometer. The mode of construction of all these pieces of apparatus is detailed by the author, and his directions must be consulted by those interested. The entire outfit can be provided at a cost of only a few dollars. Van Hook quotes Perthes as saying that in all recent cases the lung becomes distended in a few days while the secretion diminished slowly and the healing of the space remaining after the removal of the drain occupied a considerable time. This is explained by the statement that a certain time is required for the death of the pneumococci and streptococci imbedded in the superficial layers of the pleura.

Acute Suppurative Cervical Adenitis of Infancy.—According to T. S. Southworth, this condition is generally referable to absorption of septic material from the nasopharynx, and generally occurs before the third year. Incision is to be small and along the natural lines of the neck, so as to leave as small and as imperceptible a scar as possible. Incision should be delayed until local pointing occurs, but not so long delayed as to allow of the skin becoming undermined. This recommendation also should in no wise be construed to apply to the deep brawny phlegmon of the neck occurring in the course of scarlet fever in which early incision is urgently indicated to prevent destruction of tissue if not of life. The conclusions to be drawn from the author's experience are: (1) The abortive of acute cervical adenitis of infancy is most promising, especially in children over one year of age. (2) The younger the infant, the greater is the liability to suppuration. (3) A continuation of high temperature makes the occurrence of suppuration probable.

Unilateral Disease of the Kidney Simulating Stone.—J. Ransohoff says that the pain of stone may be simulated by any gross pathological condition of the kidney or ureter, such as tuberculosis, tumor, hydronephrosis, etc., and also by microscopic changes in the kidney affecting either the secreting or circulatory structures or the supporting framework and capsule of the organ. While ordinarily renal colic is associated with intrarenal retention from obstructed outflow, in certain chronic affections of the kidney with acute exacerbations the distension of a resisting capsule from within may be the cause of a typical renal colic. The author asserts (and describes a case to illustrate his statement) that chronic nephritis often manifests itself as a unilateral disease, and that, just as tuberculosis or infarct, though homogenetic, may be unilateral, chronic interstitial, parenchymatous, and capsular inflammation of the kidney may be limited to one side.

New York Medical Journal, May 30, 1903.

A Supposed Sarcoma of the Kidney Cured by the X-ray Treatment.—The patient of C. H. Richmond was a woman of forty years who suffered from a tumor of the right side, which, from its exact location and rapid growth, was regarded as a sarcoma of the kidney. At the time the *x*-ray treatment was begun the patient's pulse was ranging from 108 to 120, the evening temperature from 101° F. to 102° F.; she had night sweats, had ceased to menstruate, had lost about twenty pounds in weight, was not able to dress herself without help, and measured two inches and a half, or three inches more than normal in circumference just below the ensiform cartilage, with the tumor extending downward as far as the crest of the ilium. Daily treatments were given for fifteen minutes each for a period of nineteen days. At the end of this time the temperature was nearly normal—on some days entirely normal—night sweats had lessened, the tumor had apparently ceased to grow and seemed softer, her appetite was good, she slept well, the pulse had somewhat improved, and she was buoyant in spirits. She was then removed to a hospital, the ray treatment being there continued. Nine weeks later the growth had entirely disappeared, so far as could be determined by bimanual palpation.

Clinical Observations on Backache.—R. W. Lovett divides the causes of bachache into too main classes: (1) those due to spinal causes and (2) those due to causes existing outside of the spine. Of the first class we may have static causes as existing in the spine (faulty spinal attitude and pain from lateral deviation of the spine) and causes in the spine of a traumatic or inflammatory nature (sprains of the back, cases without obvious causes, Pott's disease and arthritis deformans). Causes outside the spine include real flat foot, pronated foot, and contracted foot This latter condition is characterized by a shortness of the muscles at the back of the calf. If the patient sits in a chair and the leg is held horizontally with the knee straight, the foot cannot be flexed beyond a right angle and often not to a right angle. The condition may be inherited or be associated with a mild rheumatism or neurasthenia. The pain is generally in the small of the back, and is aggravated by standing or stooping forward, although it also results from walking. Treatment calls for the support of the arch of the foot and the stretching of the calf muscles.

The Eye in Its Relation to General Disease.—N. D. McDowell enumerates the various eye disorders found in the common general affections in connection with gonorrhœal ophthalmia, he mentions the case of a physician suffering from the malady, infection having been derived from a baby for whom the physician was caring. Treatment was as follows: Within a few hours from the onset of symptoms the physician was put to bed, cocaine instilled, and every part of the conjunctiva of the infected eye pulled down with forceps and bleached with nitrate-of-silver solution, 20 per cent. Ice cold pledgets of cotton were kept on the eye all night. The next morning the conjunctiva was again thoroughly bleached with nitrate-of-silver solution of 10 per cent. strength, and ice applications were continued half the time. The secretions of the eye were examined daily after this and no gonococci found. In four days the patient was well.

The Essentials for Aseptic Labor.—General directions are given by A. E. Gallant, who thus enumerates the articles the accoucher should carry to the patient: (1) Drugs, whiskey, chloroform, acetic acid, silver nitrate solution, 2 per cent. tincture of green soap, hypodermic tablets, fluid extract ergot and washing soda. (2) Instruments forceps, artery forceps, vaginal dressing forceps, needles and holder, scissors, tenacula, Chamberlain tube, nail file, vaginal speculum. (3) Sterile supplies, operating gown, cotton-ball sponges, sterile gauze, six sterile towels, rubber gloves, two nail brushes, rubber catheter, silkworm gut and tape for cord. Concerning clean hands, his advice is to lay stress on thorough scrubbing rather than the routine use of any special antiseptic. They should be scrubbed in hot running water until all the soap used has been removed.

Medical News, May 30, 1903.

The Cure of Anal Fissure without Operation.—S. Lewis describes his treatment as consisting in the application to the fissure and surrounding area of a saturated solution of potassium permanganate and the use of a suppository containing sulphichthyolate of bismuth. Technique is important. The patient is placed in semi-prone position on the table, supporting her own right buttock. On separating the folds at the mucocutaneous junction, as a rule, the outer extremity of the fissure or painful ulcer, or at least a red streak indicating its location, can be seen. It may be hidden behind a pile and may be multiple. Cocainization is often required before satisfactory examination can be made, and may have to be repeated on reaching the fissure. In case of spasm, rarely a large flexible bougie may be passed and left *in situ* five minutes. The fissure is exposed, gently cleansed with warm water, and permanganate applied on a tiny swab. This should extend over the whole surrounding area. Smarting lasts from two to ten minutes. The writer employs a suppository, sold under the name of anusol. In most cases it can be inserted by the patient. It should be employed night and morning. The usual dietetic and medicinal treatment of constipation is prescribed, and the patient told to report in two days. The worst cases are confined to bed. At the second treatment the operation is repeated, only the cocaine is omitted. At the third, suppositories may be reduced to one daily, at bed-time. If this treatment fail to give immediate relief, there are probably other fissured areas present. These should be found and treated.

A Report upon the Physics and Therapeutic Value of Cathode and Ultra-violet Rays.—Roswell Park concludes from the results of extensive experience that: (1) Cathode and ultra-violet rays afford methods of treatment for extremely new growths of limited area and superficial character, which, while not exactly certain, are extremely promising. (2) They not only cause no pain, but tend to relieve pain, both superficial and deep, in a most pleasing and satisfactory way. (3) They are adapted to cases which can hardly be submitted to any other method of treatment, and they afford more hope in delayed or inoperable cases than does any other method of treatment.

(4) It will be found that the odor of putrefaction may often be suppressed by their use and the putrefactive process itself checked. (5) Burns and intense dermatitis, so frequently noted when the treatment first came into vogue, may now be almost certainly avoided. (6) More than this they afford a supplementary method of treatment after operation, by which the benefits of the same may be enhanced and enlarged. (7) It is not necessary to intermit such work as the patient may be engaged in, in order to carry out the *x*-ray or phototherapeutic method of treatment.

Philadelphia Medical Journal, May 30, 1903.

Uterine Fibroma Near the Menopause.—George Eretv Shoemaker says that among the medical heresies which are fast fading away is the idea, once popular, that fibromata of the uterus are likely either to diminish in size or to cease to be and to grow about the time of the menopause. This idea appears to have had its origin in the inability of surgeons safely to remove such tumors, and in their effort to give to the patient the only hope in their power. An experience of many years in gynecological dispensaries, and of eleven years as gynecologist for city hospitals, has failed to bring to the notice of the writer a single case which has bad such a termination. He has, however, operated upon many who have been deluded with this hope up to the age of fifty to fifty-five years, finally coming to operation on account of the severe and increasing hemorrhage, growth of tumor, recurrent attacks of peritonitis or salpingitis, while by the degeneration of heart or kidneys and other indirect consequences of anæmia, the patient's vitality has been forever impaired. The writer then quotes three such cases. The danger from operation in cases of this class while greater than in the simpler forms of abdominal sections, is not very great, and the mortality should not exceed 6 per cent., which is largely made up by complications, such as pyosalpinx, recurrent peritonitis, or the effects of hemorrhage, all due to delay.

Preliminary Report of an Operation for Abdominal Pregnancy of Twenty-one Months' Duration.—Charles P. Noble presents this report. The patient was a nullipara of thirty years. The illness in question dated from early March, 1901, when she missed a period. Two weeks later she was taken with a sudded pain at one in the morning. The pain was sharp, severe, and lancinating, and located in the right iliac quadrant. For six months her condition was that of a normal pregnancy. The last of August she had an attack of dull, dragging pain in the lower part of the abdomen, vomiting, chills and fever. At the end of four weeks the patient improved, the breasts and abdomen became smaller, and the uterine bleeding took on more the character of menstruation. The abdominal mass persisted and a diagnosis of fibroid was made. Vaginal examination discovered a hard mass having the characteristics of a fetal head. The uterus was pushed to the right. On November 26 the abdomen was freely opened and the fœtus extracted. The writer believes that the ruptured tubal pregnancy occupied the space behind the left broad ligament, and that this space was roofed in by adhesions between the upper border of the broad ligament, the sigmoid, and omentum. The fœtus was in an excellent state of preservation.

American Medicine, May 30, 1903.

The Forcible Reposition of Congenital Luxation of the Hip.—Gwilym G. Davis declares that the attempts at forcible reposition of congenitally luxated hips have given rise to so many accidental traumatisms that the question has arisen as to whether it is not appropriate to advocate more conservative measures. He offers the following suggestions: That the tendons of the adductor muscles at least be cut subcutaneously, and thus considerable traumatism and mauling of the soft tissues at this point be avoided. Violent stretching movements in all directions as a routine practice to loosen up the joint are unnecessary. It is a serious question if they do not increase the functional disability and favor the tendency to displacement. Violent tractions for immediate replacement should be totally abandoned. Forcible traction is the agent mainly responsible for the traumatisms which are inflicted. The thigh should be flexed on the abdomen, followed by downward pressure on the knee with abduction, external rotation, and gradual extension. Pressure is made on the trochanter posteriorly, while the limb is carefully extended. Abduction is afterward maintained to an extent sufficient to prevent the head from escaping from its new position. If the adductor muscles prevent the desired abduction they can be tenotomized. To make pressure on the trochanter it can be done with the hand beneath or rested either on a hand roll, the edge of the table, or Kŏnig's block. If serious difficulty is met in attempting reduction, then, instead of increasing force, it is better to confine the patient to bed with the limb abducted and with weight extension, if desired, for two to eight weeks or even longer, and then again attempt reduction. Rather than resort to the great force now at times employed, the writer thinks it better to incise and clear a way for the head of the bone.

Streptococcus Infections.—Leonard K. Hirschberg states that of the eighteen species of streptococci pathologic for man, there are only two divisions morphologically, cocci which occur unpaired in chains, and diplococci, occurring also in chains. Streptococci are isolated in pure culture from all uncomplicated cases of erysipelas. According to Holt, "croupous tonsilitis is nearly always due to the streptococcus." The most malignant and frequent cause of child-bed fever is undoubtedly the streptococcus. Streptococci are often obtained in pure culture from traumatic cases of cerebrospinal meningitis. They are, according to Baginsky, the cause of scarlet fever. These organisms have been found circulating in the blood of chorea patients. There is little warrant at present for dividing the streptococcus into eighteen or more species. From the multiplicity of pathologic processes concerned, in which the streptococcus is undoubtedly found always, it is quite likely there are distinct species, or at least varieties of streptococci involved, but our present means of separating them proves it is open to considerable doubt.

Etiology and Treatment of Retrodeviations of the Uterus.—Charles A. Robertson says that the chief single cause of retrodeviation of the uterus is rupture of the perineum involving the lavator ani muscle and its fascia, together with a heavy uterus. The most important prophylactic measure in forestalling this condition is the proper care of the parturient and puerperal woman. The indication to be fulfilled by surgical treatment is to replace the uterus to as near its normal state of anteversion as possible and fix it there with a minimum amount of subsequent physiologic disturbance. No operative procedure designed to cure retrodeviations of the uterus is complete without the proper application of the principles of plastic surgery to the restoration of the function of the pelvic floor. There is perhaps no department of surgery which requires more skill and judgment in the diagnosis and selection of cases for a particular operation than the one under consideration.

The Lancet, May 23, 1903.

A Case of Arterial Occlusion and Gangrene.—The patient of A. Dunlop was a retired army officer of fifty-three years who had suffered for some time with pains in the foot suggestive of gout and at other times presenting the local syncopal and asphyxial conditions seen in Raynaud's disease. In course of time evidences of gangrene appeared in two of the toes, together with occasionally symptoms suggestive of septic poisoning. The affected parts were removed with temporary benefit. Finally a good share of the foot became gangrenous, and was removed by section through the fourth metatarsal bone and disarticulation of the fifth at the tarsal end. Some months later obstruction appeared in the right femoral vein. There was pain in the groin the stump of the foot became swollen and purple, and there were paroxysms of severe pain in it. The whole leg was œdematous and the protruding bone in the stump became inflamed and bare. A fortnight later a similar attack took place on the left side, and it was over a month before both legs had recovered, and even then there were frequent pain and great tenderness in the stump of the right foot. In spite of the fact that the condition of the arteries could not be positively learned, and though perhaps the possibility of slow-forming thrombus in atheromatous or sclerosed vessels could not be wholly excluded, the author was inclined to regard the case as one of Friedländer's arteritis obliterans.

Abdominal Pain as a Symptom in Acute Lobar Pneumonia.—J. R. Smith refers to a series of cases recently under observation, in every one of which the initial symptoms of the disease included abdominal pain. In each case the signs and symptoms were typical of acute lobar-pneumonia. In two instances the pain was so severe as to call for the hypodermic use of morphine.

British Medical Journal, May 23, 1903.

Traumatism as a Factor in the Etiology of Pulmonary Tuberculosis.—James Weir relates the history of a case in which a patient gave an account of an injury received a month previously by receiving a blow with a heavy pair of tongs. The tongs had struck him on the right side, over the base of the lung, in the mid-axillary line. Tuberculosis developed. It is possible, of course, that tubercle may have developed as a sequel to a traumatic hemorrhage from contusion of the lung at the seat of injury which would thus furnish a suitable soil for the growth of the

nvading bacilli. But the fact that there was no cough nd no hæmoptysis for some considerable time after the nfliction of the injury, leads the writer to suppose that the uberculous infection was in reality superimposed upon he deflated area of lung tissue, consequent upon trauatic pleurisy. This patient contrived by means of cod-iver oil and pulmonary antiseptics, reinforced by breathing xercises, not only to place something to the credit of his ody weight, but to free himself, as far as physical and nicroscopical examination could ascertain, from an attack f pulmonary tuberculosis. Pulmonary physical culture eems to the writer to be the one method whereby this nchoring and consequent devitalizing of the pulmonary issues by pleuritic adhesions may be rendered comaratively impotent.

Remarks on the Influence of Wind on Phthisis.—W. Gordon concludes: (1) West and southwest winds in Devonshire have a marked influence on phthisis, raising he phthisis death rate amongst populations exposed to hem and injuring those who have already developed the isease. (2) This bad influence is probably due to the act that west and southwest winds are the prevalent trong wet winds of the county. (3) It is reasonable to elieve that strong, wet winds anywhere may produce imilar effects. (4) The bad effects may be possibly xplained by the chilling and depressing nature of the inds, and by their tendency to excite bronchial catarrh n those exposed to them.

Deutsche medicinische Wochenschrift, May 7, 1903.

Acute Primary Osteomyelitis of the Spine.—F. Weber eports an interesting case. The patient was a male, ifteen years of age. His father had died of tuberculosis, otherwise the personal and family history was excellent. The attack began suddenly with pains in the back and enderness over the spine from the tenth dorsal vertebra o the coccix. These symptoms rapidly increased in everity, and were accompanied by fever and the concomtant appearances. Soon the involved region became nuch swollen and œdematous, and the pain began to adiate over the abdomen and down the thighs. The notility of the upper and lower extremities remained perect and there were no pupil or cerebral symptoms. The atella reflex was increased. The general condition beoming worse on the tenth day, the operation was performed. The swollen region was opened throughout its ntire extent and a large amount of pus evacuated. Upon xamination it was seen that the lumbar vertebræ were nvolved. The diseased bone was removed so far as ossible and the wound drained. The pus showed the taphylococcus pyogenes aureus in pure culture. Immeliately following the operation the temperature fell and he general condition markedly improved. This con· inued for two weeks when a second rise of temperature ccurred. Examination showed a beginning abscess in he gluteal region. In due time this was opened and rained. Here, also, the pus showed a pure culture of the taphylococcus. Both of the wounds pursued a favorable ourse, and in twelve weeks the patient was discharged ured.

Volumetric Estimation of Albumin in the Urine.—Oskar Rössler gives a modification of his original method, which hows very slight variations in the quantity of albumin resent in a given specimen of urine, and by the means of vhich the daily variations in the amount of albumin may e accurately estimated. Five c.c. of dilute acetic acid are laced in a test tube and two or three drops of the following olution added: succinic acid 2 g., hydrarg. biehlor. 1 g., odium chloride .1 g., distilled water 50 c.c. The carefully filtered urine is then pipetted down the side of the ube until it forms a layer upon the top of this mixture. The presence of albumin is denoted by the formation of a vhite band in the urine at the junction of the two liquids. nd the amount of albumin is directly proportionate to the epth of this band By using test tubes of the same size nd like quantities of the urine and reagents employed, an ccurate estimation of the variation in the amount of lbumin in different specimens of urine may be obtained. The method is to be recommended because of its simlicity. By it the albumin due to nephritis may be ifferentiated from that arising from other causes, since he amount of the former is influenced by rest, exercise, athing, etc., while, in the latter, the quantity remains tationary, or nearly so, under these conditions.

Berliner klinische Wochenschrift, May 11, 1903.

High Enema in the Treatment of Chronic Catarrh of the Large Intestine.—Ludwig v. Aldor strongly advises this nethod of treatment as the result of extended experience n all classes of cases of this disease. It is well known that he usual forms of medication are of but little avail. and hat dietary measures usually also give unsatisfactory reults. Experience has shown that fair results are obtained in many cases by the so-called Carlsbad "drink-cures," and the method of treatment grows out of this experience. By the use of high enemas the Carlsbad water is thus brought in large quantity into direct contact with the diseased tissues. The enemas should be given once every twenty-four hours and consist of from 1 to 3 liters—the smaller amount being used at first and the quantity gradually increased. Before using the enema the lower part of the large intestine should be thoroughly washed out with sterile water. In using the enema, a tube at least 85 cm. in length should be employed, and this should be introduced for its entire length. The temperature of the water should be at least 45° C. For several hours after the enema warmth should be applied to the abdomen and the patient kept in bed. By following this method the author has employed the enemas in several hundred cases with excellent results and no ill consequences. The enemas are usually retained from three-quarters to two hours.

Freezing-point Estimations of Nephritic Urine.—H. Roeder says that in nephritis the absence of the marked normal lowering of the freezing-point of the urine during the ingestion of large amounts of liquids is to be regarded as a sign of the lessened ability of the kidney to accommodate itself to conditions arising from the introduction into the body of large amounts of liquids. Extended observation has also shown that the freezing-point of the urine is influenced quite markedly by the diet, so that the results obtained by Karangi, Lindemann, and others can only be applied to those cases which are upon a regulated nephritic diet.

Münchener medicinische Wochenschrift, May 12, 1903.

Tuberculin in the Diagnosis of Phthisis.—Freymouth praises this method of diagnosis and reports his experience with 170 cases. Only that preparation of Koch's known as "old tuberculin" should be used, because it most regularly gives a satisfactory reaction and absolutely no danger from infection attends its employment. No patient whose evening temperature exceeds 37.1°-37.2° C. should be submitted to this test. The initial dose must be small—from .1 to 1 mg. If no reaction is produced on the following day the dose may be doubled, but if the reaction is slight (temperature elevated $\frac{1}{4}$° to $\frac{1}{2}$°) only the initial dose should be repeated. In cases which fail to give any reaction to these small doses the amount used may be gradually increased to 5 to 10 mg., but this quantity should never be exceeded. The smaller the dose used the more specific is the reaction. The type of reaction varies; as a rule in pure cases the fever appears within a few hours after the inoculation, quickly reaches its height, and as quickly subsides, so that the whole reaction occupies but about twenty-four hours. Occasionally there is a preliminary slight elevation followed by a fall and then a marked rise. Delayed reactions almost always occur in complicated cases, and are to be regarded as characteristic of such. The inoculations should always be intermuscular and never subcutaneous. All tuberculin injections are liable to be followed by local disturbances, but the intermuscular the least so. Taken in all, there can be no question but that when properly applied the tuberculin test is the most valuable method for the diagnosis of tuberculosis yet devised.

The Explanation of the Favorable Influence of Bed-rest upon Phthisical Fever.—Pickert thinks that this is mainly due to the venous congestion of the lower extremities, which is produced by the continuous horizontal position. As the result a large amount of the blood is kept out of the lungs and the tuberculous lesions become less active, the bodily temperature falling. Observations upon four phthisical patients show that uniformly the lowest temperatures were obtained while in the horizontal position. Slight elevations occurred when the patients were propped up in bed, but the lower extremities kept horizontal. The highest elevations were always present when the patients were allowed to be up and walking around.

French and Italian Journals.

A Singular Case of Saturnism in an Infant.—Giovanni Berti reports the case of a child of about two years of age which had suffered much from scurf skin. The mother neglected the child for months, but finally called in a physician, who prescribed Hebra's ointment. With a zeal equal to her former neglect, the mother persevered in the treatment, and ignoring all directions given, applied the ointment twice a day to the patient's head, then covering it with cotton batting. The scurf was almost cured by these proceedings, but alarming symptoms began to develop in the child, and after another long period of neglect, it was finally brought in consultation to the author. The symptoms found were very evidently those of lead poisoning, although colic, and the buccal sign of Burton and of Gubler were absent. Lead was found in the urine. Suspension of the ointment, and the administra-

tion of iodides succeeded in bringing about perfect recovery, to the surprise of the physicians, as the child's condition had been extremely serious.—*Rivista di Clinica Pediatrica*, May, 1903.

Etiology of Epidemic Dysentery.—Vaillard and Dopter have studied an epidemic of dysentery which occurred among soldiers at Vincennes in the year 1902. They found the same bacillus described by Chantemesse and Widal, Shiga, and since then by many other workers. With pure cultures of this microbe inoculated in animals the physicians have been able to reproduce a malady altogether like, in symptoms and in pathological anatomy, the spontaneous human dysentery. These physicians close their work with the following conclusion: The bacillus discovered and described in 1888 by Chantemesse and Widal, differentiated finally by Shiga, must be considered as the specific cause of epidemic dysentery in temperate regions and of a dysentery of the same nature existing also in hot countries. This determination, aside from its etiological and prophylactic interest, should lead to ideas of another kind, since the blood of immunized animals possesses certain preventive characteristics, and it can be legitimately prophesied that it will be efficacious in the cure of dysentery.—*Le Bulletin Médical*, May 13, 1903.

A Case of Eosinophilia in a Nursing Infant Whose Mother Was Affected with a Tænia Mediocanellata.—Enrico Gagnoni reports a case which he considers of interest because of the support which it gives to the theory that the tænia secretes some substance or substances as yet unknown, which enter into the circulation and occasion many of the symptoms of helminthiasis. A second interesting point is that the eosinophilia is in direct dependence upon the toxic substance produced, which, according to Ehrlich, might, in this case, act by stimulating the formative centers of the eosinophilic cells, in the bone marrow, or by exercising some special influence on these cells whereby they are called into the circulation. The author does not claim that his own case is in any way decisive, but considers it suggestive, and thinks that if more cases were noted, the occurrence of eosinphilia in a nursing infant might point to the proper diagnosis in the case of the mother.—*Rivista di Clinica Pediatrica*, May, 1903.

Cytodiagnosis of Cancerous Pleurisies.—Nattan-Larrier presents preparations designed to show that cytodiagnosis of pleural effusion may be, perchance, very useful in a case of cancerous pleurisy. In one observation, cytodiagnosis disclosed large elements of vacuolated protoplasm with multiple nuclei. In another case of pleurisy secondary to cancer of the breast, cytoscopic examination revealed the true cellular masses floating in the liquid. Two other observations with cytodiagnosis equally positive were as follows: one with a pleurisy consecutive to cancer of the stomach, the other to primitive cancer of the pleura or the lungs. The result of these examinations is that the large cell of vacuolated protoplasm is an element of diagnosis very important in cancerous pleurisy.—*La Presse Médicale*, May 13, 1903.

Tetanic Form of Cancer of the Pylorus.—Gouget reports this case. The patient was a man of forty-nine years, afflicted with stenosis of the pylorus. The tetany was characterized by a permanent contraction of the neck and trunk; constant apyrexia, the absence of headache, of all psychical trouble, Kernig's sign, and the constancy of the clinical picture excluded the diagnosis of cerebrospinal meningitis, whether tuberculous or not. Apyrexia, the absence of trismus, and of painful paroxysmal contractions did not allow the diagnosis of tetanus. Strychnine poisoning, uræma, and rheumatism could equally be excluded. Tetany remained. There exists a permanent form of tetany (four cases out of seventy-three observed by Escherich).—*Journal des Praticiens*, May 16, 1903

Tuberculosis of the Buttock Consecutive to an Injection of Tuberculin.—Tuffier had a patient who had, at the level of the great trochanter, two suppurating fistulas; the pus of which contained Koch's bacillus. The coxofemoral articulation, the ischium, and the femur were intact. The fistulas resulted from the opening of an abscess which was slowly formed after two injections of tuberculin, which had been given more than six years before. This abscess incised for the first time four years before, reformed and opened spontaneously two years after. The general condition of the patient was otherwise good.—*La Presse Médicale* May 13, 1903.

Concerning the Rôle of Intracellular Catalytic Processes in the Pathogenesis of Malignant Neoplasms.—John C. Hemmeter has made observations on his investigations concerning adenocarcinoma of the stomach. He concludes from experiments on tumor transplantation that gastric ulcers can be experimentally produced, and that the edges of these gastric ulcers can be brought to undergo adenomatous transformation by the injection of a cell-free and sterile fluid obtained from a cancer of the same organ from the same species of animal. Inasmuch as this filtrate was destroyed after being heated to 60° C., it was concluded that the agent active in causing this abnormal proliferation at the edges of experimental gastric ulcers was a calytic agent. These experiments extended through years. The writer considers how the cell builds put protoplasm. It is suggested that this is effected by means of intracellular catalyzers. The cell is conceived to be made up of innumerable ultra-microscopic compartments, and the more subtle and partial damage of cytoplasm and nucleus in disordering the orderly and normal performances of intracellular catalysis are set forth here. The writer concludes with a paragraph on metastases.—*The American Journal of the Medical Sciences*, April, 1903.

Book Reviews.

Obstetrics: A Textbook for the Use of Students and Practitioners. By J. Whitridge Williams, Professor of Obstetrics, Johns Hopkins University; Obstetrician-in-Chief to the Johns Hopkins Hospital; Gynecologist to the Union Protestant Infirmary, Baltimore, Md. New York and London: D. Appleton & Company, 1903.

The past few years have seen obstetric literature augmented by a number of excellent textbooks, each possessing peculiar merits of its own, and all far surpassing the older works in fulness of information and helpfulness to the student and practitioner. The present book is no exception in this respect, for, while necessarily traversing the same ground as its immediate predecessors, it is stamped with a pleasing individuality. Those who are familiar with the author's well-known views concerning the avoidance of vaginal examinations will not be disappointed with the clear and emphatic teaching on this point, but they will hardly be prepared for the statement that he does not make vaginal examinations in over 50 per cent. of his cases until about to discharge the patient. Even those who restrict themselves to very few such examinations during labor are often tempted to introduce the finger in the latter part of the second stage in order to keep themselves fully informed as to the progress of the labor, but our author insists that this is wholly unnecessary, and that the same object can be accomplished by pressing the fingers against the perineum to one side of the anus.

That very important, but ordinarily very dry part of obstetrics to the student, the mechanism of labor, is very clearly expounded in accordance with modern views. Even those who have always practised with satisfaction Credé's original method of expelling the placenta will do well to read what is said about the management of the third stage of labor, and the tyro in obstetrics should imprint upon his mind the statement, that manual removal of the placenta is more dangerous than forceps or version. The treatment of the important subject of the application and use of the forceps is sound and judicious, yet many will think the author a trifle too dogmatic when he expresses the opinion that it is *never* necessary to apply the forceps to the after-coming head because Mauriceau's method of extraction is all-sufficient. Symphyseotomy is characterized as a very serious operation, and one requiring more exact diagnosis and a longer convalescence than Cæsarean section, while the maternal mortality is equal to that of the latter operation, and the fetal mortality is considerably greater. The chapter on pelvimetry and the management of labor in contracted pelves is worthy of special commendation.

On the whole this is a work of which the talented and scientific obstetrician of the Johns Hopkins Hospital may justly feel proud. It is a book which the student and young practitioner may use as their guiding star, for it is sound in its teaching, comprehensive in its scope, and supplies an excellent bibliography for those who thirst after greater knowledge.

Surgical Anatomy, A Treatise on Human Anatomy in its Application to the Practice of Medicine and Surgery. By John B. Deaver, M.D., Surgeon-in-Chief of the German Hospital, Philadelphia. In three volumes. Vol. III. Philadelphia: P. Blakiston's Son & Co., 1903. 4to, pp. 816.

Volume III, which completes the work, treats of the abdomen, pelvic cavity, lymphatics of the abdomen and pelvis, thorax and lower extremity, and is illustrated by 177 superb full-page plates. With the two former volumes the illustrations number nearly 500, from original drawings of dissections. The present work fully sustains the reputation of its predecessors, and is in every respect a

classic of its kind. The author combines the anatomist and surgeon in a thoroughly practical way, and from both aspects reconciles surgical technique with topographical and anatomical conditions. His discussion of the abdominal cavity, which is the field of such varied and progressive operative work, is especially worthy of commendation. The complex relations of the different viscera are admirably depicted from actual dissections, and the reader has the cadaver before him in all the realistic demonstration of an actual dissection. Schematic drawings are occasionally introduced to bring out salient points of relationship, which are of value as leading landmarks for surgical procedure, but these are comparatively few in number for very obvious reasons. The anatomy of the appendix is very clearly presented, and the reasons for the choice of different incisions are quite satisfactorily shown. Altogether the work is one that will supply the place of a most comprehensive guide to every surgeon who may wish to perfect his methods on the basis of the broadest possible knowledge of all possible anatomical conditions. While it is true that the volumes are of a somewhat bulky character, they could hardly be otherwise to fulfil their purpose. It is safe to say that in its particular field the work is destined to become a leading authority.

A System of Physiologic Therapeutics. Edited by Solomon Solis Cohen, A.M., M.D., Senior Assistant Professor of Clinical Medicine, Jefferson Medical College. Vol. V. Prophylaxis—Personal Hygiene—Civic Hygiene—Care of Sick. Philadelphia: P. Blakiston's Son & Co., 1903.

The fifth volume of the series of Physiologic Therapeutics fully sustains the reputation of the preceding ones in the wealth of practical material it contains and the comprehensive treatment of the subjects selected. Most of the works on hygiene aim to minister to the needs of the general reader by giving him general principles for commonplace adaptation rather than to supply the real needs of the scientific student. The present work is distinctively excellent in making a departure from set methods and explaining the reason from advanced scientific standpoints. The various authors who have contributed special articles have succeeded in a very satisfactory manner in condensing and clarifying much that heretofore has been obscure and unintelligible. For instance, the theory of immunity is studied in all its bearings with a clearness of perception that proves the purpose of its presentation. Even Erlich's lateral-chain theory, with all its modifying complexities and multiplication of terms, is made reasonably comprehensive, and within the grasp of most readers. The bacteriologic factors of disease are so numerous and distributive that too much attention cannot be given to them in a treatise of this sort. In such respect the demand for accurate and up-to-date knowledge of the subject is very satisfactorily met. The toxins and antitoxins are discussed from the practical side of disease prevention, and their relations to each other are explained in a way that leaves nothing to be desired in bringing our present knowledge to the level of the most advanced news of the general subject. The chapter on the prevention of the transmission of disease by animals gives a most interesting and instructive account of the relation of the mosquito to malaria and yellow fever, with most admirable illustrations of the development of the infecting plasmodium. Very valuable facts are also given regarding flies as disseminators of infection.

The different infections of special organs and apparatus are exhaustively discussed in special chapters with such practical application of scientific disease prevention as must needs commend themselves to the most careful study of the general practitioner. The views on soil pollution and water supply are of especial value and importance in correcting and modifying many of the widespread and erroneous opinion on these subjects, even among well-informed medical men. In the necessarily limited space of this notice it would be impossible to refer in detail to many other excellent features of this admirable and exhaustive work; suffice it to say, however, that it is destined to take a first rank in its class and become a most valuable means of reference for the progressive practitioner. In its variety and scope it is almost encyclopædic.

Physical Chemistry for Physicians and Biologists. By Dr. Ernst Cohen, Professor of General and Inorganic Chemistry in the University of Utrecht; authorized translation from the German, by Martin H. Fischer, M.D., Instructor of Physiology in the University of California. New York: Henry Holt & Company, 1903.

This book contains a series of lectures constituting a résumé of those subjects in physical or general chemistry which are of importance in medicine. As many observations in medical literature are based on our newer conceptions of physical chemistry, the physician must become acquainted with these theories and methods, and the book is intended as an introduction to larger works now available. The subjects discussed are: reaction velocity, the inversion of cane sugar and catalysis in general, the action of ferments, the influence of temperature upon reaction velocity, equilibrium, the friction of liquids, osmotic pressure, the molecular weight of dissolved substances, the theory of electrolytic dissociation, electromotive force, and applications of these principles in the fields of hygiene, pharmacology, and physiology. Everywhere the relation of mathematical formulæ to the subject is brought out, though in a simple form, and altogether the work is an excellent one of its kind.

Mechanical Vibratory Stimulation, Its Theory and Application in the Treatment of Disease. By Maurice F. Pilgrim, M.D., First Vice-President of the American Electro-Therapeutic Association, Professor of Psychiatry in The New York School of Physical Therapeutics; Editor of the Department of Psychiatry in the *Journal of Advanced Therapeutics*. New York: Metropolitan Publishing Company, 1903.

The author outlines in an entirely conservative way what may be reasonably expected from the application of mechanical vibration in therapeutics. His aim is to state the principles and illustrate their practical application so as to make the presentation of the subject available and effective for the busy practitioner. For the author the vibratory treatment is not a "cure all," or an exclusive method, but merely one legitimate method. That treatment can, he claims, increase blood and lymph flow and nutrition; improve respiration, muscular and general metabolism, and excretion and elimination; soften and relieve contractures, engorgement, and congestion; facilitate the removal of tumors and exudates; and relieve pain; not uniformly or invariably, but with fewer disappointments than other physical therapeutic agents. The *modus operandi* is, in general, reflex action. The physiology of the organs is passed in review and plates and diagrams are given to elucidate the text. A chapter of directions is provided for the regional application of vibration for the chief diseases to which it is applicable. Altogether, this little work serves as a good introduction to the subject.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By Professor Carl von Noorden, Senior Physician to the City Hospital in Frankfurt-a-M. Authorized American edition, translated under the direction of Boardman Reed, M.D., Professor of Diseases of the Gastrointestinal Tract, Hygiene and Climatology, Department of Medicine, Temple College, Philadelphia. Part I: Obesity, the Indications for Reduction Cures. Part II: Nephritis. New York: E. B. Treat & Company, 1903.

Part I of this work contains a sensible, straightforward discussion of the subject under the headings of simple obesity in otherwise healthy subjects, comprising advanced, medium, and slight degrees of obesity; and of complications with other diseases. The indications for interference and, equally, for non-interference are clearly laid down, and the dangers under certain conditions are alluded to. Considering the amount of misinformation, not to mention the plenitude of quackery to which the subject has given rise, Professor von Noorden's book is an addition to its rational literature.

In Part II the author gives the result of clinical and experimental investigations made by himself, or by his students, since 1885. The work is preëminently original, and is in the nature of an attempt to place the dietary in nephritis upon a basis of fact instead of upon that of the vague, traditional notions which are usually said to be "derived from the writer's forty years' experience," or some equivalent substitute for precise, detailed, statistical data, showing the actual results obtained in a series of thoroughly studied cases. For example, the author's experiments negative the time-honored myths that light meats are safer than dark ones, that milk is always and everywhere the best diet, and that the kidneys will be improved by a flushing out with unlimited quantities of water. The subjects are treated under the headings: the customary therapy of kidney diseases, the principle of saving the kidneys in renal diseases, the facts of metabolism as a basis of dietary regulations for the protective therapy of kidney disease, the principles underlying dietetic and physical treatment of acute nephritis, and those underlying the same in contracted kidney. Not only are the questions treated with scientific precision, but the data are presented in an eminently practical manner, and, everything considered, this work is one of the best treatises we have seen upon the treatment of these diseases. The translation, while always intelligible, is not in every case happy, and it presents some solecisms. The proof-

reading also is at times at fault, *e. g.* at the bottom of page 68, where one, or more, lines are omitted.

Physiology. A Manual for Students and Practitioners. By Theodore C. Guenther, M.D., Assistant Physician, Norwegian Hospital, Brooklyn; Chief of Medical Clinic, Norwegian Hospital Dispensary; Member of King's County Medical Society, and Augustus E. Guenther, B.S., Formerly Assistant in Physiology in the Medical Department, University of Michigan. Philadelphia and New York: Lea Brothers & Co., 1903.

This little volume appears to be suited for the purpose intended—namely, to give briefly, clearly and satisfactorily the main points in physiology such as would be useful to medical students. The definitions and explanations are all well given, and the text is not interrupted by the usual paragraphing of the quiz-compend, the necessity of self-examination, however, being recognized by a set of questions at the end of each chapter.

The Internal Secretions and the Principles of Medicine. By Charles E. de M. Sajous, M.D., formerly Lecturer on Laryngology in Jefferson Medical College, formerly Professor of Anatomy and Physiology in the Wagner Institute of Science, etc. Vol. I. Philadelphia: F. A. Davis Co., 1903.

This volume forms the first of a series, the second of which, upon pharmacodynamics and physiological pathology, is announced to appear shortly. The present volume is in the nature of a monographic, classified marshalling of the data contained in the literature, in support of the author's very decided views upon the importance of the so-called ductless glands, in particular the adrenal system and its governor, the anterior pituitary body, and the relations to the latter, in the way of necessary stimulant, of the thyroid gland; and of the posterior pituitary body as the functional center of the nervous system. Also the relations of the adrenal system to the general motor system and the pneumogastric nerve, and that of the internal secretions in their relation to immunity, with particular reference to the protective rôle of the leucocytes, are discussed. The work is well illustrated by full-page plates, many of them colored, and, as in all of Dr. Sajous's work, the data are arranged with a view to the maximum of convenience in reference, an analytical table of contents and a good index being given. The book thus forms a mine of information collected from the immense scattered literature of the world.

Experiments on Animals. By Stephen Paget, with an Introduction by Lord Lister. New and Revised Edition. London: John Murray; New York: G. P. Putnam's Sons, 1903.

Considering the urgent need for an authoritative, yet popular, exposition of the results actually obtained from experimentation on animals, as a refutation of the hysterical distortion, perversion, and exaggeration, put forth by the antivivisectionists, no book is more opportune than the one now under consideration. It is to be hoped that this sober, matter-of-fact presentation will carry conviction among the laity upon whom, in the last analysis, we must depend for the rejection of the appeals constantly being made upon sentimental grounds to our Legislatures for the restriction of scientific research. In the present edition some mistakes have been corrected and some recent facts added. References in the first edition to false statements of the antivivisectionists, have been omitted from this edition on the ground that the space necessary for their refutation can be better employed. The book is, of course, an armamentarium of evidence in which fact after fact is marshalled into a convincing array, showing that practically all of modern medicine, physiology, pathology and treatment is the outcome of experimentation on animals. For its author it is, as Lord Lister says, entirely a labor of love.

Die Krankheiten des Kehlkopfs. Von Dr. M. Bukhofer, Konigsberg. Berlin: August Hirschwald, 1903.

This book purports to be an introduction to the general study of laryngology. It opens with the usual chapters on anatomy, physiology, methods of examination, causes of laryngeal disease, and general therapy. Then follows chapters on individual diseases. Nothing new is presented, but an effort is made to view the various topics, especially from the standpoint of the advances of the last five years. Numerous references are made to the original publications of standard authors, the bibliographical list containing nearly six hundred entries. The book is not illustrated at all. The author considers such a thing unnecessary for three rather peculiar reasons: First, each student probably owns an anatomy; second, illustrations of pathological conditions are best studied in atlases on pathology, and third, as for instruments, why you can see in any instrument maker's catalogue all the pictures of instruments you want. The publication of this manual is no addition to the valuable literature of laryngology.

Transactions of the American Surgical Association. Vol. XX. Edited by Richard H. Harte, M.D., Recorder of the Association. Printed for the Association by William J. Dornan, Philadelphia, 1902.

This annual volume contains the usual collection of well-selected papers upon surgical subjects, which have been discussed in the journals and at society meetings during the past year. It is not really necessary to pick out any particular paper for extended comment, since all have merit, and those who follow surgical literature are probably already familiar with them. The volume is well put together and is worth keeping for reference.

Selected Papers on Operative and Clinical Surgery. By the late William Stokes, M.D., M. Ch., F.R.C.S.I., Kt., Surgeon in Ordinary to Her Majesty, Queen Victoria, in Ireland, etc., etc. Edited by William Taylor, B.A., M.B., F R.C.S.I., etc., etc. With a Memoir of the Author by Alexander Ogston, M.D., Regius Professor of Surgery, University of Aberdeen, etc. London: Baillière, Tindall & Cox, 1902.

The collection of papers in this volume represent the experience and ideas of a well-known British surgeon, who went to South Africa during the late war and died there—possibly in consequence of the strain and exposure to which he was thus subjected. The essays are upon a variety of subjects and their literary merit is great. While all are interesting, those devoted to African experiences will attract most attention from the reader, who will get from them a vivid idea of what the surgeon has to contend with in war. Professor Ogston's appreciative memoir adds much to the interest of the volume, and the text of the papers contains much clinical report and discussion of cases, which have come under the care of the author.

Chirurgie Intestinale d'Urgence. Par Albert Mouchet, Chef de Clinique Chirurgicale à la Faculté de Médecine de Paris. Paris: J. B. Bailliere et Fils, 1903.

This little hand-book is one of a series (Les Actualités Médicales) in which a number of excellent monographs has appeared. The present volume is designed to afford epitomized and accurate information for the student, and also for the practitioner who may be confronted with abdominal conditions requiring prompt and radical treatment. Some of the subjects discussed are strangulated hernia, intestinal obstruction, and appendicitis—a pretty large field to be enclosed in one hundred pages. The author, however, has confined himself to categorical statements and hard and fast directions, avoiding entirely long discussions and pathological detail, and his efforts have produced a useful book.

The Anatomy of the Human Peritoneum and Abdominal Cavity, Considered from the Standpoint of Development and Comparative Anatomy. By George S. Huntington, M.A., M.D., Professor of Anatomy, College of Physicians and Surgeons, New York. Illustrated with 300 full-page Plates. Philadelphia and New York: Lea Brothers & Co., 1903,

The volume before us is the product of a number of years of work by its author who has been led far afield, from the point of view of the physician, in his morphological studies. It is necessary to examine the book in order to understand what an enormous amount of work has been done in order to place it before the reader and the author is to be congratulated upon his industry. The peritoneal anatomy of at least one species from almost every family or group of families is described and illustrated in a way that leaves little to be desired, and the relations to the human being to the various points are discussed. The information is of the most detailed kind, and is such as is welcomed by the special worker, but is not of much use to the average physician. The make-up of the volume is good, and it will please the limited class for whom it is intended.

Consultations sur les Maladies des Voies Urinaires a l'usage des Praticiens. Préface par le Docteur Tuffier, Chirurgien de l'Hôpital Beaujon, Professeur agrégé a la Faculté de médecine de Paris. Avec 110 Figures intercalées dans la texte, par G. de Rouville, Professeur agrégé a la Faculté de Médecine de Montpellier. Paris: J. B. Baillière et fils, 1903.

This work of less than 300 pages presents all the accepted recent methods of healing with genitourinary affections, and, besides the usual illustrations of instruments, shows some of the ways in which they are used. It is especially adapted for the use of general practitioners, and those reading French will find it useful.

Society Reports.

ASSOCIATION OF AMERICAN PHYSICIANS.

THURSDAY, MAY 14—MORNING SESSION.

A Preliminary Report on the Influence of Alcohol in Infectious Diseases.—Dr. H. A. Hare of Philadelphia read this paper, showing that the administration of alcohol to patients suffering with infectious diseases had a marked action in that it increased the bacteriolytic action of the blood. The bacillus coli communis was very readily killed by the blood serum of these patients. Therefore it was held by the essayist that in this manner the administration of alcohol had a marked beneficial action in the treatment of infectious diseases.

Infantile Scorbutus.—Dr. J. M. Rotch of Boston read this paper, and reported in abstract cases of a peculiarly grave type, and insisted upon the importance in differentiating osteosarcoma from osteomyelitis. In one case there was a subperiosteal hemorrhage throughout the whole length of the tibia, giving it the appearance of osteomyelitis. Operation was performed and large sequestra were removed. Rapid improvement followed the administration of orange-juice. Inasmuch as new bone tissue was now forming in the site of the operation wound, a complete and speedy recovery was expected. In a second case, of a baby, nine months old, large swelling and hardness of both femora made a differential diagnosis from osteosarcoma somewhat difficult. The administration of orange-juice was followed by complete recovery.

Sudden and Unexpected Death in Infancy and Childhood, with Special Reference to the So-called Thymus Death.—Dr. J. P. Crozer Griffith of Philadelphia read this paper, and referred to death in infants due to coryza, holding that these patients really died in the early stages of laryngismus stridulus. He cited a case in an infant six months old, which had been ill, but had so far recovered that the author had told its parents that it would get well. There was present, however, very rapid breathing, which progressively increased, and in a few hours the child died. There was no fever at the time. The essayist reported in detail two cases of thymus death that had come into his practice, and thought that the sudden death was due to pressure of the gland upon the trachea, heart, or blood vessels. It was possible that the real cause might have been dependent upon the nervous system and the existing status lymphaticus was but an anatomical manifestation. Although Gravitz held that death in these cases was due to pressure, there were but three cases in literature to substantiate this theory.

Dr. Abram Jacobi of New York said it was useless to generalize in cases of thymus death. There were conditions causing death in the first stages of laryngismus stridulus and apnœa. In some of his cases autopsy had shown a marked diffuse congestion to be present in the meninges and spinal cord.

Studies on the Action of Alcohol upon the Circulation in Fevers.—Dr. Richard C. Cabot of Boston read this paper. The question of interest in the present day, after so much experience of a clinical variety, was, What was the true action of alcohol on the circulatory system? and not that as to whether it was beneficial. There had been but few experimental studies of this nature upon the human being. The investigations were based, in the author's cases, upon the variations in the blood-pressure during diastole and systole. He had taken these pressures two days before the administration of the drug and then gave the patients (forty in number) four, six, eight, and twelve ounces during the next two days, and then discontinued the drug, continuing to take the blood-pressure for several days following the discontinuance of the same. It had always been taught that following the administration of alcohol in fevers there was first a transient rise in the blood-pressure with a subsequent depression. The author's experiments proved that these changes would take place even without the administration of alcohol, hence he considered them of no vital importance. The Oliver instrument had been employed to take the diastole pressure, while the Riva-Rocci apparatus was employed to estimate the changes in the systolic. In a young girl with typhoid fever, who had been taking sixty ounces of champagne in twenty-four hours for a period of six weeks, the sudden cessation of the alcohol had not the slightest effect upon the blood-pressure curve. It was concluded from the results obtained by these experiments that the administration of alcohol in fever cases, in no way influenced the blood-pressure, either during systole or diastole.

Dr. Wm. H. Welch of Baltimore said that Abbott and others had clearly proven that alcohol given to animals, almost to the state of intoxication, increased their susceptibility to bacterial infection. Rabbits which were able to overcome the introduction of bacteria of low virulence would easily succumb to the same organisms if they were kept under the influence of alcohol for a short while. However, alcohol was beneficial in cases of collapse. It had been completely demonstrated that in large doses the bacteriolytic action of the blood was diminished. The colon bacillus which Dr. Hare had used in his experiments were very readily destroyed by ordinary normal blood serum in the same length of time that it had taken to destroy them in the alcohol immunized animal. Hence the experiments proved but little as to the increasing of the bacteriolytic action of the blood by alcohol. He did not think that there was any relation between the bacteriolytic action of the blood serum and susceptibility. That up to the present time no experiment regarding the administration of alcohol had been performed which was in any way conclusive.

Dr. Jacobi of New York City remarked that Dr. Hare's paper taught nothing new as far as the clinicians were concerned. He had always given alcohol in large doses in cases of septic fevers. He did not hesitate to administer as much as one pint to a child. A curious point was that as long as sepsis was present there would be no intoxication, but just as soon as the system recovered from the influence of the sepsis the alcohol made the child drunk.

Dr. A. C. Abbott of Philadelphia had found that where there had been an increase in the hæmolytic condition there would be present in some portion of the body areas of inflammation.

Dr. F. C. Shattuck of Boston said that clinical evidence was so greatly in favor of the beneficial action of alcohol in fever cases, that it was up to experimenters to prove more conclusively than they have been so far able, that the contrary was the true state of affairs.

Dr. Dock of Ann Harbor had been able to cure many cases of sepsis without the administration of alcohol, nence he did not believe it was essential in such cases.

Dr. Cabot, in closing the discussion, said that the number of physicians using alcohol as a stimulant was rapidly diminishing.

The Morbid Changes in Hereditary Ataxia.—Dr. L. F. Barker of Chicago read this paper and said that the disease was most commonly found between the sixteenth and forty-fifth years. The sexes were equally often attacked, though the descent was more often through the female side of the house. The ataxia was of the cerebellar type. The movements were sluggish, and when the patients were first attacked they were often supposed by their acquaintances to be under the influence of alcohol. Romberg's sign was absent. There was defective vision, and the speech was defective because of incoördination of the muscles of the tongue. The two cases reported by the speaker were brothers. The first case started when the patient was but twenty years old, and he died as the result of great emaciation and general inanition. The disease started in the second brother at the age of twenty, and he died ten years later of pulmonary tuberculosis. The findings at autopsy were of the same character, but one was in a more advanced stage than the other. Both brains

showed excellent fissuration. The brain and spinal cords were somewhat smaller than normal. The cerebellum was larger than the rest of the brain, but proportionately well developed. Microscopic sections showed degeneration of the direct cerebellar tract and of Clark's nucleus. In the more advanced case the terminals and collaterals had disappeared. In the posterior funiculi the degeneration did not involve the whole root. In the lumbar region there was degeneration of the middle zone. In the thoracic region the median portion of the cuneatus was involved. The cervical region showed disseminated areas of degeneration throughout the ventral and median portions of the gracilis, while the dorsal portion of the cuneatus was normal. The author believed that this degeneration corresponded quite closely to the third fetal system of Trepinski. It was a disease of a neurone chain, thus depriving the cerebellum of the tract through the third fetal system. The cerebellum on section proved to be practically the same as normal. A third case of Dr. Sanger Brown's cases, upon which an autopsy had been performed under the supervision of Dr. Adolph Meyer of New York, showed the same condition of degeneration as was described by Dr. Barker.

Autolysis in Lobar Pneumonia.—Dr. Simon Flexner of Philadelphia read this paper, remarking that although Salkowski, in 1882, showed that organs which had been removed from the body underwent self-digestion, this fact had been lost sight of until very recently, when the pupils of Hoffmeister reviewed the subject and showed that the autolysis was due to ferments. Dr. Flexner had shown that exudates would act in the same manner, outside the body, provided bacteria were eliminated. In the body the exudates underwent an emulsifying transformation which rendered them more suitable for the process of absorption. The ferments were contained in the leucocytes. Thus, in lobar pneumonia, there were certain cases which failed to undergo resolution, and in these the author found that there was less autolysis than was present in the general routine of cases. In those cases in which the autolysis was rapid the exudate consisted largely of cellular elements, while in unresolved pneumonia the exudate was largely fibrinous, which could but feebly undergo the emulsifying transformation. Eventually, the fibrinous exudate was absorbed by the process called organization, in which the leucocytes invade the fibrinous exudate coming into it from the new-formed vessels and thereby setting up autolysis, and assist in the absorption of the fibrinous exudate. This latter process is in reality true autolysis in an indirect manner, but by this method the lung is left permanently pathologic.

The Adrenal Gland and Its Active Principle in Relation to Cystoclysins and Antitoxin Production.—Dr. A. C. Abbot of Philadelphia read this paper. Experiments with the injections of ferri-chloride into rabbits killed them in eight hours. Later the sera of these animals which had been preserved aseptically were injected into guinea-pigs, and no changes were discoverable in the adrenal glands of these animals. The serum was hæmolytic, however, and the pig most promptly died. The serum of rabbits immunized from erythrocytes, gave the same hæmolytic results as serum immunized from adrenals. In no case was the adrenal gland of the guinea-pig demonstrably affected, beyond a more or less congestion, by the intraperitoneal injection of serum of rabbits that had received repeated injections of guinea-pig's adrenals. The serum of rabbits treated with guinea-pig's adrenals was, *in vitro*, not only hæmolytic, for guinea-pig erythrocytes, but caused more or less agglutination of fresh macerations of the adrenal glands. The serum of rabbits immune from guinea-pig's adrenals differs from that of rabbits immune from guinea-pig's blood in being less toxic. It was impossible to determine the minimum lethal dose of the active principle of the adrenals, because of the remarkable variation in susceptibility of the rabbits to its toxic action. It was possible, however, to render these animals immune from this substance by repeated small doses. The injection of epinephrin obtained from Dr. J. J. Abel resulted in a tolerance but not an immunity.

Experimental Study of the Nephrotoxins.—Dr. R. M. Pearce of Philadelphia read this paper. Transient albuminuria was produced in nine animals in which the ureter on one side was tied, as it was in the cases of nine others in which the vessels supplying the kidneys were ligated. The same results were obtained after a one-sided nephrectomy. In none of these were there present tube casts, and the histologic examination of the remaining kidney was absolutely negative for pathological changes, not even a disappearance of the cell granules. The blood serum of these animals injected into others in the proportion of one part of serum to two hundred by weight failed to produce nephritic changes in the kidneys of the injected animals. Emulsified kidneys were injected into dogs and then the dog's blood serum was injected into another dog, with the production of hæmoglobinuria and tube casts. These results were not due to the hæmolytic action of the blood contained in the kidney emulsion, for that had previously been washed out of the kidney. Histologically, there was fatty degeneration of the kidney substance, especially in the descending loops of Henle. The serum had no effect upon the blood-pressure, which would tend to show that nephritis, with its concomitant rise of blood-pressure, was not a factor in the production of cardiac hypertrophy. Some of the dogs which the author had secured for experimentation were found to have a spontaneous nephritis. The serum of these dogs, when injected into perfectly healthy animals, produced, in sixteen to twenty hours, a true nephritis. In turn, the serum of this animal produces the same condition in a third animal.

Studies upon the Capsule of the Kidney.—Dr. S. F. Meltzer of New York City read this paper for Dr. Haven Emerson of the same city. Immersion of the kidney before decapsulation, in a solution of the iodide of potassium, failed to develop the drug in the urine; but if immersion were practised after the decortization were done, the drug was readily demonstrated in the urine. These experiments would tend to show that the capsule of the kidney acted as a protection against infection of and the ingestion of metabolic substances from the neighboring organs. In rabbits, whose kidneys had been decorticated, there was no evidence of the presence of new-formed blood vessels, as had been shown by Edebohls. In dogs, however, in which the operations had to be performed intraperitoneally and in which there was no peritoneal fat, adhesions were found to exist between the liver, pancreas, and other organs.

Report of a Successful Decapsulation of the Kidney.—Drs. James Tyson and Chas. H. Frazier of Philadelphia read this paper. In the case of a child of nine years who had nephritis for four years following scarlet fever, in which there was extreme œdema of the extremities, after all methods of medication had failed to relieve the condition and death seemed impending, decortication of one kidney was performed. Previous to the operation, the urinary output was but a few ounces in twenty-four hours, whereas in twenty-four hours following the operation, the patient voided 100 ounces. Ten days after the operation all the œdema and ascites had disappeared, and the patient was passing the normal quantity of urine. Albumin and casts were still present, though in much smaller amounts. Two months following the first operation the second kidney was decorticated. The patient was kept in bed for three weeks, and on getting out, the amount of albumin and casts markedly increased, so that it was necessary to return her to her bed At the present writing the patient is up and about, but still has some albumin, and a few hyaline casts in her urine The operation effected its good results by producing a temporary improvement in the renal circulation. The removal of the kidney capsule relieved the tension, thus permitting more blood to enter the organs and be

depleted of its watery elements. The operation was to be advocated in extreme cases, and it was to be considered an advance in kidney therapeutics.

Dr. Cutler of Boston reported three cases of this kind. The first died at the end of six months, while in the second there was a regeneration of the capsule about the kidney. The third case was that of a boy with post-scarlatinal nephritis. The operation was followed by marked improvement, but there was a condition of chyluria, which had now passed off. At the end of a year improvement was still progressive and the lad had grown considerably and looked the picture of health.

Dr. Tyson, in closing, thought the operation much more suited to children than to adults.

Paroxysmal Hæmaturia.—Dr. Wm. Gilman Thompson of New York City read this paper, and reported two cases of this variety, one which had been known to have existed sixteen years and the other for fourteen years. The attacks were brought on in both cases by slight exposure to cold and fatigue. These attacks would start with a chill, rise in temperature to 103°, marked urticaria, disturbances of sensation, and with numbness. One hour after the outset the patient would pass dark-colored, smoky urine, which became progressively darker at each voiding. On one occasion the second patient developed hydrops articulorum. In neither case was there jaundice. In the second case, a boy, it was found that the exposure of one of his hands to a temperature of 60° would induce an attack. Two hundred and six cases were to be found in literature. The important points in the disease were the presence of hereditary syphilis, urticaria, etc. The condition was rare in the United States. It was a disease of the nervous system, and the presence of a neurotic temperament and alcoholism in the parents were important points in the predisposing causes of the disease. Males were more often affected. Few cases were reported after the sixtieth year. It was commonest in the fourth decade. It was never fatal or associated with hæmophilia. Temperature not easy to explain and it might go on to 105°. It was not due to malaria. Pain was constant and radiated into the bladder, and the spleen and liver were enlarged. There was almost always an albuminuria preceding an attack. Many cases were induced by muscular fatigue, especially walking, as was seen in soldiers. Information gained from autopsy was of little value. Hereditary syphilis was the most important etiological factor in the disease. In closing, the doctor defined the disease as a vasomotor neurosis, called into play by exposure to cold, fatigue, or mental emotion.

THURSDAY, MAY 13—AFTERNOON SESSION.

Observations on Some Points in the Pathology of Thyroid and Parathyroid.—Dr. W. G. McCallum of Baltimore read this paper, and found that extirpation of the thyroid gland was not alone accountable for the tetanic symptoms which were recorded as appearing after the operation. In the experiments carried on by the author the dog and goose were chosen as the most convenient for the work to be done. Emulsion of the thyroids and parathyroids were injected into the goose and the serum of the bird was injected into the dogs. The larger majority of the dogs remained perfectly unaffected, but one was in some time decidedly cachectic and developed conjunctivitis. In others there were choreiform movements from the thyroid immune serum, and later the dog died. Autopsy showed some cellular disintegration, but the thyroids practically normal. The parathyroid in some instances gave cachexia and slight tetanic movements. But the parathyroids showed no pathologic changes. It had been long known that the extirpation of the parathyroids produced certain acute symptoms, in the speaker's experience, and this was shown to be true. The dog remained well for two or three days, and then showed anxious expression, with fibrillary contractions of muscles, which grew progressively worse. Respiration increased to 200 per minute. There was retraction of the upper eyelids, as was seen in exophthalmic goiter. Later the respiratory curve slowed down, and the dog died. Sometimes the attacks were epileptiform. The respiration in some instances became Cheyne-Stokes in character. There were no acute symptoms from the extirpation of the thyroid alone. The theories as to the function of the parathyroids were as follows: (1) That they furnished some secretion necessary for the body, (2) or that their secretion destroyed the toxins produced in other organs. The introduction of normal blood by transfusion caused an abatement of the acute symptoms in the tetanic dog. The introduction of salt-solution into the veins of these dogs produced the same results, hence it was argued that there must have been some poison in the tetanic dog's blood which was diluted by the infused normal blood and saline solution. Section of the spinal cord was done and the goose serum injected into the dog. There resulted a tetanic condition in the upper portion of the body, while that below the point where the cord was severed remained almost flaccid, except for slight fibrillary contractions. In the light of these experimental results, Mr. McCallum concluded that the poison had its chief effect upon the central nervous system, and more especially upon the higher nerve centers. That there was no anatomical relation between the parathyroid and the thyroid glands. In the autopsies on exophthalmic goiter cases in the pathological department of the Johns Hopkins Hospital, it had been found that the parathyroids were either absent, or exceedingly small. The speaker had under observation one case of exophthalmic goiter to whom he was feeding the extract of parathyroids. In the last two weeks he had been unable to observe the slightest effect upon the patient, one way or the other.

The Influence of Different Varieties of Fat on the Formation and Excretion of Acetone.—Dr. E. P. Joslin of Boston read this paper. Experiments had recently been made to find out the influence on the excretion of acetone by the ingestion of the various varieties of fat and fatty acids in the cases of diabetics. The modern theory of the production of coma and other manifestations in diabetes had led to this line of investigation. The examination of a control case of this disease showed the presence of but 10 mg. of acetone in the urine two days previous to the administration of 200 mg. of oleic acid. Twenty-four hours following the ingestion of the drug there were over 1,700 mg. found in the urine. Palmitic acid gave no results, but the sodium salt of the drug was found to be better absorbed and gave the same results as the oleic acid. The glycerinate of palmitic acid and oleic acid also increased the output of acetone to a marked degree. The writer agreed with Van Noorden that it was not well to cut off any one variety of fats. If fats were to be administered at all, they must be given very slowly, in order that they might not produce too great an amount of acetone in the system at one time.

Pulsating Empyema Necessitatis.—Dr. F. P. Henry of Philadelphia read this paper, prefacing his remarks with an apology for presenting a purely chemical paper before the association. The case which was reported had first come under observation in 1880, but had never before been reported in full. It had been referred to by Osler and Wilson on various occasions. There were three strongly pulsating tumors. The only other case with as many tumors was the one of Chevostek, which figured as No. 28 of Wilson's series. There had existed a coincident pneumothorax. Aspiration had been performed, with subsequent drainage. The patient was living one year after the operation. The case had presented some points similar to an aneurysm. At the end of the paper there was appended fifteen cases not included in Wilson's series, collected from literature, making in all, eighty-three cases.

Dr. McPhedran of Toronto reported a case of this variety which had occurred in his practice, in which the turning of the patient on his back caused a pulsation in the

right axilla, and when the patient was turned on his right side the pulsation occurred in the back and disappeared in the axilla. The fluid was up to the fifth rib, and the apex beat was not at all changed in its position, which showed that its pericardium was fixed to the body wall.

Dr. HENRY concluded by saying that the only other case that he had seen that resembled this one was a case of aneurysm which had ruptured into the pleural cavity.

A Case of Extensive Pulmonary Infarction.—Dr. A. MCPHEDRAN of Toronto asked permission of the society for Dr. J. J. Mackenzie of Toronto to read this paper, inasmuch as this gentleman had done the work. Permission was granted, and the case was reported as follows: there was complete infarction of the middle lobe and the lower third of the upper lobe. In the left lobe there were several areas the size of a half dollar, showing beginning infarction. In the pulmonary artery just above the valve, there was a definite change, with a round-cell infiltration and an extensive endarteritis of the vessels about the size of a pencil on the right side, which was ascribed as the cause of the trouble. These vessels were thrombosed. In the lumen of some of these arteries there was deposited fibrin. There was but little sclerosis of the infarcted middle lobe. The process in the upper lobe seemed to be the oldest. The heart appeared to be perfectly normal, showing no lesion of any pathological character. In the liver was seen the true cause of the trouble, as there were present numerous miliary gummata, and undoubtedly the process in the arteries was of a luetic origin.

A Case of Presystolic Mitral Murmur Complicating Pregnancy, etc., with Exhibition of a Specimen Showing Triple Valvular Lesion.—Dr. JAMES TYSON of Philadelpha read this paper. The case had first been reported in May, 1899, and, again, in May, 1901, and the concluding report was now presented, with an exhibition of the heart, which showed a triple lesion; namely, tricuspid stenosis, aortic stenosis, and mitral stenosis. The aortic stenosis had not been recognized before the death of the patient. This had so often been the case in this sort of cardiac lesion.

Experimental Studies on the Eosinophilia of Trichinosis; a Preliminary Report.—Drs. HERBERT U. WILLIAMS and CHARLES A. BENTZ of Buffalo read this paper. Animals infected with trichinosis did not produce a true eosinophilia, nor were there many eosinophiles about the parasites which were present in the tissues of the animal. An extract was prepared from fresh pork containing numerous living trichinæ previously digested with artificial gastric-juice. The residue, which contained many worms, was collected, washed, dried, and inserted into the peritoneal cavity of cats, dogs, and frogs. Great numbers of eosinophilic leucocytes were collected after several days, near the point at which the worms were introduced, in a large proportion of the cases. This action was probably due to some unknown substance contained in the bodies of the worms. Other substances introduced, produced no such action of the eosinophilic leucocytes

This paper concluded the scientific part of the meeting, and the President announced that the council had nominated the following officers: *President*, Wm. T. Councilman of Boston; *Vice-President*, Dr. Edward L. Trudeau of Saranac Lake, N. Y.; *Secretary*, Dr. Henry Hun of Albany; *Recorder*, Dr. Solomon Solis Cohen of Philadelphia; *Treasurer*, Dr. J. P. Crozer Griffith of Philadelphia; *Councillors*, Drs. Victor C. Vaughan of Ann Arbor, Mich., and George M. Kobero of Washington, D. C , who were unanimously elected by the association. On a motion to adjourn, which was duly seconded, the President dismissed the society, to convene next May, at Washington, D. C.

Bats and the Plague.—During the occurrence of bubonic plague at Naples some months ago, it was suggested that the disease might be spread through the instrumentality of bats. It was found that these animals were remarkably susceptible to the disease, even more so than rats.

AMERICAN GYNECOLOGICAL SOCIETY.

JOSEPH E. JANVRIN, M.D., NEW YORK, PRESIDENT.

SECOND DAY, WEDNESDAY, MAY 13.

Discussion.—The Etiology, Pathology, and Treatment of Puerperal Sepsis.—In the absence of Dr. HIRAM N. VINEBERG of New York, who was to read this paper, Dr. J. Riddle Goffe of New York presented an abstract of it: (1) Severe puerperal sepsis might be caused by a variety of pathogenic germs. The variety of germ found in the uterine discharges in a given case was no criterion of the severity of the case and formed no safe guide as to prognosis or as to the treatment to be adopted. (2) Bacteriologic examination of the blood was of little value, either from a prognostic or therapeutic standpoint. (3) The treatment of puerperal sepsis had to be based chiefly upon the clinical history and physical signs of each individual case. (4) Wounds of infection in the perineum, vagina, or cervix were to be treated on general surgical principles of irrigation and drainage. (5) Curettage was indicated when there were evidences of placental decidual residue in the uterus independent of the variety of bacteria that might be found in the uterine cavity. (6) In those rare cases in which adherent and sloughing placental tissue could not be removed, either with the sharp curette or fingers, hysterectomy was indicated, providing the patient was not already moribund. (7) Hysterectomy was also indicated in septic endometritis, or infection of the placental site, so long as the infection was still limited to the uterus, and when the symptoms steadily grew worse in spite of uterine irrigations, with or without curettage and appropriate hygienic stimulating treatment. (8) In abscess of the uterus the abdomen should be opened, and when feasible the purulent foci were to be drained and the uterus preserved. If the uterus were studded with small abscesses, hysterectomy was indicated. (9) The abdominal was to be preferred to the vaginal route for hysterectomy. (10) If the infection passed from the uterus into one or other tube and set up a violent grade of inflammation, the abdomen should be opened and the infected tube removed before a general peritonitis developed. (11) When the infection passed through the uterus and set up a general peritonitis, a case might occasionally be saved by a timely abdominal section and drainage. (12) In cases of parametric exudates the treatment should be of a conservative nature, and surgical intervention was indicated only when there were evidences of pus formation. (13) In obscure cases, in which the pathological lesion could not be determined, and the symptoms were steadily growing worse, it might be advisable to open the abdomen to search for a hidden purulent focus, or for a circumscribed slough of the uterus. (14) The procedure proposed by Trendelenburg, and executed by him and others, of ligating the pelvic veins when they became infected and thrombotic, was worthy of further trial.

Dr. WILLIAM R. PRYOR of New York stated that cases of puerperal infection which demanded attention generally had streptococci. Mortality raised from 2 to 27 per cent., according to the variety of streptococcus. Streptococci occurred about the time of a chill. In other cases they were not to be found. Their occurrence was a bad standard of treatment. There must be decided indications for it, before curettage was attempted. Lesions of puerperal septicæmia were local. Curettage disseminated the infection. The mortality in cases which had been curetted was 22 per cent. It was considerably increased by this treatment. When a patient suffered from septicæmia, hysterectomy was contraindicated. The speaker then related the results of some experimental work in which he has been interested for the last six months. In cases in which streptococci were in the uterus, and the posterior cul-de-sac was opened, pure cultures of the streptococci were found there, and no other microorganisms. He then spoke of the effect of iodine in the treatment of these cases. Disintegration of iodoform was rapid. It could be detected

in two or three hours in the urine. There was a rapid abatement of untoward symptoms after its administration. It was never found in the blood. The hæmoglobin was raised after its use. There was something in the aqueous solution of iodine which, for the time being, would prevent infection by the streptococci. In experiments on rabbits, as long as the injection fell short of a lethal dose of streptococci, the injection of iodine saved the rabbit's life, as no animal had died under these circumstances.

Dr. Cragin of New York said that he had lost some cases in hospital practice in which the streptococcus had not been found. Streptococci were found in the severest cases. He called attention to two points in treatment. These were, to make sure that the uterus was empty, and to do as little injury to the uterus as possible. Curettage could be either manual or instrumental. The former was preferable. He did not believe in letting the patient alone till he knew that the uterus was empty. If the finger did not suffice, then he used the curette. Patients suffering from toxæmia or sapræmia, were just ready for a septicæmia if not relieved.

Dr. Whitridge Williams of Baltimore thought that bacteriological examination was valuable. In many cases it gave no definite indications for treatment. But much information was gained by it, and much light was thrown on the prognosis. If in the presence of severe symptoms streptococci were found in the uterus, then the patient's condition was alarming. If the microorganism was found to be the gonococcus, or colon bacillus, or the putrefactive organisms, even though the symptoms were similar, still anxiety was relieved. He depended, to a great extent, upon this examination. When streptococci were found in the blood, then the condition was serious, but not necessarily fatal. In cases of streptococcic infection, curettage was undoubtedly harmful. He never used curettage in those cases, but gave a sterile douche and let the patient alone. The only time he used curettage was in certain cases after abortion. As to operative treatment, its field was very limited in these cases. In case of abscess in the uterine wall, hysterectomy was indicated. He had had only two cases in which operation was indicated. In one there was adherent placenta with profound infection. The patient declined operation and died. In the second case there was a thrombus in the vessel going off from the right of the uterus. Operation resulted in recovery. Conservatism was needed here. There should not be indiscriminate operating. He did not believe in Tuffier's view on this subject.

Dr. Matthew D. Mann of Buffalo said that gonococcus infection generally showed itself late—on the tenth day, or even later. It was generally not severe. He had had excellent success in these cases from a solution of silver nitrate, injecting it even into the vein. The treatment had to be pushed to its utmost limit.

Dr. Gill Wylie of New York believed in emptying the uterus and washing it out even if saline solution only was used. Drainage was very important if any material was left in the uterus. He used special forceps in those cases in which the fingers did not suffice. He used repeated washings till the uterus was cleared of débris.

Dr. Davis of Philadelphia believed in evacuating pus wherever formed. He used a blunt curette to clear the uterus.

Dr. McLean of New York believed that mortality was enormously increased by currettage. The curette in the average hand was a dangerous instrument. He doubted the propriety of repeated washings of the uterus. He considered the use of the intra-uterine tube dangerous. He recommended the use of iodine. He used the compound tincture of iodine, by wetting a cotton sponge and carrying it up into the uterus for a few minutes. The iodine coagulated the products which caused the trouble; it was a germicide, and it was soluble, being found in the urine and saliva in a few minutes after administration.

Dr. Fry of Washington advised letting the uterus alone in streptococcus infection. A curette could not reach it. Nature threw out a protective zone which a curette would break down, so producing a general infection. He advocated the use of rubber gloves.

Dr. Robert Murray of New York called attention to the necessity of cleansing the vagina. Lesions were often found there.

Dr. Boldt of New York did not believe that bacteriological examination gave the clue as to treatment. He did not think that much advancement had been made in the treatment of puerperal sepsis in the last ten years.

Dr. Gordon of Portland thought that surgical treatment was apt to be too early. Whenever an abrasion was made, unless the operator went straight to the point of infection, he was starting a new point of infection. He believed in repeated washings with salt-solution, and in large, frequently repeated doses of quinine. Quinine was a most valuable remedy. He did not believe in using the curette.

Dr. Wetherell of Denver advocated the use of the alcohol method of Carosso. Its success depended upon the localization of the original point of infection and upon drainage, not with gauze, but with a tube. These infections should be treated like other infections. He used for this irrigation a large, double current rubber tube which went to the fundus. The alcohol was from 50 to 100 per cent. It was non-toxic.

Dr. Pryor concluded the discussion by saying that more women died now of puerperal sepsis than before the introduction of Lister's method. Statistics showed that of all deaths of females, 1 per cent. was from puerperal sepsis.

Repetition of Cæsarean Section on the Same Patient: the Experience of the Boston Lying-in Hospital.—Dr. Charles M. Green of Boston delivered this paper. Of 50 Cæsarean sections in the last 9 years, 9 were repeated operations, performed on 8 patients; second sections had been done on 8 women, and in 1 case section had been repeated twice. He then gave a résumé of these cases. Two of these were done after labor had been in progress for 9 hours each, and 7 at an elected date before labor began. In 1 case there were no adhesions; in 7 cases there were more or less adhesions, and the duration of the operation was from 39⅓ minutes to 1 hour and 24 minutes; in the case that died of shock the duration was 48 minutes. In 1 case the utero-abdominal adhesions were so extensive that the fœtus was delivered without opening the peritoneal cavity, and the time of operation was 38 minutes. The 9 infants were discharged well, and of the 9 mothers, 1 died, a maternal mortality of 11 per cent. He reported these results in the hope of influencing opinion that the time had come when this society should withhold its approval of the doctrine that women should be sterilized at their first Cæsarean operation, in order that they might not be subjected to the risks of a repeated section. It was conceded that in the presence of serious disease of the uterine appendages, surgical judgment might properly decide on their removal that the time of performing the Cæsarean section; it was conceded that when the uterus was believed to be already infected, total hysterectomy might give the patient an improved chance of recovery; and it was conceded that hysterectomy was justifiable in the presence of fibroids so situated that they could not be subsequently removed by myomectomy without sacrificing the uterus. It was also granted that, in the rare event of the uterus failing to contract, and of serious, otherwise uncontrollable hemorrhage ensuing, it was justifiable to tie off the uterus and remove it. It was probably true that after hysterectomy convalescence was quite as rapid as when the uterus was sutured; and it was doubtless true that hysterectomy might be performed more rapidly than hysterotomy and suture: the claim that there was no more shock following hysterectomy than usually attended the classical Cæsarean operation, the speaker was not prepared to admit. But in the absence of the above mentioned pathological conditions, which might necessitate

destructive surgery, was it justifiable, in performing Cæsarean section on either an elective or an absolute indication, to remove normal organs or to resort to other procedures with a view to preventing subsequent pregnancy, and the risk of a repeated section?

It was said that many women that came to Cæsarean section belonged to the depraved class, were often illegitimately pregnant, that they and their progeny were like lyto be a constant burden on the State. As sociologists we might well deplore modern efforts to promote the survival of the unfit.

But the speaker believed that the only safe and moral ground for the medical profession was that based on modern medical science, uninfluenced by sociological considerations. If a woman came to Cæsarean section and recovered, she and her husband, if she had one, should be informed of her condition and of the prognosis and treatment in the event of future pregnancy: if subsequent pregnancy ensued, the responsibility of treatment rested with the obstetric surgeon; but the responsibility for the condition rested elsewhere.

Dr. Whitridge Williams believed that a woman ought never to be sterilized in her first pregnancy, unless there was a distinct pathological indication. He did not believe in repeated Cæsarean section in the case of paupers. On the second pregnancy the patient should be sterilized. In a patient in the upper walks of life, the responsibility should, to a certain extent, be laid upon the patient. She should not be sterilized at the first operation, but this should be advised at the second.

Dr. Davis of Philadelphia said that from the standpoint of sociology, the woman and her husband had a right to demand sterilization. He had a patient with double hip-joint disease on whom he performed the operation.

Dr. Stone of Washington said that there were many times when there was no opportunity of performing Cæsarean section, and he suggested the induction of labor at eight months.

Dr. Fry of Washington believed in excision of the ends of the Fallopian tubes, when sterilization was indicated. He reported a case in which Cæsarean section had to be performed at term. Three weeks before he had seen the same patient, who, at that time, could have been delivered without this operation.

Dr. Jewett of Brooklyn said that sterilization was not so much in demand at present, on account of the success of Cæsarean section.

Renal Decapsulation for Puerperal Eclampsia.—Dr. Geo. M. Edebohls of New York read this paper. He said that renal decapsulation for puerperal eclampsia of renal origin was the logical outcome of the encouraging results following his operation in cases of chronic Bright's disease. He had successfully performed bilateral renal decapsulation for puerperal eclampsia upon a primipara two days after forced delivery. The convulsions began before labor and continued to the time of operation, the patient indeed having a convulsion while under chloroform on the operating table. This operation, performed on February 17, 1903, was believed to represent the first instance of renal decapsulation, or, for that matter, of any operation upon the kidney or kidneys, even undertaken for the cure of puerperal convulsions. The favorable results, immediate and remote, in this case, full details of which were given in this paper, at once assigned a place to renal decapsulation as one of the resources at our command in the treatment of puerperal eclampsia. A woman suffering from uræmic convulsions was entitled to the positive benefits of decapsulation whether pregnant, in labor or in the puerperium.

Dr. George Tucker Harrison of New York said that very few cases of puerperal eclampsia were of renal origin. Renal changes were secondary and not primary, but they existed, nevertheless, and he believed in giving this method a trial in desperate cases.

Dr. Philander A. Harris of Paterson said that little had been written about the subsequent history of renal troubles in eclampsia. The renal symptoms of exudative nephritis had been found to continue in many of the cases that had been traced.

Dr. Cragin said that the danger of the operation had to be considered. They had had only one death in twenty-nine cases of eclampsia at the Sloane Maternity Hospital. If the mortality of Dr. Edebohls's method was as low as that of the ordinary treatment it deserved to be tried.

Dr. Edebohls, in closing the discussion, said that those who were in a position to use this method could soon tell if it was valuable.

President's Address.—Dr. J. E. Janvrin of New York delivered this address, taking for his subject, "The Surgical Treatment of Early Diagnosed Cancer of the Uterus, More Especially by Hysterectomy." He first thanked the society for the honor they had conferred upon him. And he paid a tribute of respect to the memory of the three members who have recently died. In discussing the subject chosen for the theme of his paper, Dr. Janvrin first specified and pointed out the conditions in which vaginal or abdominal hysterectomy held out *good* hopes for a radical cure; he pointed out the conditions in which the operation held out *some* hope of a radical cure, and certainly a prolongation of life with a more comfortable existence than could possibly be hoped for if hysterectomy were not resorted to; and he described the conditions in which the operation should not be attempted—that is, with any hope of a cure. In his early operations, principally vaginal, like everyone else particularly interested in this subject, he made many operations with the hope of curing the patient, which a more extended experience soon showed should have been done simply with the idea of removing an extremely offensive organ, checking hemorrhage and the offensive discharge, and to prolonging life and making it more endurable. During the past fifteen years more care had been exercised in the selection of cases—fortunately more cases had been diagnosed while the disease was local and before any systemic infection had occurred—and, as a perfectly logical deduction, the percentage of ultimate cures had been more satisfactory. The speaker first took up the development of cancer in and from the cervix. After giving the statistics of various authorities, he quoted his own, which, up to January 1, 1899, were as follows: Abdominal and vagino-abdominal hysterectomies; twelve cases, two cured, more than eight years having elapsed. Six recurrences. Four deaths from operation (two from shock, one from septicæmia and one from anæmia). Percentage of cures, 16.6. Vaginal hysterectomies; thirty-eight cases, ten permanently cured. Fifteen recurrences. Four deaths from operation. Ten lost sight of after a few months. Percentage of cures, 26.3. Total number of cases, 50. Twelve cured. General percentage of cures, 24. According to Dr. George Gellhorn of St. Louis, "The fact had been brought out that in about one-third of all cases of uterine cancer involvement of the regional glands in the pelvis took place. This involvement, as a rule, occurred but very seldom in the incipient stage of the disease, but usually when the primary cancer had more or less advanced and extended into the parametria or other adjacent structures. Recurrence after the old methods took place in four-fifths of all cases in or near the cicatrix in the vagina, while it occurred in only one-fifth in the glands. Abdominal radical operation with removal of the pelvic glands was striving to lessen the high percentage of recurrences, but so far had not been able to attain the desired goal. This deficiency mainly depended upon anatomical and technical difficulties in routine ablation of pelvic glands. In a large number of cases this radical procedure, with its great and manifold dangers, had been found to be unnecessary, as there were no diseased glands anywhere within the pelvis. It had to be emphasized, however, that these conclusions were not as yet definite." The speaker be-

lieved that vaginal hysterectomy, with removal of as much parametrium as was possible by this method, and also the removal of the upper half-inch or more of the vagina, would accomplish just as much as any other method and, at the same time, carried with it the least danger as an operation *per se*, for it was extremely rare that a patient succumbed to this operation. It was by following out this rule that the statistics of the speaker's own cases, up to January, 1899, which he had already given, had been so favorable. During the past four years (since January, 1899) he had extended the field of operation, not with any idea of getting as good ultimate results, but simply for the purpose of removing a highly offensive local condition and, in that way, making a longer lease of life more comfortable to the patient and less offensive to herself and her friends. The use of the electric cautery clamp, as improved by Dr. A. J. Downes, theoretically should give the best results in this class of cases. No doubt it would do so as the technique of the operation became more familiar and the skill necessary for its application became greater in the hands of those who were making use of it. This would probably be especially true in cases in which the disease was locally somewhat advanced, too much so to be considered in its early stage and suitable for simple vaginal hysterectomy by the knife or the angiotribe; for the corking of the parts would leave a better protected surface against the immediate extension of the disease, and more than that, the fact, as shown by Dr. Gellhorn in his paper already quoted, that in a very large proportion of cases the lymphatics and glands were very slow to take up the disease, would become an additional factor in impelling us to make use of this method of procedure, not only in cases in which simple vaginal hysterectomy would necessarily be unpromising, but also in many instances in which abdominal hysterectomy, with attempts to enucleate the lymphatics and glands, had been thought to be justifiable. The speaker said that in presenting this paper, he was aware that the subject had been only partly covered, but his only object had been to so present it as to give (1) the conditions under which hysterectomy should *always* be done for cancer of the uterus, leaving it a matter of choice to each individual operator as to whether he selected the vaginal or abdominal or the combined vaginoabdominal route; and at the same time to fortify this position with sufficient statistics, at home and abroad, to make the position tenable, and to impress upon the profession at large the absolute necessity of recognizing the early symptoms, and then seeking the advice and assistance of some surgeon who had had a good amount of experience in these cases, so that the hysterectomy could be done when it ought to be done. (2) To describe another class of cases in which any operation, no matter how radical, would in a large majority of cases fail to give permanent relief; but to state his entire approbation of it in the hands of expert operators. For it was only by continuous work and the accumulation of the statistics in these major operations at the hands of master operators that we could finally come to a definite understanding as to what we could accomplish and what we could not accomplish in the surgical treatment of cancer of the uterus.

Carcinoma of the Cervix Uteri.—Dr. Thaddeus A. Reamy of Cincinnati gave the history of several cases of this nature He said that spontaneous recovery from carcinoma did not occur. Unequivocal recovery, lasting for ten to twenty-five years, of even two cases following removal of the diseased and adjacent tissues, proved the curability of carcinoma of the cervix, and its local origin. He quoted no authorities, as he wished to prove from his own work that in some cases, when operated on early, cure followed removal of diseased tissue. He made no point as to the method of operation. In most of the cases quoted the operation was simply amputation of the cervix. Comparison of methods was not his present purpose. No treatment could be of any permanent avail unless instituted in the very earliest stages of the disease, before there was any general lymphatic involvement. In most, if not all cases of epithelioma of the cervix, several weeks, indeed months, elapsed before glandular involvement or extension from the point of attack. During this stage was the time for operation, and if done during this stage a cure might be expected in a good per cent. of cases. If the operation were made at this stage it was doubtful whether anything could be gained by removal of the uterus. He urged that the family physician should watch with greater zeal and more care than ever in the past for the first manifestations of the disease. He should not wait for the patient to ask him why she had a "bloody show" at irregular times, but should make it his duty to put every married woman over thirty years in families under his care on her guard, explaining to her fully first symptoms and the importance of communicating them. And in any suspicious case the family physician should insist upon an examination.

Primary Carcinoma of the Vulva.—Dr. Reuben Peterson of Ann Arbor reported the history of four cases of primary carcinoma of the vulva. Although it was generally acknowledged that carcinoma of the vulva was a rare disease, still statistics showed that it was more frequent than was generally supposed. Guret estimated that in 10 per cent. of all cases of carcinoma in the female, the seat of the disease was the vulva. It was difficult to reconcile this estimate with the experiences of some of our American gynecologists. There seemed to be a predisposition for carcinoma of the vulva to attack old women. The average age was higher than with carcinoma of other parts of the genital tract. In the speaker's series, the ages were distributed between two decades, forty to fifty and fifty to sixty. The youngest was forty-three and the oldest eighty-four. The location of the growth was practically the same in three of the cases reported, viz., to the left or right of the clitoris and a little below that organ. The urinary meatus was rarely the seat of the primary disease. In three of these cases intense pruritus was the first symptom of any importance. One case reported represented the active form of the disease. A few months after its appearance on the left labium majus, the growth had ulcerated and spread to the clitoris and had involved the inguinal glands early, as the disease recurred there after the radical removal of the growth. The cells were actively proliferating. For the most part there was no tendency toward cornification. Another case was of the opposite type. The patient had had the disease for some seventeen months and while extensive, locally, the inguinal glands were not enlarged. Microscopically, it was a typical squamous celled-sarcoma, with a marked tendency toward the formation of epithelial pearls and cornification. Careful serial sections of the inguinal glands failed to reveal any evidence of cancer. The speaker believed that it would depend largely upon the type of the particular growth under consideration whether we might expect involvement of the inguinal glands. The difficulty lay in our inability to determine in what particular case the disease had not spread by way of the lymphatics; hence, as in cancer of the breast, we were driven to the removal of the inguinal glands, whenever we aimed at a radical cure. The glands should be removed first to avoid contamination of the operative field. The glands in both inguinal regions should be removed, because it was impossible to state positively that the disease had not involved the opposite side of the vulvar cleft. If carcinoma of the vulva could be seen and treated early enough, good results could be obtained. Veit quoted Schwartz as having ten permanent recoveries out of twenty-three cases. While this might be overstating the case somewhat, it was unquestionably true that there was much more hope of cure in carcinoma of the vulva after the radical operation, than after the most radical operations for carcinoma of the uterus. The speaker passed around photographs of his cases.

Dr. J. Riddle Goffe showed some photographs of a pseudo-hermaphrodite upon whom he had operated with good results.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

The Surgery of the Head. By Bayard Holmes, M.D. 8vo, 569 pages. Illustrated. D. Appleton & Co., New York.

Uterine and Tubal Gestation. By Samuel Wyllis Bandler, M.D. 8vo, 159 pages. Illustrated. Wm. Wood & Co., New York. Extra muslin, $1.50 net.

Atlas Manuel de Gymnastique Orthopedique. By Mme. Nageotte-Wilbouchevitch. 8vo, 329 pages. Illustrated. Price, Fr. 8. C. Naud, Paris, France.

Essays on Clinical Medicine. By Beverley Robinson, M.D. 8vo, 171 pages. William J. Dornan, Philadelphia.

Hearing on the Bill (H.R. 14798) to Establish a Laboratory for the Study of the Criminal Pauper and Defective Classes, with a Biography. By Arthur MacDonald. 8vo, 309 pages. Government Printing Office.

Transactions of the Luzerne County Medical Society for 1902. 8vo, Vol. X. 162 pages.

Das Gewebe und die Ursache der Krebsgeschwulste. By Dr. Ludwig Feinberg. 4to, 241 pages. August Hirschwald, Berlin, Germany.

Practical Points in Nursing. By Emily A. M. Stoney. Third edition. 12mo, 458 pages. Illustrated. W. B. Saunders & Co. Price, cloth, $1.75 net.

The Care of the Baby. By J. P. Crozer Griffith, M.D. 12mo, 436 pages. Illustrated. Third edition. W. B. Saunders & Co., Philadelphia. Price, cloth, $1.50 net.

A Textbook of Legal Medicine and Toxicology. By Fred'k Peterson and Walter S. Haines, M.D. Vol. I, 8vo, 750 pages. Illustrated. W. B. Saunders & Co., Philadelphia, Pa. Price, cloth, $5.00 net; sheep or half morocco, $6.00 net.

Tuberculosis. By Norman Bridge, M.D. 12mo. Illustrated. 302 pages. W. B. Saunders & Co., Philadelphia, Pa. Price, cloth, $1.50 net.

A Manual of Medical Jurisprudence, Insanity, and Toxicology. Third edition. By Henry C. Chapman, M.D. 12mo, 329 pages. Illustrated. W. B. Saunders & Co., Philadelphia. Price, cloth, $1.75 net.

Success in Dental Practice. By C. N. Johnson D.D.S. 32mo, 159 pages. J. B. Lippincott & Co., Philadelphia.

The Roosevelt Hospital Thirty-first Annual Report for 1902. 8vo, 109 pages. Illustrated.

Operative Surgery. By Herbert Wm. Allingham, F.R.C.S., 8vo, 367 pages, illustrated. William Wood & Co., New York.

De La Methode Ambulatoire drans Les Taumatismes Osseux Du Membre Inferieur. Par Le Dr. Leon Guitard. C. Naud, Paris.

More Light on a Dark Subject. By Dr. J. R. Bailey, 12 mo. 139 pages. Chequamegon Press, Ashland, Wis.

Thirty-Fourth Annual Report of Registration of Births, Deaths, Marriages, and Divorces in Michigan for 1900. By Fred M. Warner, Secretary of State, 133 pages, 8vo. Wynkoop Hallenbeck Crawford, Lansing, Mich.

The Diagnosis of Diseases of Women. By Palmer Findley, M.D., 8vo, 494 pages, illustrated. Lea Brothers & Co., Philadelphia, Pa.

A Manual of Diseases of the Eye. By Clarence A. Veasey, M.D., 12mo, 412 pages, illustrated. Lea Brothers & Co., Philadelphia.

Twenty-Third Annual Report of the State Board of Health of South Carolina, for 1902, 8vo, 223 pages.

Twenty-Sixth Annual Report of the Board of Health of State of New Jersey, 1902, 8vo, 365 pages. J. L. Murphy Publishing Co., Trenton, N. J.

Mucomembranous Enterocolitis, Symptoms, Complications, Etiology and Treatment. By Maurice de Langenhagen, M.D., 32mo, 115 pages. J. & A. Churchill, London. Price 3s 6d.

Le Cloisonnement Vesical et la Division des Urines. Par Dr. Fernand Cathelin. 16mo, 96 pages, Illustrated. J. B. Bailliere et Fils, Paris, France, price Fr. 1.50.

The Practitioner's Guide. By Drs. J. W. Carr, T. P. Pick, A. H. G. Doran, and Andrew Duncan. 8vo, 1107 pages. Longmans, Green & Co., New York City.

Ambulance Work and Nursing. Square 8vo, 304 pages, illustrated. W. T. Keener & Co., Chicago.

Transactions of the Vermont State Medical Society for 1902, 8vo, 275 pages.

International Clinics, Volume I, Thirteenth Series, 1903. By A. O. J. Kelly, M.D., and others. 8vo, 306 pages, illustrated. J. B. Lippincott Co., Philadelphia.

The Middlesex Hospital, Reports of the Medical, Surgical, Obstetric, and Pathological Registrars for 1901. 8vo, 243 pages. H. K. Lewis, London.

How to Keep Well. By Floyd M. Crandall, M.D., 12mo, 511 pages. Doubleday, Page & Company, New York.

Annual Report of the New York State Reformatory at Elmira, for 1902, 138 pages, 8vo, illustrated.

Transactions of the American Dermatological Association at Its Twenty-sixth Annual Meeting, 1902, illustrated.

Lehrbuch der allgemeinen Pathologie und Therapie innerer Krankheiten. Von Prof. Dr. Adolf Schmidt. 8vo, 470 pages illustrated. August Hirschwald, Berlin, Germany.

The Refraction of the Eye and the Anomalies of the Ocular Muscles. By Kenneth Campbell, M.B., 8vo, 214 pages, illustrated. William Wood & Co., New York. Price, $1.75 net.

The Practical Details of Cataract Extraction. By H. Herbert. 12mo, 109 pages. William Wood & Co., New York. Price, $1.25 net.

The Errors of Accommodation and Refraction of the Eye and Their Treatment. By Ernest Clarke. 12mo, 225 pages, illustrated. William Wood & Co., New York. Price, $1.75 net.

Paroxysmal Tachycardia of an Epileptic Nature.—Gaetano Bellisari states in conclusion of his article: (1) That there exists a variety of paroxysmal tachycardia which must be considered as epileptic. It may originate, like ordinary epilepsy, from a neurotic heredity, trauma, or cortical foci. (2) During the attack this form of the disease offers no symptoms different from the so-called essential tachycardia. (3) Diagnosis should be based on the anamnesis, the nocturnal onset, the preceding or consecutive phenomena, and the influence of bromide treatment. (4) The attacks may be considered as a condition of arrest of the cardioinhibitory function of the vagus due to irritation of the cortex. (5) Prognosis, as a rule, does not need to be as reserved as in other cases. (6) Frequency of attacks, however, may lead to permanent hyposystolie; but in such a case it is not possible to absolutely exclude the existence of an anatomical lesion of the myocardium, independent of the neurosis.—*La Riforma Medica.*

Conjunctivitis as the Result of Fast Riding in Automobiles.—A. Edward Davis says that the three characteristic symptoms of this disease are: (1) Congestion of the ocular conjunctiva almost solely; (2) the deeper conjunctival and sub-conjunctival tissue being markedly affected; and (3) a slight watery discharge attended with but little itching and burning. The indications for treatment are simple. Prohibit the patient from riding in open automobiles, or else have the eyes well protected by a close-fitting pair of goggles. The local treatment consists in the application of cold compresses to the eye, for fifteen minutes at a time, three or four times a day, and the application of mild astringent washes by means of an eye cup twice a day. In cases in which latent and chronic inflammations in the deeper tissues of the eyes have been made active, riding in the open is to be strictly prohibited, active use of the eyes for close work discontinued, and appropriate treatment instituted after examination by an oculist. The author wishes to protest against the indiscriminate use of adrenalin chlorid solution. Its continued use is often positively harmful.—*The Post-Graduate.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending May 30, 1903:

	Cases.	Deaths.
Measles	356	13
Diphtheria and croup	378	42
Scarlet fever	246	14
Smallpox	3	..
Varicella	71	..
Tuberculosis	205	144
Typhoid fever	42	10
Cerebrospinal meningitis	..	9

Primary Tuberculosis of the Breast.—W. S. Schley reports one case, and gives an elaborate review of the literature of the subject. His patient was a woman of thirty-two years. Family history was negative and she had nursed five children without any mammary trouble. Eight weeks before admission to hospital pain was felt in the right breast, followed three weeks later by a small lump in the upper and outer quadrant. Two weeks before admission it began to grow rapidly and became very painful. Chest examination was negative. The lump was not tender. skin was not adherent. The breast was amputated and the axilla cleared out. The breast was filled with a soft mass, from which radiated connective tissue strands. The growth closely resembled a scirrhous carcinoma. Under the microscope a moderate amount of adenomatous tissue was visible. There was also abundant infiltration of the connective tissue with small round cells, and in places distinct tubercles with giant cells and central necrosis. The whole of the tumor was diffusely infiltrated with these evidences of tuberculosis, but there were no large cheesy masses and no other evidences of tuberculosis than those given above. The tubercle bacilli were demonstrated in stained sections of the tumor. The axillary lymph nodes were perfectly normal. Two weeks after the operation the patient was given an injection of seven milligrams of tuberculin, but showed no reaction. As a control to this test, three other known cases of surgical tuberculosis were given each six milligrams from the same dilution and gave typical reaction.—*Annals of Surgery*, April, 1903.

The Treatment of Typhoid Fever with Benzoyl-Acetyl-Peroxide, or Acetozone.—Frederick G. Harris says that many patients were given acetozone, but with much irregularity on account of many contributory causes; dislike of the odor and taste of the solution; resistance of ignorant patients; lack of persistence on the part of overworked attendants, due to crowded wards caused by the epidemic. Those patients who are given the drug early, often, and regularly show the best results of this treatment. What Virchow calls the "brutal force of figures," cannot but convince anyone that acetozone lowers the temperature, shortens the duration of the fever, and lessens its toxic symptoms more than our better known treatments. From the information gained in watching a series of one hundred and twenty-eight cases of typhoid fever, the author believes that when the cases can be seen during the first week of the illness, and given large amounts of acetozone solution regularly and often, assisted by a gentle laxative, the temperature will return to normal in from ten to twelve days.—*The Therapeutic Gazette*, March 15, 1903.

Some Developments in Anæsthetics.—W. J. McCardie remarks that he has given ethyl chloride to more than 400 patients, and has never had the slightest anxiety during the administration. The after effects are usually slight or absent, though there is some tendency to vomiting. It can be used with advantage in short operations lasting ten to fifteen minutes, instead of ether or chloroform, and sometimes is much better than nitrous oxide. Its use, by those who are not experts, is not advised in adenoid operations. It is practically impossible to give nitrous oxide satisfactorily for any operation lasting more than a quarter of a minute in the mouth of small children. Not only do they become cyanosed, and bleed to such an extent that it is almost impossible to see what one is trying to do, but convulsions of the limbs and body are very awkward, and recovery exceedingly rapid. With ethyl chloride, however, there are none of these disadvantages. —*Treatment.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending May 23, 1903:

SMALLPOX—UNITED STATES.]

		[CASES.	DEATHS.
Alabama, Mobile	May 16–23	4	..
California, Los Angeles	May 8–16	1	..
San Francisco	May 10–17	2	..
Colorado, Denver	Apr. 25–May 2	19	..
Illinois, Belleville	May 16–23	1	..
Chicago	May 16–23	9	..
Indiana, Elwood	May 17–24	6	..
Indianapolis	May 16–23	3	..
Iowa, Des Moines	May 16–23	1	..
Kentucky, Newport	May 8–23	2	..
Louisiana, New Orleans	May 16–23	4	..
Maine, Biddeford	May 16–23	1	..
Maryland, Baltimore	May 16–23	1	..
Massachusetts, Holyoke	May 16–23	1	..
Michigan, Detroit	May 16–23	25	1
Grand Rapids	May 16–23	1	..
Port Huron	May 16–23	1	..
Minnesota, Winona	May 16–23	3	..
Missouri, St. Louis	May 17–24	20	..
Nebraska, Omaha	May 16–23	1	..
New Hampshire, Manchester	May 16–23	4	..
Nashua	May 16–23	6	..
New Jersey, Camden	May 16–23	1	..
New York, Elmira	May 16–23	1	..
New York	May 16–23	1	
Rochester	May 14–21	6	..
Ohio, Ashtabula	May 16–23	2	1
Cincinnati	May 15–22	15	..
Dayton	May 16–23	5	..
Pennsylvania, Altoona	May 16–23	1	..
Carbondale	May 14–21	1	..
Johnstown	May 16–23	..	1
McKeesport	May 16–23	1	..
Philadelphia	May 16–23	18	4
Pittsburg	May 16–23	24	3
	One case imported from W. Va.		
Reading	May 18–25	1	..
South Carolina, Charleston	May 16–23	10	1
Utah, Salt Lake City	May 16–23	3	..
Wisconsin, Milwaukee	May 16–23	1	..

SMALLPOX—FOREIGN.

Brazil, Rio de Janeiro	Apr. 26–May 3	..	1
Canada, Winnipeg	May 9–16	1	1
Canary Islands, Las Palmas	Apr. 25–May 2	18	..
China, Hongkong	Mar. 28–Apr. 11	2	1
Colombia, Barranquilla	May 3–10	..	3
Bocas de Toro	May 25	25	2
Great Britain, Birmingham	May 2–16	24	..
Dublin	May 2–9	27	4
Dundee	May 2–9	1	..
Glasgow	May 8–15	1	..
Leeds	May 2–16	34	3
Liverpool	To May 16	..	6
London	May 2–9	17	..
Manchester	May 2–9	10	1
Newcastle-on-Tyne	May 2–9	1	..
Nottingham	May 2–9	2	..
Sunderland	May 2–9	1	..
India, Bombay	Apr. 21–28	..	94
Calcutta	Apr. 18–25	..	3
Madras	Apr. 18–25	..	1
Mexico, City of Mexico	May 10–17	11	7
Russia, Moscow	Apr. 25–May 2	2	1
Spain, Valencia	Apr. 15–30	..	2

YELLOW FEVER.

Brazil, Rio de Janeiro	Apr. 26–May 3	..	13
Colombia, Panama	May 11–18	3	1
Costa Rica, Limon	Apr. 30–May 7	2	..
"	May 7–14	3	2
Mexico, Coatzacoalcos	May 8–10	1	..
Tampico	May 8–16	..	1
Vera Cruz	May 16–23	12	7

CHOLERA.

India, Calcutta	Apr. 18–25	..	140
Straits Settlements, Singapore	Apr. 4–11	..	3

PLAGUE.

Brazil, Rio de Janeiro	Apr. 26–May 3	..	2
Chile, Iquique	May 27–	Present	..
China, Hongkong	Jan. 1–Apr. 11	216	208
India, Bombay	Apr. 21–28	1,031	..
Calcutta	Apr. 18–25	434	..
Karachi	Apr. 10–26	228	197
Japan, Yokohama	May 26	Present	..

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Original Articles.

ON NEUROFIBROMATOSIS.*

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GENERAL neurofibromatosis is, according to Virchow, a rather unusual condition. When this statement was made in 1863 there were thirty cases in literature. In a clinical lecture on neurofibromatosis Marie remarks that "Without being rare, it is hardly known by name."

One of the cases we are about to report, and which at the autopsy gave an unexpected finding, was incorrectly diagnosed in life not so much on account of diagnostic difficulties, as that neurofibromatosis was not thought of.

Neurofibromatosis is the formation of one or more tumors in one or more cerebrospinal or sympathetic nerves.

Tumefactions are encountered, varying in size from a bead to a child's head. In some cases the manifestation of the disease is expressed by a solitary growth upon one nerve, and in other cases almost innumerable growths have been present, as in a remarkable case of Pruddens, in which over 1,000 tumors were counted.

They occur on all cerebrospinal and sympathetic nerves except on the optic and the olfactory.† These nerves are essentially outgrowths of the brain, and consequently their supporting structures are made up of glia tissue. The acoustic nerve, which by older writers was supposed also to possess the mentioned immunity, has been shown by later investigation to be particularly liable to the formation of fibromata and fibrosarcomata.

The origin of these tumors is usually from the endoneurium, rarely from the perineurium and exceptionally from the epineurium. These tumors are situated either centrally within the nerve (endoneural variety) or eccentrically on the periphery of the nerve (epineural variety).

The general conformation of the tumors is spherical or elliptical and in generalized cases the nodular outgrowths give the nerve a convoluted appearance, sometimes resembling a rosary.

Histologically, the fibroma nervorum is made up of connective tissue elements, which present all the variations in structure between the fibroma molle and the fibroma durum. The majority of these growths contain a considerable interfibrillary œdema. The individual fibro-blasts or coarse bands of connective tissue, as the case may be, are widely separated by a homogeneous substance which remains unstained.

There are other enlargements occurring on cerebrospinal and sympathetic nerves which bear a superficial resemblance to neurofibromata: (lepra-nodules, gummata, sarcomata, and tuberculous nodules) but a careful inspection will usually, and a microscopic examination always separate these conditions from the one under discussion.

The true neuroma, which is due to a proliferation of nerve elements, nerve fibers, medullated or non-medullated, is to be kept sharply defined from the class of tumors under discussion. Although in rare cases, some observers have thought that the nerve elements have taken part in the proliferation even in this latter class. An illustration of the occurrence of both, fibrous and neural proliferation, is found in the familiar amputation-neuroma.

The neurofibromata are slowly growing tumors of a benign nature. Frequently, however, they undergo a retrograde metamorphosis and show cystic, fatty, or myxomatous degeneration. In some instances these tumors undergo sarcomatous transformation, assuming a malignant character, giving rarely metastases, as in cases reported by Westphal, Recklinghausen, and Larkin. According to some observers, this is not actually a sarcomatous transformation, but a growth with primary sarcomatous tendencies.

The manifestation of general neurofibromatosis is not confined to the cerebrospinal and sympathetic nerve trunks. The multiple fibromata of the skin are fibromata of the terminal filaments of cutaneous nerves, as demonstrated by Recklinghausen. In many of these tumors, however, Recklinghausen further showed a connection with the connective tissue capsule of the sudoriferous and sebaceous glands. Still another and important manifestation is the so-called plexiforme neuroma or pachydermatocele of Valentine Mott. This in a more diffuse form produces the elephantiasis neuromatodes.

All expressions of the neurofibromatosis have been proven in many instances to be hereditary; in a still larger number of cases the congenital origin has been demonstrated. It has further been clinically ascertained that neurofibromatosis is frequently associated with more or less mental impairment, imbecility, and somatic stigmata of degeneracy. Scrofulosis and tuberculosis are often found in the histories of cases of neurofibromatosis. All this suggests the teratological nature of the disease. In one of our cases, homosexual impulses were a feature of degeneracy.

From the foregoing it is apparent that the mentioned variety of size and position of the tumors will produce considerable diversity of clinical phenomena.

Clinically, cases of neurofibromatosis can be divided into those with and those without symptoms. It is a well-established fact that neurofibromata have been found at the autopsy without having been suspected at all during life, and frequently cases are observed presenting numerous nerve

*From the Montefiore Home and the Pathological Laboratory of the Cornell University Medical College. Read before the American Neurological Association, June, 1902.

†Carl Emanuel-Graef's *Archiv für Ophthalmologie*, Lill, 1901, attempts to establish a relationship between general neurofibromatosis and elephantiasis neuromatodes and the so-called gliomata of the optics.

tumors without any symptoms referable to this lesion. Neurofibromatosis may present itself clinically in one of the following ways: (1) Tubercula dolorosa (painful tubercles, Wood); (2) multiple neurofibromata of the skin (molluscum fibrosum, Recklinghausen's Disease); (3) neuromata [cranial or spinal] or neurofibromata of a single peripheral nerve; (4) neuroma plexiforme, pachydermatocele, and elephantiasis neuromatodes; (5) generalized neurofibromatosis; neurofibromata of the skin, cerebrospinal and sympathetic nerves.

The tubercula dolorosa are characterized by the appearance of small, very painful cutaneous nodules. They arise apparently from the sensory skin filaments and may occasion paræsthesias, contractures, reflex spasms, and, according to good authority, even epileptiform seizures.

The multiple neurofibroma of the skin is a dermatologically well-known condition. The disease is apparently congenital, occurring mostly in dwarfish, undersized people of somewhat impaired intellectual capacity. It is characterized clinically by numerous (several hundred) cutaneous nodules of all sizes (from a pin's head to a goose's egg). These tumors are sessile and usually not painful. They give rise to no symptoms when existing on the skin only. Frequently, however, in addition to the skin phenomena there are endo- or epineural fibromata present, and these condition symptoms according to size and situation, although not necessarily so at all times.

Neurofibromata of individual peripheral nerves (isolated neuromata) are surgically well known. They express themselves clinically by paræsthesias and progressive motor weakness of the peripheral nerve type, and are of good prognosis when recognized. They occur most frequently on the median and sciatic nerves; they are rarely without symptoms and are prone to give rise to considerable hyperæsthesias and little paralysis.

Neuroma plexiforme, pachydermatocele and neuromatous elephantiasis are clinical curiosities, and are more of dermatological and surgical than of neurological interest. Their neurological importance consists mostly in the fact that their presence occasionally may give suggestion, and lend aid to the diagnostic interpretation of obscure neural symptoms.

The generalized neurofibromatosis of the skin and cerebrospinal and sympathetic nerves is apparently the rarest of all enumerated types and the basis of exceptional and unique clinical pictures.

All of the above-mentioned types are expressions of the same pathological tendency. Atypical and unusual syndromes are occasionally found explained by multiple neurofibromatosis: attacks of neuralgia paræsthesias, reflex spasms, contractures, mono- para- quadruplegias. One case recently published by Marie showed during life progressive mental degeneration and curiously localized osteomalacia of the thoracic skeleton. The post-mortem explanation was found in a large number of neurofibromata on the duodenum, jejunum, and ilium. One of the cases we are about to describe presented itself under the clinical picture of compression myelitis.

It is well to state here, that sometimes the general picture of the disease may be entirely masked by the occurrence of a tumor within the cranial cavity or vertebral canal, causing the classical symptoms of tumor in these localities. Some writers have separated the latter group—particularly the intracranial group—under the name of "Central Neurofibromatosis."

Little is known thus far of the etiology of the condition. An hereditary influence is undoubtedly established in a number of cases; a large number is left, however, without satisfactory etiological explanation. Traumatisms to the nerves are of indisputable value, as is best evidenced in the familiar form of amputation neuromata. Arsenical intoxication has been observed to be followed by formation of neuromata. The etiological rôle of infections is very problematical. Marie lays stress on this point and one of our cases followed an attack of typhoid fever.

The diagnosis is, when the condition is thought of, obviously a very easy one, and has to be differentiated from multiple lipomatosis of the skin, the so-called molluscum pendulum, and from another condition only lately brought to the notice of the neurologist, the symmetrical cervical-adeno-lipomatosis.

Aside from the palpatory impression and the distribution and relation to the nerves, the neurofibromatous nodules are more prone to be sessile, while lipomata are more often pedunculated.

Fig. I.

The symmetrical adeno-lipomatosis is characterized by the very distinct symmetrical distribution of the tumefactions, by their usually larger size, their gelatinous consistency and their predominant frequency around the cephalic extremity; whereas the generalized neurofibromatosis is, as a rule, less commonly situated here, with the exception of the neuroma plexiforme occurring on the trigeminus.

The pathological kinship between neurofibromatosis and all kinds of nævi (nævus vasculosus-pigmentosus-pilaris), which, according to some authors, are the expression of the earlier stages of neurofibromatosis, makes their presence speak in favor of neurofibromatosis. Finally, Dercum's dis-

ease, some forms of leprosy and curious varieties of thyroidism (Langhans) must be borne in mind in differential diagnostic considerations.

From a therapeutic and prognostic standpoint, the epineural variety is regarded more favorable than the endoneural, as the former can be detached without much damage to the nerve, while the endoneural variety, if therapeutically handled, will more frequently necessitate resection of the nerve and lead to lasting structural damage. The appearance of symptoms in a previously latent case, may prove of prognostic import, denoting sarcomatous change within the tumor.

Since the writer's attention was first called to the subject, they have been able to examine four cases representing the three principal groups of this condition.

Case I (Compression myelitis produced by intervertebral fibroma). — R. K., twenty-six years old, female, born in Russia, a machine operator, married, was admitted to the Montefiore Home on January 4, 1892. It was only in '97 that the patient came under the direct observation of one of the writers, and at that time the following history and status were taken:

Fig. III.

Fig. II.

Patient was, at date of examination, June, '97, thirty-one years old, and complained about extensive motor paralysis of upper and lower extremities, about frequent and annoying attacks of muscular twitchings and painful muscular cramps, about some difficulty with respiration, obstinate constipation, and hurried action of the sphincters.

Family history is apparently negative.

Previous Personal History: Was born at full term. Had the usual children's diseases. When eight years old had malarial fever. Began to menstruate at twenty-two. Was married at twenty. Had one still-born child. No history of venereal infection was obtained.

The present disease began eight years ago after birth of child. The cause of the disease was unknown to the patient. Patient went to the Mt. Sinai Hospital, and was there treated for nine months with strychnine injections and electricity. She left the hospital unimproved.

Some time later slowly progressing loss of motor power of right lower extremity appeared; this was not preceded by pain. Simultaneously with the beginning of the disease, the tumefaction of the left abdominal wall (to be described later) appeared. Patient is emphatic about this fact. At this time patient entered the Montefiore Home, and began then to have occasional not very sharp pain in the back. During patient's stay at the Montefiore Home different diagnoses were made. An hysterical nature of the condition was strongly suspected and the patient was treated accordingly.

Marked and obstinate contractures of the lower extremities developed. Tenotomies were made and the lower extremities were put up in plaster of Paris. These procedures proved very unsuccessful and added a good deal to patient's discomfort. They were then abandoned.

After this, slight sphincteric disturbances appeared. There was no genuine incontinence of rectum or bladder, but the disturbance was principally one of insufficiency.

About the same time patient noticed progressive emaciation of the hands and lower ends of the forearms, and began to be annoyed by muscular twitchings and severe painful spasms. These phenomena could be controlled only by absolute motor quietude and the patient's assuming a certain position.

Status: Patient is unusually short, darkly pigmented, without somatic signs of degeneracy.

The adipose tissue is very abundant, particularly around the abdomen. Temperature 97°, pulse 72, of good volume and tension. Respiration 28, somewhat labored.

Examination of the vegetative organs negative.

The most comfortable attitude for the patient is the following: The upper part of body elevated. Upper extremities crossed over chest. Lower extremities flexed in hip and knee-joints.

In the skin of the right lower abdomen there is a large baggy mass. This mass is soft, freely movable, not tender. The skin over it shows a dark reddish discoloration. On palpitation it conveys the impression of a bunch of small hard beads. Otherwise no scars or other noteworthy features on skin. On buttocks small benign-looking decubital ulcers. Upper extremities are tapering, main en griffe, much more marked on left than on right side. Both feet are in position of equino-varus.

A general muscular restlessness is noteworthy. This restlessness is best described as choreic, and is observed on upper extremities as well as on lower. These twitchings are not influenced by the will or attention, and are apparently controlled by the

patient assuming the position described above, *i.e.* extreme flexion in all joints of the extremities. These mild facicular and painless twitchings are occasionally interrupted by severer painful spasms of different muscle groups.

There is a localized and marked hyperidrosis of the face. Left palpebral fissure is much smaller than the right. Pupils slightly serrated, dancing, equal on both sides. Light, consensual, accommodation and pain reactions are prompt. Ocular excursions are normal. Optic nerves without findings. Vision normal. No limitations of field.

Fig. IV.

Smell, taste, and hearing unimpaired. Slight physiological asymmetry of facial innervation. Sensibility of face and head unimpaired. Excursions of head not painful. Jaw-jerk very lively.

Patient is unable to sit up without assistance. Respiration predominently diaphragmatic. Considerably impaired action of intercostals. Back muscles decidedly weak. The vertebral column shows normal configuration, not tender anywhere to pressure, not sensitive to jarring from above or below.

Considerable motor paralysis of upper extremities, particularly of muscles of hands, fingers, and wrists. No resistance to passive movements of upper extremities, no ataxia, tremor, or incoördination.

The tactile, pain and temperature (Fig. XI) senses were changed on ulnar side (see diagram). Kinesthetic sense of upper extremities undisturbed. No reflexes elicitable on upper extremities. Considerable resistance to passive movements of lower extremities, more to extension than to flexion. Total motor paralysis of both lower extremities. Frequent and vigorous motor spasms. Lower extremities somewhat tapering nowhere individual atrophies seen.

The examination of the knee-jerks was quite difficult, owing to the frequent involuntary contractions of the muscles. With much caution and care, however, the following was established: (1) The presence of a crossed adductor jerk; (2) the variability of the knee-jerk; (3) the fact that the knee-jerks were not exaggerated.

The Achilles jerk was at no time obtainable (perhaps masked by contracture). Plantar reflexes prompt. Total sensory paralysis of lower extremities and trunk, as shown in diagram. The kinesthetic sense mostly altered in toe and ankle-joints. The electrical examination showed a quantitive diminution of the excitability of the extensors of the wrist and most of the intrinsic hand muscles.

The ulnar, median, and radial nerves gave normal reactions, with the exception of the left-sided ulnar, where the reaction was sluggish and showed polar changes. Muscles and nerves of lower extremities

Fig. V.

did not respond to any electrical stimulation (contracture).

The patient was examined quite frequently and seen by a number of physicians and no definite diagnosis was reached. A neurofibromatosis was at no time thought of. The presence of above-mentioned skin tumor was looked upon as a simple birth-mark.

Little change was observed in patient during the next three years. Another examination was then made, principally with the object in view to gain sufficient justification for an eventual operative interference. This second examination brought no further facts to light, and so the patient was left to her fate and the conception of her condition was no clearer.

The fact of absence of severe shooting root pain during the whole course of the disease, was the main reason for the decision against an operation. From then until January, 1902, when patient died, few new symptoms developed, excepting the usual final stages of chronic transverse lesions of the cord.

Fever and progressive emaciation developed in consequence of a purulent cystitis. During the last few months patient suffered considerably from embarrassed respiration. A few months before death, a firm tumefaction the size of an egg de-

veloped in one of the intercostal spaces of right side.

Autopsy.—The autopsy of the thoracic and abdominal viscera proved negative, with the exception of a chronic cystitis and hypostatic pneumonia. The examination of the brain and meninges presented no variation from the normal. The cranial

Fig. VI.

nerves within the skull were normal in appearance. On the left vagus just above the jugular foramen a small nodule was noted. On opening the spinal canal a firm growth appeared beneath the seventh and eighth cervical and the first dorsal vertebræ. This tumor projected posteriorly and completely concealed the cord. It was attached to and beneath the dura. After its removal the flat-ribbon-like remnant of cord came in view, gradually tapering to the normal cord contour. (Fig. I.)

The tumor was one and one-half inches in length, inch wide and 1 inch deep, of prismatic contour, accurately moulded to the interlaminar space. Attached to the under surface of the tumor was a thread-like prolongation which had been torn from its attachment to the cord on removal. The anterior and posterior roots of the cervical cord were enlarged either diffusely or presenting nodular outgrowths and fusiform swellings.

Most of the spinal ganglia of this region were distinctly enlarged. The dorsal and lumbar roots were found normal. A few thoracic spinal ganglia were enlarged. The cauda equina presented macroscopically a normal appearance.

The cervical and lumbar plexuses presented the classical picture of the neuroma plexiforme. (Fig. II.) The uniformly greatly thickened nerve-trunks were fused into a massive network with occasional nodules and tumefactions. Attached to the right lumbar plexus was a tumor the size of a goose's egg. The brachial, crural, and sciatic nerves which were examined in a part of their course presented evidences of neurofibromatous thickening.

There were no larger tumefactions on any of the peripheral nerves, excepting one, the size of a hen's egg on the right sixth intercostal nerve.

Both vagi, in their cervical and thoracic course, were the seat of diffuse varicose thickening. (Fig. III.) The cervical, thoracic, and lumbar sympathetics were normal in appearance.

The tumor of the left lower abdominal wall was a plexiforme neuroma of the skin. In addition to the elephantiasis-like thickening of the skin and subcutaneous tissues, an intricate interlacement of fibrous cords was seen on transsection. Here and there were local nodulations. An abstract of the histological examination is as follows:

All cranial nerves, excepting those of special sense, were subjected to microscopic examination. No fibrous thickening was noted. The small nodule on the left vagus was a neurofibroma; it contained a few ganglion cells, apparently belonging to the ganglion jugulare vagi.

The cord tumor was a fibromatous structure without demonstrable nerve fibers. The dura mater was adherent posteriorly. The atrophic nerve fiber

Fig. VII.

adherent to the capsule consisted of connective tissue and blood vessels without neural elements.

The swelling of cervical and lumbar roots and the mentioned thickening of spinal ganglia were produced by a fibromatosis. In the cauda equina and the spinal roots, which appeared macroscopically normal, scattered islets of fibrous tissues were demonstrated. (Fig. IV.)

At the site of the greatest compression of the cord only a few nerve fibers remained intact. (Fig. V.) The ganglion cells are represented by calcareous remnants. The spinal arteries were not obliterated. Strictly speaking, the lesion was incomplete. There were the customary ascending and descending degenerations noted. Unusual was a retrograde atrophy of the pyramidal tract, which up to the present time was traced to the decussation.

Fig. VIII.

In the peripheral nerves the following peculiarities were noted: (Figs. VI and VII) (1) Proliferation of the endoneurium alone, most commonly; (2) a concentric thickening of the perineurium; (3) a combination of endo and perineurial proliferation; (4) in the most advanced stages the epineurium was found diseased also, leading to fusion and deformity of the nerve-trunks; (5) the varicosities and tumefactions were found to be histological expressions of a local aggravation of any of the just enumerated types of hyperplastic tendency. Here the tissue is of a more embryonal character, resembling a fibroma molluscum.

In the peripheral nerves the endoneurial and perineurial proliferation is the rule. In the plexuses the process presents the advanced stage implicating the epineurium. The nerve fibers are generally found well preserved, even where there is considerable proliferation. Occasionally they are slightly diminished in number, at no time totally absent. Even where the myelin sheath has been destroyed, naked axis cylinders were observed. Many Mastzellen of Ehrlich or Waldeyer's plasma cells were encountered.

The neurofibromatous character of the skin tumor was proven by histological examination. The connection of the nodules with dermal nerves was demonstrated in some, in others the proof was wanting.

Case II.—(Isolated neuromata of the posterior tibial and communicans-peroneii nerves. Hyperæsthesia, paralysis, operation, recovery.)

S. K., a female, eighteen years old, born in Russia, single, was admitted to the Montefiore Home on May 17, 1895.

Family History.—Father died suddenly from heart disease at forty-six. One brother had heart disease. Patient was born at full term, was a healthy child, began to menstruate at fifteen, was free from disease until five months ago. Then developed typhoid fever, for which she was treated at the Beth Israel Hospital. While there the patient experienced pain, localized in right ankle-joint. This joint could not be moved at all without pain. The toes could at that time be moved freely, but even without using the joint, patient experienced attacks of sharp neuralgic pain in joint, and same was excessively tender to the slightest touch.

One month later the right leg began to grow thinner, and slowly the foot assumed the position of equino-varus. Heat mitigated the pain considerably, and cold applications proved unendurable. Some time later the pain spread from the ankle-joint upward to the knee.

At time of admission patient complained about inability to walk, owing to pain in right lower extremity, distressing and restless sleep, poor appetite, constipation, shooting pain all over body, particularly in right leg, although not so severe as formerly.

Examination.—Patient is well built, nourished, small, darkly pigmented, without physical signs of degeneracy. Pulse, 96; temperature, 100°;

Fig. IX.

respiration, 30. With the exception of evidences of a well-compensated mitral insufficiency, the visceral organs were normal.

Over skin of both fore-arms a few hypertrophied keloid scars were noted, the result of hypodermic injections. In both lower extremities, small, round subcutaneously situated nodules were found. They were situated on the posterior surface of the extremities. They varied in size from a pea to a small nut, and were tender to pressure, more on right than on left side.

Most of the nodules did not seem to have any

connection with particular nerves, with the exception of one situated behind the head of the fibula in the course of the peroneal nerve, and another one, situated on the posterior part of the right leg at about the junction of the upper and middle thirds, corresponding to the course of the communicans peroneii. The last-named two tumors were about the size of a cherry, and quite tender to pressure. The skin over the nodules was freely movable. The nodules themselves, however, could not be moved in a horizontal or vertical direction.

Excursions of head and eyes are normal. Pupils normal. Motor and sensory portions of trigeminus

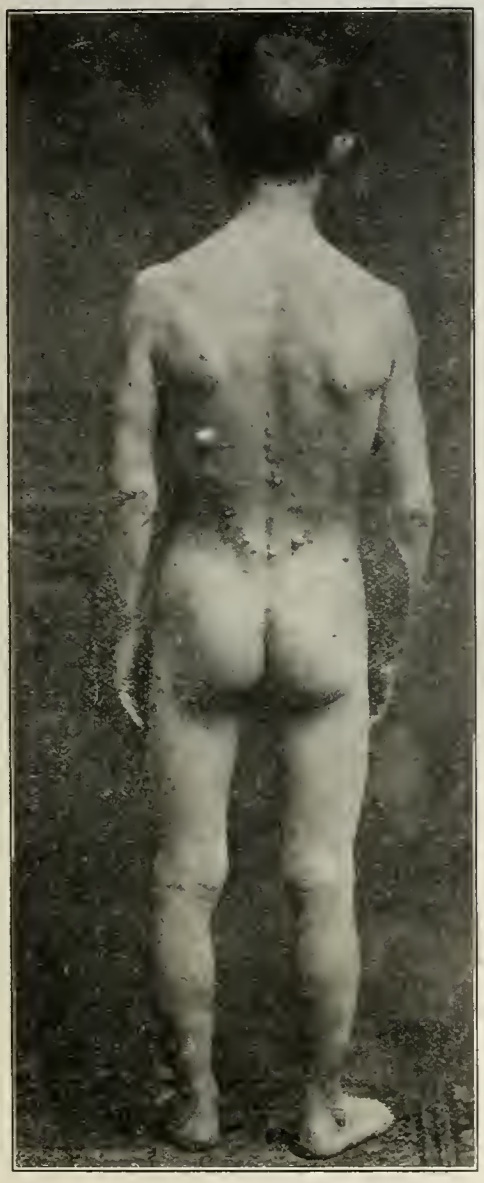


Fig. V.

and special senses normal. Motility of upper extremities normal. Right upper extremity a trifle weaker than left. Reflexes, coördination, and electrical reactions of upper extremities normal. Left lower extremity normal. Right lower extremity much thinner than left.

Beginning at the knee, the emaciation of right leg is very marked. Pes equino-varus and considerable flexion-contracture of toes. Motility of hip and knee-joints normal. Active excursions of ankle and toes almost nil. Sensibility down to level of ankle-joint normal. Whole foot excessively hyperæsthetic to slightest touch, with the exception of skin over metatarsus hallucis and second toes where the sensation is considerably dulled. (Fig. VIII.)

The right sciatic, peroneus and tibial nerves are very tender to pressure. The electrical examination showed considerable quantitative diminution of direct excitability of upper portions of soleus and gastrocnemius muscles, the other nerves and muscles of right leg do not respond to any electrical stimulation.

It was evident that the symptoms of the right lower extremity were due to the nodules. It was decided to remove the one most clearly responsible for the symptoms, *i.e.* the one corresponding to the course of the communicans peroneii; this was removed under local anæsthesia and found to be loosely connected with the subcutaneous tissue and in no apparent connection with any nerve. The nodule was as big as a hazelnut and contained fluid. After the operation the hyperæsthesia became markedly lessened, although not sufficiently to enable the patient to use the foot.

Two months later another operation was made by Dr. George R. Elliott in order to remove the other nodule, the one behind the head of the fibula. At this second operation search was made on the sciatic up to middle of the thigh and down to the sciatic bifurcation, for other fibromata; none were found. The result of the second operation was much more gratifying than the first. The hyperæsthesia disappeared to a large extent and the contracture diminished. Six weeks later a right-sided achilio-tenotomy was made and the right foot put in plaster of Paris. Four weeks later patient was fitted with a proper shoe, and improved so far that she could soon be discharged from the institution.

At present patient is free from pain and working. The present condition shows still these symptoms: General atrophy of the muscles, equino-varus contracture, no electrical response of the muscles supplied by anterior tibial nerve, slightly dulled pain sensation of outer surface of leg, no nodules demonstrable at present.

On microscopic examination it was found that the center of the nodules had undergone cystic degeneration. The margin showed a rather dense fibrous tissue, in which numerous nerve fibers were demonstrated by the Weigert method.

Case III.—Type of Recklinghausen's Disease. Fibromata of peripheral nerves. No symptoms. (Figs. IX and X.)

H. Z., thirty-six years old, Hungarian, married, tinsmith, was admitted to the Montefiore Home November 4, 1901, for extensive, probably tuberculous chronic bronchitis.

Family History.—Father died from unknown cause. Mother died from tuberculosis. There were seven children in family. One died from tuberculosis, the others are well. There is no similar skin trouble in the family.

Previous Personal History.—Patient was born naturally; had measles when a child; remained the shortest of the whole family; was a moderate man; denies venereal infection; his wife gave birth to three healthy children, and miscarried four times.

Present disease began two years ago with a hæmoptosis and loss of weight. Patient showed the usual physical signs of chronic pulmonary tuberculosis. Patient noticed skin trouble as long as he can remember. It never annoyed him much excepting a few years ago, when one of the tumefactions grew to the size of an apple. This was removed.

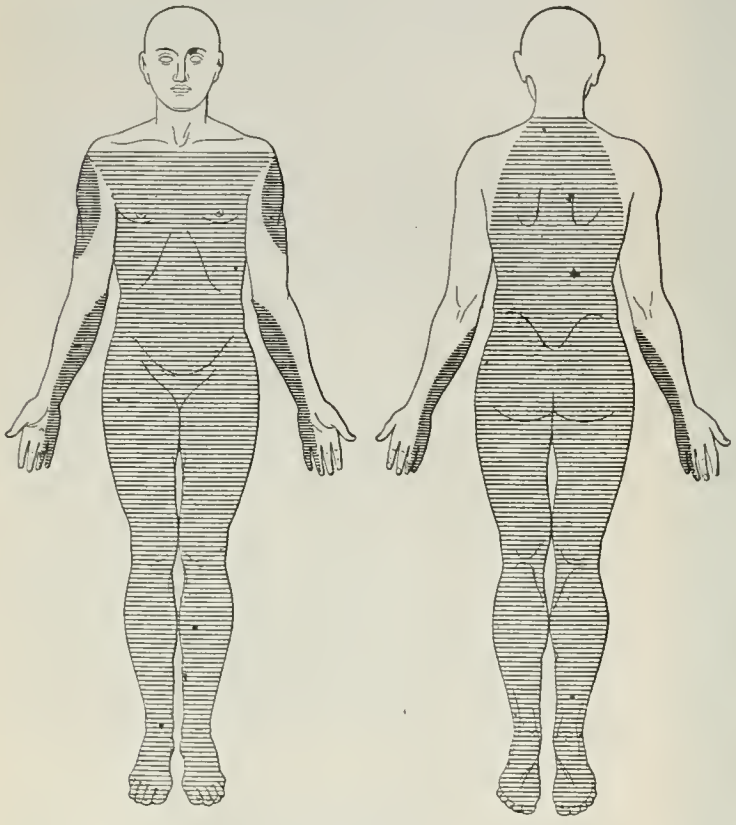
In addition to the symptoms referable to the pulmonary condition, the patient complained about

attacks of vomiting. These attacks were apparently independent of the time when food was taken, or of the quality of the latter, for the vomiting occurred without warning or any disagreeable sensations.

The expulsion of the contents of the stomach was followed during these attacks by a discharge of a considerable quantity of peculiarly viscid fluid. Patient further complained of attacks of somnolence and general weakness and exhaustibility.

Patient is four feet nine inches in height, weighs 87½ pounds. Head rather large, being 22¾ inches in circumference. Pupils somewhat unequal, the left a trifle wider. Skin is covered by a number of cutaneous tumefactions which vary in size from a pea to a walnut. Interspersed between these tumefactions are small vascular nævi. These tumefactions are densely strewn over chest and abdomen, much less on extremities, none on head, a few on chin.

In the left intercostal space is felt one larger tumefaction the size of a plum. About four



Diagram—Fig. XI.

tumefactions, the size of cherries, are felt in the cervical plexus, and a few similar ones in both brachial nerves. These tumefactions are sensitive. The ones situated in skin are freely movable with the latter. Those situated in cervical plexus and brachial nerves show no excursions in vertical, but some in horizontal directions.

Motility, sensibility, coördination, reflexes, and electrical reactions normal. The only neural symptoms noticed, were localized fibrillary twitchings of the right teres major and infraspinatus muscles.

Case IV.—(Multiple skin fibromata. Few nerve fibromata. Symptoms doubtful.)

C. G., sixty years old, is being treated at the Montefiore Home for chronic bronchitis and emphysema. Patient complains, in addition to symptoms depending upon her pulmonary condition, about attacks of neuralgia and spasms of left upper extremity.

Family history in reference to neurofibromatosis is negative. Scattered over upper extremities and on abdomen are tumefactions of different size, none on lower extremities, face or head. The largest tumefaction is about the size of a cherry; its consistency is semi-elastic. There is one small vascular nævus in skin of abdomen. The large nerve-trunks are apparently free from swellings, excepting the left brachial plexus, in which a few nodules, the size of a small bean, are palpable. These nodules are somewhat tender to pressure.

There is a distinct atacti-form tremor of left upper extremity, a generalized hyperalgesia, no other neural symptoms.

In conclusion, we believe the following points deserve emphasis: (1) The possible diagnostic aid to be derived from the presence of skin fibromata or nævi in obscure lesions of the nervous system. (2) The chorei-form muscular twitchings observed in the first case. A similar condition was noted by Virchow, and in a case recently reported by Dr. Thomas to the Johns Hopkins Medical Society (*Medical News*, January 24, 1903, p. 183). (3) The absence of characteristic root pain in a case of extra medullary compression of the cord. (4) The fact that neurofibromatosis is occasionally the cause of increased intravertebral or intracranial pressure. (5) The presence of neurofibromata without giving rise to neural symptoms. (6) The indications for surgical interference are given not only by direct neural symptoms, but by the consideration of the fact that sometimes, although rarely, neurofibroma may assume a malignant character and undergo sarcomatous transformation. (7) That the absence of neural symptoms may be explained partly by the presence of an interfibrillary œdema and succulent myxomatous tissue within the hyperplastic fibrous tissue, thus diminishing and distributing the pressure; and partly by the absence of a tendency for this fibromatous tissue to contract, in contradistinction to inflammatory hyperplasia.

The Occurrence of Rhodan in the Nasal Secretion and Its Absence in Ozæna.—Muck has demonstrated the presence of rhodan in the normal constituents of the nasal secretion and states that it is principally derived from the serous glands. The amount differs in different individuals. In twenty cases of ozæna examined, no rhodan was found in any except that in one case a very weak reaction occurred with the usual tests of ferric chloride and iodine. These results correspond to the histological condition of the atrophic nasal mucosa in which the glandular cells have atrophied. Fatty degeneration of all glandular epithelium is the most constant condition present in ozæna; consequently the serous secretion is diminished in quantity and its constituent parts must decrease. He cannot say whether the fetor in ozæna can be traced at all to the absence of rhodan.—*Archives of Otology.*

Sterilizing Catgut Ligatures.—Take the ordinary commercial, formalin catgut, of known tensile strength, wind loosely in small skeins or spools, place in a small metal cylinder having an impervious screw top, fill up cylinder with xylol, screw on cap securely and place whole in sterilizer and boil for half an hour. Store in 5 per cent. carbolic acid in methylated spirits. Catgut so prepared keeps indefinitely, is not weakened, and is fully reliable.—Mayo Robson.

ORGANIZATION OF THE BUREAU OF PUBLIC HEALTH AND MARINE HOSPITAL SERVICE.*

By WALTER WYMAN, M.D.,
SURGEON-GENERAL, U. S. PUBLIC HEALTH AND MARINE HOSPITAL SERVICE

GENTLEMEN, I beg leave to express my pleasure in meeting you at this assemblage, called by myself in accordance with Section 7, of the act of Congress approved July 1, 1902.

What may be the result of these annual conferences time must determine, but certainly we may consider the present, the first annual conference under the law, as a most noteworthy event. For the first time in the history of the United States there has been placed within its statutes, by the act of Congress referred to, a provision looking to harmonious and cooperative efforts in public health matters between the National Government and the State governments.

This status has long been desired, but difficult of achievement by reason of our Republican form of government. It has been difficult for the national government to extend its influence into State health matters without appearing to infringe upon the States' authority, and it has been difficult for the States, individually or collectively, to seek aid from the government without appearing to surrender authority reserved to them by the national constitution. In the meantime, however, the Marine Hospital Service, now bearing the title of the Public Health and Marine Hospital Service of the United States, has become so developed and strengthened, and the State health organizations have been so perfected, that a sentiment of respect, one for the other, has been established, finding its expression in this law of 1902, and, in particular, section 7 above referred to.

To my mind the outlook is bright. The great problems to be solved in sanitary affairs; the great work to be done in the suppression, and even elimination, of disease, and the cultivation of health and strength, so that physically, as well as in other respects, the United States may take a leading position among the nations, are propositions which should not be considered impossible of solution, and a proper development under the terms of this law will be an important step in this solution.

One of the most important features of this assemblage is its official character. All of us are familiar with conventions of similar purpose, productive of much useful information, but entirely lacking in official significance. Here, however, are assembled the legalized health authorities of the States, representing the practical administrative experience as well as the theoretical and scientific knowledge required in the consideration of public-health affairs.

Many of you have devoted the best years of a long professional life to the consideration of the subjects which will come before us, having acquired, in individual instances and on special subjects, unusual knowledge and wisdom.

Combined effort appears to be a distinguishing feature of this new twentieth century. This is seen in nearly all forms of civic and commercial life, and even scientific and professional effort. It would seem that when the history of the twentieth century is written there will be lacking those great and single characters looming way above the average, leading, directing, or dictating; instead, there will be an elevation of the average the best individual effort will, neither in purpose nor effect, aggrandize the individual, but will be exerted in connection with other effort of like nature for the establishment of a parity of well-being among all. This, I take it, will be the keynote of our action, bearing constantly in mind the actual results to be attained and being determined to attain them.

Section 7 of the law under which this conference has been called, provides for three kinds of conferences: First, the Surgeon-General may invite as many of the health and quarantine authorities as he deems necessary, not more than one from each State, Territory, or District of Columbia, to a conference, whenever, in his opinion, the interests of the public health would be promoted thereby. Second, a conference must be called at least once a year of all the States, Territories, and District of Columbia. Third, upon the application of not less than five State or territorial boards of health, quarantine authorities or State health officers, he must call a conference, but in this event only those States joining in the request are to be called.

While the present is the first annual conference, it is not the first conference called under the law. Last January, upon the request of twenty-two States, a so-called plague conference was called to consider the situation in San Francisco. The proceedings of that conference in detail have been transmitted to each of you. The effect of it was, undoubtedly, very great in bringing about the present satisfactory status in San Francisco. The object of that conference was specific, but, as you will note, the law providing for the annual conference gives no details. We must assume, therefore, that the intent of the law is that we shall get together, and we are to decide ourselves as to the matters to be considered. It is evident that the conference is advisory in character, without changing in the least the present executive force of this Bureau of the Treasury Department.

It seems advisable at the outset, and for a satisfactory understanding of one another, to give a review of the laws and of the organization relating to the Public Health and Marine-Hospital Service, and to receive in return an account of the same nature from each State delegate.

The laws especially relating to the United States Public Health and Marine-Hospital Service can be found printed with the U. S. Quarantine Regulations, with the exception of the Sundry Civil Act approved March 2, 1901, which provided for a laboratory "for the investigation of infectious and contagious diseases, and other matters relating to the public health."

Having thus referred to the law, I propose now to describe the organization of the Bureau of the Public Health and Marine-Hospital Service. For executive administration, the Bureau is divided into six divisions, each presided over by an assistant surgeon-general. There is also a miscellaneous division, presided over by an assistant surgeon, and the office of the chief clerk. The clerical force numbers about twenty. These divisions are named as follows:

Division of Marine Hospitals and Relief.
Division of Domestic Quarantine.
Division of Foreign and Insular Quarantine and Immigration.
Division of Sanitary Reports and Statistics.
Division of Personnel and Accounts.
Division of Scientific Research.
Miscellaneous Division.

Division of Marine Hospitals and Relief.—To this division are sent all matters relating to the marine hospitals, twenty-two in number, owned by the

*Opening address delivered at the first annual conference of State and National Health Authorities under the act of July 1, 1902, Washington, D. C., June 3, 1903.

service, and to the patients, numbering 58,000, treated annually in these hospitals and in some 110 relief or contract stations. The Purveying Depot, a large building located in New York, is under the direction of this division, to which is also referred all matters relating to hospital supplies, including subsistence, drugs, hospital furniture, surgical instruments, and appliances, plans and specifications for hospital construction, and the conduct of the sanatorium for consumptive patients at Fort Stanton, New Mexico, where the service has a sanitary ranch, fifty-six square miles in area, the buildings of the fort having been placed in perfect condition, the patients in the sanatorium numbering about one hundred and fifty. The scheme for this ranch embraces the removal of consumptives from our hospitals with a view to their improvement or recovery. Quite a large percentage have recovered, a number leave greatly improved, and all who desire can find employment after leaving in the same high, dry, and healthy locality. The hospitals are thus relieved from this contagious disease, and the vessels from which they come are subject to inspection and disinfection as to their forecastles or other quarters that have been occupied by known consumptive cases.

Division of Domestic Quarantine.—To this division are referred all matters relating to the national maritime quarantine stations, embracing nineteen complete disinfecting stations, and eighteen inspection stations. At the former are hospitals, barracks, disinfecting machinery, steamers, and small boats, all requiring constant care and attention. This division also must see to the expenditure of appropriations for new stations, involving purchase of lands, construction of piers and buildings, said construction being generally under the supervising architect of the Treasury on plans approved by the Bureau and the Department, but occasionally the Bureau attends to this construction itself. To this division are also referred all matters relating to the quarantine regulations and their interpretation. Matters relating to interstate quarantine and suppression of epidemic diseases are also handled in this division. Quarantine upon the Mexican and Canadian borders is also conducted through this division.

Division of Foreign and Insular Quarantine and Immigration.—To this division is assigned the management of the national quarantine stations in Hawaii, Porto Rico, and the Philippine Islands, the supervision of officers detailed for duty in the office of the United States consuls in foreign ports, who sign the bills of health with the consuls. At present there are three officers in Japan, Yokohoma, Kobe, and Nagaski; two in China, Shanghai, and Hongkong; one in Naples, Italy; ten in Cuba, three in Havana, one each at Cienfuegos, Santiago, Nuevitas, and Matanzas, and several at sub-ports; four in Mexico, two at Vera Cruz, one at Progresso, and one at Tampico; six in the fruit ports of Central America, namely, Bocas del Toro, Columbia, Port Limon, Costa Rica, Bluefields, Nicaragua, Ceiba, and Puerta Cortez, Honduras, Livingston, Guatemala, and Belize, British Honduras.

To this division are also referred all matters relating to the medical inspection of immigrants, a most important function of the service, requiring the detail of a large number of officers.

Division of Sanitary Reports and Statistics.—This division is charged with the preparation of the Public Health Reports, published weekly by the bureau. All matters of a statistical nature are referred to it.

It may be of interest to state that some question has arisen as to whether the work of this division, which is authorized both by the law of 1893 and the law of 1902, may not duplicate the work of the Census Bureau, but I am pleased to state that after conference with the chief statistician of the Census Bureau and others connected therewith, it has been found that there need be no duplication or interference by one bureau with the other; on the contrary each will be helpful to the other. The Census Bureau, in addition to the decennial census, will publish an annual census of mortality and births, but the weekly and monthly reports will be published as heretofore by this bureau, and morbidity reports, which are so much desired, and which will require special organization to procure, will be undertaken by the Public Health and Marine-Hospital Service.

Division of Personnel and Accounts.—To this division are referred all matters relating to the personnel of the service, examinations for admission to the corps of commissioned officers, examinations for promotion, appointments and resignations, appointment of boards for the physical examination of officers of the Revenue-cutter Service. This division has, also, charge of the bookkeeping of the service.

Division of Scientific Research.—This division might be better called the Division of Scientific Research and Sanitation. To it is referred all matters relating to the Hygienic Laboratory. It should be understood that this laboratory, or the staff thereof, is not a part of the bureau proper, though at present located in the same building. A new building, however, is just completed, located on the grounds of the old Naval Observatory, about half a mile west of the White House on the river bank. Five acres of this tract were turned over from the Navy Department for the establishment of this laboratory. It will give the director of the laboratory great pleasure to arrange with the delegates to this conference to show them this building. The laboratory has an advisory board, consisting of a delegate from the army, not yet named, Dr. Urie of the navy, Dr. Salmon, chief of the Bureau of Animal Industry; Professors Welch of Johns Hopkins; Flexner of Rockefeller Institute; Sedgwick of the Massachusetts Institute of Technology; Vaughan of the University of Michigan; and Wesbrook of the University of Minnesota. Under the law of 1902 three new divisions were added to the laboratory, the Division of Bacteriology already existing. These three new divisions are those of Zoology, Chemistry, and Pharmacology. But one of these new divisions has been organized, namely, that of Zoology, and the good results of this new organization are manifested in the recent discoveries and published report of the chief of this division, Dr. Stiles, upon the prevalence and geographical distribution of the hookworm. Bulletins, embodying important results of investigations, are published from time to time under the supervision of the director of the laboratory, Dr. Rosenau. It is believed that Congress can be influenced to provide for the extension of this laboratory by the erection of new buildings from time to time as the necessity therefor becomes demonstrated.

To this division of scientific research and sanitation are referred special requests for scientific investigation of special diseases, as, for example, the recent investigation of the so-called spotted fever of Bitter Root Valley, Montana. The initiatory steps for special investigations of this character are taken in this division, but any prolonged or technical work connected therewith is turned over to the laboratory.

Requests for special investigations of water pollution or local causes for the spread of typhoid fever are referred to this division.

The officer in charge of this division examines all current literature relating to scientific medicine or sanitation and keeps a card index of the same.

Miscellaneous Division.—The Miscellaneous Division has charge of the mailing of all bureau publications, and certain miscellaneous duties relating to the reports of necropsies from the marine hospitals, the medical examination of claims for benefits on account of injuries received by the crews of life-saving stations, certain matters relating to the the annual report, etc.

Under certain bureau orders the operations of these several divisions are coördinated, so that the work of one division, where it affects the personnel of duties connected with another division, is accomplished with the full knowledge and acquiescence of the other. There are also two regular bureau boards for the careful consideration of matters referred to them—namely, the Service Board and the Sanitary Board.

Yellow Fever Institute.—There is one other feature of the bureau, assigned to no one particular division, but embracing all, namely, the institute for the study of yellow fever, called the Yellow Fever Institute, with which most of you are familiar. This institute was founded about two years ago for the purpose of learning all that could be learned about yellow fever, including its etiology, and to bring to this work the aid of all reputable physicians who might desire to take part therein, its membership including, besides the officers of the Marine-Hospital Service, special investigators both in this and foreign countries. It is divided into four sections, the chairman of each section being one of the division officers of the bureau to which, under bureau organization, matters of a kindred nature would naturally come. These, together with the chairman and secretary of the institute, form an executive board to consider, especially with regard to publications, the contributions received from the members. Twelve bulletins have been issued. A thirteenth, and the most important of all, relating to the cause of the disease, is now being printed and will be ready for distribution within a few weeks. This bulletin contains the report of a working party sent to Vera Cruz last summer to investigate and attempt to find the causative agent of the disease. Their work was continued during the winter with the material obtained in Vera Cruz, and gives evidence that progress has been made toward a final result. A second working party of three, two of whom were in the first party, are now in Vera Cruz and vicinity pursuing a continued investigation, and it is the purpose of the institute to continue in the prosecution of this work until successful. This institute embraces new features in the investigation of the cause of a specific disease, and if it proves successful with regard to yellow fever it may be that the new features of organized effort which it embraces will be applied to the investigation of other diseases.

Other important matters engaging the attention of the service are the proposed legislation for the establishment of a national leprosarium, in which may be received the occasional cases of leprosy found in the States and which give the local and State authorities so much trouble; also the enforcement of the new regulations relating to the examination and licensing of establishments for the production of vaccine, serums, and antitoxins, under the law passed by the last Congress. These regulations go into effect next August.

Mention should also be made of the connection of the service with the International Sanitary Bureau of American Republics, established in accordance with resolutions of the conference of American States held in the city of Mexico winter before last.

The Medical Corps.—Finally, with reference to the service work, I wish to say a few words with regard to the medical corps, numbering 108 commissioned medical officers, received into the corps only after a thorough examination as prescribed by law, appointed first to the lowest grade, and promoted to the higher grades only after further successful examination. The discipline of the corps is military in character, the regulations for its uniforms and government are prescribed by the President, its officers by reason of unusual responsibilities, continuous medical and surgical care of the large clienteles, and by special scientific instruction in its hygienic laboratory, are kept in the van of professional excellence. There are, however, nearly two hundred acting assistant surgeons, some of whose appointments are temporary in character, but a number of whom have been long in service by reason of especial adaptability, or because the arrangement made with them is necessary in the interest of economy. These officers of the medical corps are stationed in all parts of the United States and its dependencies, and constitute our reliance not only in the ordinary work of the service but in times of special need.

Conference Organization.—I have deemed it necessary to give this somewhat extended account of the organization of the service, both that our aims and methods may be understood and that I may the more readily explain a proposed method of making these annual conferences of practical utility. It might be advisable to appoint on special committees members of the conference especially interested in the several subjects to be considered by these committees, said committees to remain in organization during the year, and to receive for further conference with the Surgeon-General such matters as might be pertinently referred to them by him. The titles of these committees would find their analogues in the several divisions of the bureau. The reports of these committees could be read to the full conference at its annual meeting, and, if adopted by the bureau and the conference, would have a force and influence which would naturally result from the conjoint action of the national and State authorities. I would suggest tentatively a committee on scientific research and sanitation; second, on the prevention and spread of epidemic diseases; third, on morbidity and mortality statistics; fourth, on State legislation; fifth, on education. In addition to these, there might be special committees on certain specified diseases, namely, cholera, yellow fever, plague, smallpox, tuberculosis, leprosy, typhoid fever. To these committees might be committed such resolutions as may be offered here, but the adoption of any resolutions by this conference, it seems to me, should not be until after a report thereon had been made by the special committee to which it is referred.

It is believed that the above plan is at least worthy of trial. It would give real aid and would stimulate the members of the committees in an investigation of the subjects confided to them, and might produce a uniformity of effort, a coördination of work in different parts of the country, which now does not obtain.

DIAGNOSTIC AND PROGNOSTIC DATA IN NERVOUS AND MENTAL DISEASES.*

By WILLIAM BROADDUS PRITCHARD, M.D.,

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Diagnosis in neurology and in mental disease demands consideration from two standpoints: the general and the specific. It is difficult to decide as to relative precedence, since both are equally important, and indeed essential, to a finished and satisfactory result. Breadth in perspective is of the utmost value in the working equipment of the neurologist and alienist. The collateral territory is larger than in any other sub-field of medicine. The issues in surgery are, as a rule, direct and relatively narrow. The same is true of ophthalmology, dermatology, and other branches. The most intimate and essential relationship exists between nervous diseases and all other diseases. An old history of renal colic in a neurasthenic may prove, for example, the guiding factor in treatment. The melancholiac would be oftener a therapeutic mystery should due appreciation be not given to the *μελας χολή* present. Autointoxication from stomachic or intestinal deficiency is often the causative factor behind a neurosis or a psychosis. The dependence of all bodily functions upon the integrity of the related nervous supply and action is conspicuously obvious. Hence the neurologist must be an evolutional development from the general practitioner. The ophthalmologist *may* be born; the neurologist *must* be made.

By collateral territory requiring consideration, I mean such factors as race, environment, temperament, occupation, age, sex, social and educational status, heredity, etc. Take the racial factor, for example: The Latins represented in the French and Italians are a nation of neurotics; the Jews are inherently and peculiarly predisposed to the degenerative nervous affections; Asiatics are relatively exempt from the neuroses major and minor; certain nervous diseases occurring in the negro assume a clinical form, which is almost *sui generis*, as tabes, for example, which in the negro is almost invariably of the amaurotic or blind form. Temperament is related to race. The emotional tends to the neuroses; the phlegmatic to the psychoses. Hysteria is common among the French, melancholia among the Germans; mania, and particularly so-called religious mania, in the Irish. Detailed study of the temperament is of special importance, and should always be made exhaustive, since the personal equation depends upon it and an exact knowledge of the personal equation is often the determining factor—the key-note—in results. Neglect of this equation prevents a sympathetic understanding, lessens your patient's capital in confidence, and by so much diminishes your chances of successful results from treatment.

Environment is sometimes a significant factor. Neurasthenia is much more common among residents of the city than the country. This is true also of chorea, and since syphilis is a disease of the city, its sequential nervous manifestations are much more frequent in metropolitan practice. Age, sex, and occupation are of especial etiological interest. Chorea, poliomyelitis, and (to a less degree, perhaps), epilepsy are all diseases of childhood. Posterior sclerosis and its cerebral equivalent, paretic dementia, are diseases of adult life. Women tend to the minor, men to the major neuroses. Organic disease of the nervous centers is more common in males than in females. Neurasthenia and kindred affections are so peculiar to the cultured, educated classes as to appear almost a penalty. It is a waste of time to hunt for neurasthenia, except the traumatic form, in the uneducated laborer; the diagnosis would make a paradox.

Heredity is of more importance relatively in the prognosis than in the diagnosis of nervous disease and insanity.

Coming to the more direct aspect of the subject, I would urge with vigorous emphasis and as being of the utmost importance, the cultivation and education of the physician's objective or perceptive faculties—vision, hearing, and touch, and the training of these faculties into syndrome association habits. The facies alone of the neurological patient at times decides the diagnosis. Asymmetry and anomalies of development in features and peculiarities of expression all tell some story or point a road. The facies in melancholia, in Graves's disease, in Bell's palsy, and often in dementia, is pathognomonic. The position in standing or walking, or in rising from a sitting position, may name the disease. The rigid attitude, blank face, head bent forward, so characteristic of well-marked paralysis agitans, are readily recognized when one is familiar with the disease. The gait in tabes, legs wide apart, eyes on the floor, feet brought down on the heel with unnecessary force, is unmistakable. The teetering shuffle in spastic paraplegia, the stiff half-swing of hemiplegia, the flaccid drag of poliomyelitis or multiple neuritis, are all distinctive. I know nothing more characteristic than the method of climbing up his own body practised by the victim of pseudohypertrophic paralysis in rising from a prone to the upright position, so graphically described by Gowers. It has been said of the elder Charcot that he often made the correct diagnosis before seeing the patient, the ear identifying the disease from the special gait of the patient as he approached. The trained ear learns readily to catch and identify the speech peculiar to bulbar palsy, to paretic dementia, and to disseminated sclerosis.

The sense of touch is one of the most valuable, and, at the same time, neglected aids in refined diagnosis. The presence or absence of atrophy, for example, often decides the diagnosis and also the prognosis and line of treatment. The eye cannot always be relied upon. In infantile spinal paralysis the loss of power is often widespread at first. It is important to know where and to what degree the permanent residual paralysis exists. This is indicated by the atrophy. The contour of the limb in which atrophy exists may not be altered, and this is especially true in fat, chubby children. The sense of touch, if educated by training, will settle the problem much more certainly than the eye. Hemiatrophy of the tongue is often apparent to the sense of touch when vision discloses nothing. The difference between contraction and contracture, often quite important, is determined by the tactile and muscular sense. The twitch of chorea when latent, in cases just developing or on the road to recovery, is at times determinable only through tactile impression. Paralysis, even when slight, is readily detected by forced movements in opposition to the patient's resistance. The sense of touch plus the examiner's muscular sense far exceeds in nicety and accuracy of impression the dynamometer in estimating motor power. The hand is more accurate in testing the deep reflexes than the percussion hammer.

The advantage from training the perceptive faculties into association habits is found in the result-

*Read before the Clinical Society of the New York Polyclinic.

ing prompt recognition of the diagnostic significance of certain symptoms when met with in combination. Headache, for instance, is a very common symptom. There are several distinct varieties, and some of them in their peculiarities are highly suggestive at least. The headache of intracranial syphilis is peculiar in its nocturnal or vesperian periodicity; that of melancholia in its localization in the occipital or post-cervical region; the headache of brain tumor in its agonizing severity. Insomnia also varies with equal significance. The insomnia of brain syphilis is usually of the first half of the night; and of the latter half in melancholia. The characteristic insomnia of neurasthenia is light, restless, half-sleep throughout the night. Combine several such facts in mental association, and the result is a series of diagnostic formulæ or syndromes. That for the recognition of cerebral syphilis is one of the best known and quite reliable. It is as follows: Given a patient suffering from cerebral lesion, whose age is between twenty-five and forty-five years, whose lesion was preceded by nocturnal or nocturnally exacerbated headaches, the headaches being associated with insomnia of the first half of the night, both insomnia and headache disappearing for the time, at least, upon the onset of the lesion, such lesion is due to syphilis. The variety of headache and insomnia described as peculiar to melancholia, if found associated with the facies referred to and a tendency to suicide, constitute the melancholic syndrome and afford sufficient data for diagnosis.

The prognosis in nervous diseases and the insanities is far better than is generally supposed. I believe the proportion of recoveries is as great as in almost any other specialty. Certain forms of nervous disease are, however, hopeless. I have yet to know personally of recovery in general paresis, Landry's palsy, or multiple sclerosis. Decided benefit may be obtained from treatment in tabes, in paralysis agitans, and in epilepsy. The prognosis in neuritis and in the neuralgias is nearly always favorable, although tic douloureux is often viciously intractable and sciatica obstinate. Excluding the tuberculous variety, more than 50 per cent. of recoveries occur in meningitis. The most discouraging cases of myelitis, especially when traumatic, may turn out well, and many hemiplegias, especially if syphilitic, recover. A syphilitic etiology favorably modifies the prognosis in mental and nervous diseases except in tabes, general paresis, and epilepsy. Among the insanities, all of the non-organic types are recoverable, and the majority give excellent and prompt results from treatment. A vicious heredity always makes worse the prognosis. The more anomalous the type is in epilepsy, chorea, and the neuroses generally, the better, as a rule, the prognosis. Etiology is relatively unimportant in its bearing upon prognosis in many of the neuroses. Removal of the cause to be effective in promoting cure must be prompt—so prompt, indeed, as to almost precede a diagnosis. If allowed to continue, a vicious habit is induced, which persists in spite of the removal of the cause. This is an important fact to be borne in mind in estimating the prognosis in traumatic epilepsy, in reflex chorea and other neuroses, in various neuralgiæ, and in certain monopareses.

105 West Seventy-third Street.

Vaginismus.—In obstinate vaginismus Tavel resects the pudic nerve. An antero-posterior incision is made in the ischio-rectal fossa, midway between the tuber-ischii and the margin of the anus. The nerve is freed from the accompanying artery and divided. The peripheral portion is twisted out.—*American Journal of Obstetrics*, October, 1902.

AUTO-EPIDERMIC SKIN-GRAFTING.

By H. F. McCHESNEY, M.D.,
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Skin-grafting is a subject that has been worked out in a very thorough manner, because of its importance in cutting short the healing time, in cases of extensive destruction of skin, and in cases in which there would be contractions leading to deformity if left to fill in from the uninjured area surrounding. It is the aim of this paper to call the attention of the profession to a method of auto-epidermic skin-grafting, which, in the author's hands, has proved painless and practicable.

The first case on which the method was used is as follows: The patient, D. K., a Greek, age eighteen years, admitted to the Brooklyn Hospital, on the service of George R. Fowler, M.D., December 9, 1902, was burned by the explosion of a gasoline peanut-roaster, receiving a slight burn on the left hand and burns of the third degree on both legs and thighs.

The right extended from five inches above the knee to a line represented by the shoe top, and in the leg region extended all the way around. The the left leg was burned deeper and extended from seven inches above the knee to the line of the shoe top, and in this case extended all the way around the leg and knee.

The first dressing consisted of sterile gauze and "carron oil." This was removed the following day and all loose epidermis and blebs removed, and the parts irrigated with warm carbolic solution, then wet dressings of normal salt-solution were used for a time. When the skin began to slough the patient was put under an anæsthetic and everything cleaned away, leaving a granulating surface. The dressing was then changed to a 2 per cent. boric-acid wet dressing and naphthalin crystals were powdered on to clean up the granulating surface. Boric-acid ointment was then applied on strips of gauze, but the temperature began to rise, and as no cause other than lack of drainage could be found. The dressing was again changed to a wet boric acid. When the granulating surface cleaned up, the dressing was changed to the following formula:

℞ Icthyol	℥	300
Balsam peru	℥	150
Resorcin	gr.	150
Comp. alum (Squibbs)	gr.	300
Boric acid	℥	i
Glycerin	℥	viii
White wax	℥	viii
Petrolatum	q. s. ad. lbs.	iv

There was no subsequent rise of temperature.

At this time skin-grafting was started, and the method here advocated was employed. The area to be grafted was cleaned off with Tiersch solution and then irrigated with normal salt-solution. The granulating surface was then dried with gauze sponges. Where the granulations were firm and healthy, the graft was placed directly on them; over areas of exuberant growth they were cut down and gently compressed with dry sponges until all bleeding stopped. Some of the granulations were very soft and flabby. These were all scraped away until a firm fibrous foundation was reached. Then the thin blue line of epithelial cells that had started to creep in along the edge of the wound was dissected up, and small pieces about an eighth of an inch square were cut off and placed on the granulating surface already prepared. These were placed with the raw surface against the newly prepared surface, and covered with pieces of oiled silk protective about an inch square, other transplanted areas were protected with plain sterile gauze. The limb was then

put up in a Volkman sprint to prevent contractures and also to keep the parts quiet, so that the grafts would not be displaced.

The patient experiences but little discomfort while the epithelial line is being raised and cut off. It does not disfigure or scar, and at each dressing several new islands can be started without discomfort to the patient. These newly developing epithelial cells are very active in their growth and the grafts take very well. As far as we can learn, this method of skin-grafting has not been published and, as the number of cases available for a thorough testing of the utility of this method of grafting is limited, we would be pleased to have cases reported.

Brooklyn Hospital.

REPORT OF AN OPERATION FOR CARCINOMA OF THE CÆCUM AND ONE OF CARCINOMA OF THE TRANSVERSE COLON.

By C. G. DARLING, M.D.,
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AND
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Mr. J. Z., age forty-six years. Occupation, a grocery clerk, formerly a day laborer. He was of Polish parentage, married, and the father of twelve children, all living, and in good health. He was admitted to the Medical Department of the University Hospital July 29, 1902, and referred to the Surgical Department July 30, 1902. He came to the hospital because of swelling and pain in the right side, first noticed about eight weeks before admittance. He had also been annoyed by borborygmi in the tumor region, generally followed within a short time by the passage of a soft stool. He was cachectic, had lost twenty-five to thirty pounds, but yet in good condition to withstand the shock of an operation.

Percussion of the abdomen revealed a mass about as large as a medium-sized orange with an irregular surface, situated in the right iliac region and extending up to about one inch above the level of the umbilicus. The tumor was hard to the touch, freely movable and readily observable on inspection. The diagnosis of carcinoma of the cæcum was made and an operation advised.

Operation.—Patient came to operation August 2, 1902, at 9.42 A.M., and was sent to his room at 12.32 P.M.—actual time of operation being two hours and fifty minutes. A period of eight minutes was required to anæsthetize with four ounces of ether used. The total amount of ether for the entire operation was twenty-two ounces. During anæsthesia and recovery from the same he received $\frac{1}{30}$ grain of strychnine hypodermically. Twenty-two ounces of decinormal saline solution was given under the right breast and one-half pint of coffee per rectum. Respirations were from 24 to 30. The pulse was not above 90 at any time.

The technique of the operation began with an incision along the outer margin of the right rectus muscle, beginning about two inches above the umbilicus and extending downward four inches. Through this initial incision the tumor mass could be directly palpated, the extent and location of the adhesions determined, and the chances of its successful delivery estimated. It was not attached to the anterior abdominal wall and seemed freely movable upon the structures below at its upper extremity, but at its lower pole was quite firmly adherent to the iliac vessels. A second incision was next made at right angles to the first and extending about four inches to the right. The separation of the mass began from the outer side and was carried beneath the mesocolon, care being taken to avoid injury to the ureter. Great difficulty was experienced in separating the infiltrated peritoneum from the iliac vessels, this, however, was slowly and successfully done and at no time was there any severe hemorrhage. The appendix was small and, so far as the naked eye could detect, was not involved in the malignant process. After separation of the adhesions, an intestinal clamp was placed upon the ileum about four inches from its junction with the cæcum and a tape was passed around the colon well above the point of disease. About three inches of the ileum and six inches of the colon were removed. The ends of the colon and ileum were then brought together and joined by a silk suture, passed from within out and embracing all the coats of the small gut except the peritoneum, this stitch occupying the space between the folds of the peritoneum which form the mesentery.

It was then returned from without inward through the colon in like manner as before and tied on the lumen side. A single suture was then inserted on either side of the first and carried through all coats of both ileum and colon, thus approximating the peritoneum of both cut ends and reinforcing the weak point in end-to-end anastomosis. Beginning with the above points of union a continuous suture was passed through all the coats for a distance, and a second one started at a like point on the opposite side, the object of the use of two sutures alternating in this way was to gather the wall of the larger gut uniformly, so that its diameter would equal that of the smaller one, a proceeding that applied well in this case when the two ends of bowel were about the same size. The union was completed by a row of Lembert sutures about two lines from the first. All remaining bleeding points were caught and ligated. The omentum was then drawn over to the outside of the line of intestinal repair and sutured to the parietal peritoneum, thus covering as much of the suture line as possible with peritoneum. Two large gauze drains were passed down to the omentum immediately covering the suture line and emerged at the lower angle of the first incision. In closure of the external wound, cat-gut stitches were used for the peritoneum, layers of fascia and the cut ends of muscle, the latter being reinforced by silkworm gut which approximated the skin.

After recovery from the anæsthetic he complained of some nausea, but did not vomit, neither did he do so at any time during his sickness. He had some pain in the region of the wound, for which he was given $\frac{1}{4}$-grain of morphine at 8.30 P.M. The pulse did not go above 70, temperature 99.6°, and at 12 M. he voided 300 c.c. of urine. At 10.30 P.M. he received six ounces of decinormal saline solution per rectum, which he retained. After 9 P.M. he slept twenty, thirty, and forty-five minutes at different times.

Second day.—The highest temperature was at 1 A.M., 100.8°, and highest pulse rate for the day was 92. He received $\frac{1}{30}$ grain of strychnine every seven hours. At 4 A.M. and 10 A.M. he was given six ounces of decinormal saline solution per rectum. At 7 A.M. drachm measures of hot water were begun and kept up every half hour until 11.30 A.M. This having caused no vomiting he was given six drachms of cold water, after which he received drachm measures of the same every hour. Between the hours of 3.30 P.M. and 7 P.M. he retained 13 drachms of weak broth by the stomach.

Third day.—Highest temperature 100°, pulse 100, respiration 32. He complained of some pain in the wound, but a more alarming symptom was cough

and pain in the upper thorax, perhaps presaging an anæsthesia-pneumonia. For pain and cough $\frac{1}{8}$ grain of morphine hypodermically and ten-drop doses of aromatic spirit of ammonia by the mouth were given. An ice-bag was applied to the chest, which was continued for some days and afforded great relief. This treatment rendered the cough less and the secretion more profuse. The cough continued for several days, but seemed to be due only to a catarrhal condition of the bronchi. It hindered the healing of the wound to some extent, as it kept up a frequent action of the wounded muscles. He received his strychnine as on previous days. His nourishment consisted of 13 drachms of weak broth, and in all 33 drachms of water per stomach. At 7.30 P.M. he was given a nutritive enema, consisting of six ounces of milk and the white of one egg. This was not carried high into the rectum. At 8 A.M. he passed a normal, partly formed stool. He slept at intervals, in all nine hours.

Fourth day.—Highest temperature 101.4°, pulse 99, and respiration 32. He still had a good deal of pain in his throat and chest and continued to cough. He had strychnine and aromatic spirit of ammonia as previously.

His diet consisted of five ounces of weak broth, and two to four-drachm measures of water at intervals during the day. He also had nutritive enemata of peptonized milk and white of egg at intervals of five hours, the first and second of which were partially expelled, the latter containing a small quantity of fecal matter. The one given at 1 P.M. was retained, while that given at 7 P.M. was expelled. During the day he slept in all about six hours.

Fifth day.—Highest temperature 99.4°, pulse 88, respiration 26. Diet consisted of four ounces of broth per stomach, with water at intervals. He also had four nutritive enemata, all retained but one. He passed one watery stool. Remedies were administered as before. At 10 A.M. his wound was dressed for the first time, the gauze drainage being removed. There was an abundant discharge of chocolate-colored fluid, in which bacteriological examination showed the presence of colon bacilli. It had a decided fecal odor, but seemed to originate from outside of the peritoneum and was no doubt only an external wound infection due to contact with the open gut. After a few days this discharge changed to one of a creamy color, which continued until the wound closed. At the first dressing, a sterile rubber tube was inserted in place of the gauze and another at the upper angle of the first incision. From this time to recovery the wound was dressed twice daily, the tubes being removed and shortened as indicated. The abdomen about the wound was kept clean, but no irrigation internally was at any time employed.

Sixth day.—Temperature 99.2°, pulse 73, respiration 23. The pain in the back and chest had nearly disappeared. Diet, six ounces of broth and four drachms of water every four hours. He also received four nutritive enemata. The bowels moved four times, showing some formed fecal matter.

Seventh day.—Pulse, temperature, and respiration were normal, and continued so from this time on. He had all signs and symptoms of a good recovery. Upon the eleventh day after his operation his diet consisted of baked custard, chicken broth, and cornmeal gruel. Upon the nineteenth day he was allowed coffee and bread. Twenty-nine days after operation he was discharged.

In the excellent article by Cumston and Vanderveer, published in the *Annals of Surgery*, for February, 1902, the points in diagnosis were well given and the different methods of uniting the ileum to the colon were clearly discussed, but little attention was given to those conditions and procedures upon which success depends, whichever method is employed. While we favor the suture and prefer to discard splints and buttons, yet, when time is an element, or the operator is not sure of his technique, these devices may be used. It necessarily matters little whether button, plate, or suture be used, if careful attention is not given to the principles involved in the treatment of such cases.

A study of the above cited report reveals the fact that operations for carcinoma of the cæcum have a large death rate; that death follows in some instances shortly after operation, which fatality undoubtedly results from shock or hemorrhage. Others die three to six days later, no doubt from infection during operation. Deaths later than this probably result from one of the following causes: (1) Infection involving the stitches or spreading to the general peritoneal cavity; (2) Local gangrene resulting from cutting off the blood supply or, as in certain recorded cases, pressure from the button; (3) Obstruction. In no other class of operative cases does fecal matter, even in small amount, produco such risk to the patient's life.

Its collection may cause obstruction, either partial or total, or by pressure cause the sutures to yield. This complication not only arises from unremoved fæces but may come from improper feeding, either before or after operation; or it may be brought about by the swelling of the parts. Obstruction is followed sooner or later by vomiting, producing at once a serious if not a fatal strain upon the newly-repaired gut.

Death from shock may be prevented by a careful preparation of the patient. The bowels must be emptied and stimulation by strychnine kept up. The careful administration of the anæsthetic is of the utmost importance and the proper use of decinormal saline solution may turn the tide. We are satisfied the latter procedure saved our patient's life.

The most important factor in intestinal surgery is to avoid infection of the peritoneum. Infection was present in our case, but fortunately was confined to the point of drainage. When the mass can be brought outside of the abdomen before opening, the danger of infection is slight, provided the parts can be protected with gauze and the intestines cleansed with hydrogen peroxide and plain water. The use of intestinal antiseptics for some days before operation might be beneficial, but an ideal method would be to inject some antiseptic into the confined section of bowel and remove it before excising the diseased portion. Another aid in preventing local infection is to cover the line of suture with omentum. In examining our experimental operations upon animals in the Surgical Laboratory, we have always found the omentum wrapped about the line of suture. This condition is also found in appendicitis when the omentum can reach the inflamed part. In fact, it is nature's method of protecting the line of suture and is sufficient in a large number of cases to resist an ordinary amount of bacterial invasion.

Too much stress cannot be laid upon this use of the omentum in intestinal repair, and while it is possible for adhesions to form and be followed by obstruction some months later, that is a remote danger and not to be considered with the immediate one of rupture. The stitches forming the anastomosis may not yield for many hours if properly placed. By this time the omentum has become adherent to the intestine and renders efficient service by its reinforcement. Care must be taken

however, when the omentum is used to cover a weak point that it is held in place by the fewest possible absorbable sutures, that it may be free should the adhesions disappear later. Because of the great probability of infection in these cases drainage is imperative, but as pus rarely forms until the third or fourth day, and after the sutures are well protected by omental adhesions, a gauze wick drain carried down to the omentum will direct the flow of fluids away from the locality. This drain should be removed about the fourth day, unless signs of active infection present themselves earlier, and a drainage tube be inserted in its place, care being taken not to disturb the point of repair. Should stitch abscesses form in the external wound, the sutures should be removed at once and the parts supported with gauze and collodion.

Gangrene of the intestine is frequently the result of accident, the blood vessels becoming blocked by being caught or bruised with forceps. The operator should exercise great care in not injuring or ligating vessels by which the blood supply to any part of the intestines may be cut off. Interference with the circulation is quickly manifest and death by rupture of a gangrenous intestine can be averted only by cutting out at once the part deprived of blood.

The grave consequences following obstruction call for strong prophylactic measures. The very existence of a foreign growth more or less occluding the lumen of the bowel and many times, in consequence of infiltration of the neighboring tissues, binding the cæcum down, necessarily forms a barrier to peristaltic movements. Extra precaution is necessary, therefore, to empty the whole tract of its contents, and after thorough evacuation to put the patient upon a diet that will leave the least possible residue. The above record shows that our patient received no food for two weeks that could leave any accumulation in the intestine. When vomiting occurs, the stomach should be frequently and thoroughly washed with the stomach tube.

Some points may be further emphasized by brief mention of a case of cancer of the transverse colon which was operated three days after the previous case. In this case the same method of operating was employed, about five inches of the colon being removed. At 5 P.M. of the second day he showed signs of obstruction with pain in the abdomen, great restlessness, pulse 106, temperature 101°, and later hiccough. Nothing was administered by the stomach from this time until the seventh day. An ice bag was applied to the abdomen, and the stomach was washed twice daily. Enemata of six ounces of peptonized milk with the white of one egg were given every six hours. Upon the sixth day he had a large soft movement, and on the seventh day a normal soft stool, indicating clearly that because of obstruction by the growth, fecal matter had been retained, causing a second obstruction after operation. At no other time were there unfavorable symptoms in this case, the patient making a speedy recovery, and being discharged upon the thirtieth day after operation.

An Anatomical Method of Demonstrating the Accessory Cavities of the Nose.—G. Bruehl suggests the following method: a fresh or alcohol skull is macerated one-quarter; the soft parts are dissected off and it is decalcified in a ten-per-cent. nitric acid solution. Decalcification takes longest at the glabella of the frontal bone and the zygomatic process, but is complete in two or three weeks. After washing in running water, the skull is hardened in alcohol, then dehydrated, and finally subjected to a mixture of equal parts of absolute alcohol and ether. The specimen is then placed in carbolxylol. On the following day, if the bone has been dehydrated and decalcified, it is cleared. The specimen is removed from the carbolxylol, the excess fluid is allowed to run off, and an opening is cut in the septum of the frontal sinus; its nasal canal is closed off with cotton. Wood's metal is melted in a spoon with a tapering tip. Care must be taken not to heat it too much; just enough to melt it is the best. It is then poured into the frontal sinus with the specimen held on its side. The sphenoidal and ethmoidal sinuses are then filled. The maxillary antrum is filled from an opening in the canine fossa. The amount of fluid necessary to fill the cavity enables us to determine its cubical contents. In order to improve these specimens for demonstrating purposes, after the metal has become hard, windows may be cut into the walls of the accessory cavities. Enlarged blood vessels appear through the bone. The furrows in the bone for the vessels may be outlined with water color. All the individual features of these cavities are thus capable of being demonstrated. Their position to the cranial cavity, to the mouth, to the nasal cavities, and their relation to one another, are exactly given.—*Archives of Otology.*

A New and Original Stitch and Method of Closing the Abdominal Walls and Other Deep Incisions.—Jacob Michaux takes a suture with a needle on either end, and pierces the peritoneum only on one side, bringing out the needle just under the surface of the rectus muscle (if closing an incision in the median line), passes over the rectus and catches up the aponeurosis. He then lays down needle No. 1, takes up the other and repeats the operation on the other side. The peritoneum and aponeurosis are thus pierced on both sides. The next step is to cross over, taking up the aponeurosis again (with needle No. 1), on the opposite side, carrying the needle through the fat and skin at one thrust. Then needle No. 2 is taken across the incision; the aponeurosis pierced as well as the overlying fat and skin on that side. This completes the stitch. The aponeurosis is now pierced twice on each side, thus insuring a firm hold on this important structure, and each thread, as it crosses, must draw the edges of the aponeurosis together. Upon the close union of its edges depend the exemption from hernia. The advantages of the procedure are the following: Uniform tension along the walls of incision. Close approximation of edges of aponeurosis. Complete removal of suture after healing. Simplicity.—*Virginia Medical Semi-Monthly.*

A New Form of Pathogenic Blastomycetes.—M. Santori concludes from his researches: (1) In some cases of malignant tumors, especially if they are of the nature of connective tissue, it is possible to isolate blastomycetes. (2) From a sarcoma in a rooster, the author isolated a form of blastomycetes identical with one previously isolated from a similar tumor in the same fowl, which together with Casagrandi he called Saccharomyces infiltrans. (3) This form of blastomycetes when inoculated under the skin is capable of inducing a growth of connective tissue nodules, which cannot, however, be considered true tumors. (4) In any case it provokes the formation of puriform foci, and the death of the animal sooner or later. (5) It is capable of producing pseudo-tubercles of the same structure as genuine tubercles; for which reason it might be appropriate to call it a pseudo-tuberculous blastomyces.—*La Riforma Medica.*

Puerperal Convulsions.—Apomorphin is a powerful diaphoretic almost equal to pilocarpine, without its tendency to produce pulmonary œdema. In postpartum cases of eclampsia it has been tried in doses of $\frac{1}{32}$ grain with success.—Kitchens, *St. Louis Courier of Medicine.*

MEDICAL RECORD:

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THE PREVENTION OF TUBERCULOSIS.

ONE of the subjects discussed in the Section of State Medicine at the recent meeting of the British Medical Association was by what general scheme of action, including administrative measures, can the prevention of tuberculosis be most efficiently advanced.

Notification was, of course, regarded as one of the chief means to check the spread of the disease, although most of the speakers were not in favor of making notification compulsory.

Dr. J. Robertson of Sheffield strongly urged that sanitary authorities should have power to establish places for the open-air treatment of phthisis and other tuberculous diseases; he also drew attention to the need of the provision of isolation homes, for patients who were a source of danger to their friends and to the general public.

Dr. Ransome of Bournemouth made some remarks which were characterized by sound common sense, and which were in pleasing contrast to the views set forth by the upholders of the theory that tuberculosis is a dangerously infectious disease. Dr. Ransome pointed out the fact that tuberculous infection was much more largely conditional on individual resistance than the infection of many other diseases, and it no doubt frequently happened that an individual might harbor virulent tubercle bacilli and yet, provided he himself was strong and healthy and lived in healthy surroundings, the chances were largely in favor of his not contracting the disease. In support of his contention that the tuberculous infection was conditional upon the receptivity of the body, and to an almost equal extent on the environment of that body, Dr. Ransome mentioned some experiments in which a sample of tuberculous sputum, exposed to sunshine and air in his own house, had entirely lost its virulence in the course of a few days, whilst a similar sample of the same sputum, exposed in the room of one of the lower-class houses in Manchester, contained living virulent bacilli at the end of three weeks. The speaker urged upon the medical officers of health the fact that their great duty with respect to the prevention of tuberculosis was to improve the conditions of life—and especially the conditions of the dwellings of the poor.

Mr. J. F. Hall-Edwards believed that the establishment of sanatoriums was the best means of stamping out phthisis; at present, however, they appeared to be fostering consumption as a hot-house plant rather than treating it as a scourge. He was strongly opposed to methods which entailed the treatment of tuberculous patients for a limited time in sanatoriums, and which then simply returned them to that identical home environment which was in so large a measure responsible for the disease.

Dr. H. M. Biggs recently read a paper, in the course of which he said that the measures adopted by the New York Board of Health are partly compulsory and partly voluntary, but the former are not strictly enforced. At first the medical profession was very much opposed to the ordinances, largely because they did not properly appreciate their aim and scope. In recent years a better understanding has prevailed, and the consequence is a large and steady increase in the number of cases reported to the board. It has been found that 80 per cent. of the cases ending fatally have previously been registered. Much good has been accomplished by improving the sanitary condition of the overcrowded tenement-house districts, which were found to be the principal centers of infection. On the other hand, harm has come from calling tuberculosis a contagious disease. It is communicable but not contagious. The pressing needs now are: Hospitals for advanced cases, sanatoria outside the city for incipient cases, the inspection of workshops, and the enforcement of sanitary measures in them and in public conveyances.

THE MEDICAL RECORD has long been an advocate of controlling the spread of tuberculosis by every possible sanitary measure, including the doing away with the unhealthy ill-ventilated dwellings of the poor, unfortunately so common in all large cities, and especially in New York City. The establishment of sanitoria, too, should effect much in the fight against consumption. Nevertheless, such institutions to be successful must be conducted on thoroughly practical lines, and great care exhibited in admitting only patients in that stage of the disease likely to be benefited by such treatment. As to the question of notification, the system adopted by the New York Board of Health is best calculated to meet the exigencies of the situation. Tuberculosis, as this journal has always contended, is only communicable under certain circumstances, and therefore to render it a compulsory notifiable disease would be unjust to many of its victims, as well as, to a large extent, unnecessary.

First improve the conditions of life of the poorer classes, then treat the disease, when found, by rational means, such as sanatorium treatment, and then the prognostications of enthusiastic experts, that the time is near at hand when tuberculos will be almost unknown, may haply come to pass.

Anæsthetists for the Public Hospitals.—The Board of Managers of Bellevue and the allied hospitals has decided to appoint anæsthetists for each of the hospitals under its charge. These appointments will be honorary, and will be held by specialists, who will give instruction to the incoming members of the house staff in the art of administering anæsthetics in accordance with the best modern methods. Two such instructors will be appointed to Bellevue Hospital, and one apiece to the several dependencies, and arrangements will be made by which one hospital may call upon the services of the anæsthetist attached to another in case of the temporary absence of its instructor.

RECENT STUDIES REGARDING THE MORPHOLOGY OF THE DIPHTHERIA BACILLUS.

Dr. Arthur T. Laird read before the Medical Society of the County of Albany, on March 18, 1903, a paper with the above title. The writer has gathered together the results of the investigations of numerous American observers in regard to morphology of the diphtheria bacillus. Wesbrook, director of the Bacteriological Laboratory of the Minnesota State Board of Health, divides diphtheria into three main groups, subdivided into types. The groups are (1) granular; (2) barred; (3) solid-color forms. From a study of a series of clinical cases the conclusion is drawn that (*a*) granular types are usually the predominant forms at the outset of the disease; (*b*) the granular type usually gives place wholly, or in part, to the barred and solid types shortly before the disappearance of the diphtheria-like organism. On the other hand, solid types may occasionally be replaced by granular types.

Gorham of Providence, in the examination of 2,375 cultures, about 1,000 of them from healthy subjects, verifies Wesbrook's observations and concludes: (1) That diphtheria-like bacilli are more frequent in the nose than in the throat. (2) That there are diphtheria-like bacilli in the noses and throats of a large percentage of apparently healthy people. (3) That many morphological varieties of the B. diphtheriæ may be recognized. (4) That the change from granular or barred types to solid staining types seems to take place under the influence of the body fluids of a person immune or becoming so. (5) That the virulence of the B. diphtheriæ seems to be correlated with the microscopic form. (6) That the so-called xerosis, pseudodiphtheria or Hofman's bacilli, are morphological varieties of the B. diphtheriæ, sometimes capable of producing clinical diphtheria, but usually non-pathogenic to guinea-pigs. (7) That it is probable that the solid staining types may regain their virulence when they have once lost it.

The relationship of virulent bacilli to non-virulent diphtheria-like bacilli has occupied the attention of investigators since 1887. Dr. Anna W. Williams, as a result of studies in New York City, at the Willard Parker Hospital for contagious diseases, and elsewhere, believes that there are distinct species and sub-species of diphtheria-like bacilli, which have no tendency to become converted one into the other. As many non-virulent diphtheria organisms retain their characteristics under various artificial and natural conditions she thinks that they may be regarded from a public-health standpoint as harmless. She concludes that the morphologically typical diphtheriæ bacillus is a distinct species from the atypical diphtheria-like bacillus and so-called pseudo-forms. Morphologically, the organisms described as pseudodiphtheriæ bacilli have resembled the solid color forms of B. diphtheriæ in Wesbrook's scheme. The so-called xerosis bacilli resemble the barred forms.

A committee of the Massachusetts Association of Boards of Health has endeavored to collect data regarding the occurrence of diphtheria bacilli in well persons. The coöperation of leading bacteriologists, both within and without the State, was secured. A report was given at the April quarterly meeting, 1902. Wesbrook's plates were furnished to all the workers. Cultures were taken from both the nose and throat, amounting to over 4,000 in number. It was found that between one and two per cent. of persons examined in the East were infected with typical diphtheria bacilli of the granular types, of the so-called involution forms of the common long form of diphtheria bacillus, and of the similar but shorter forms. Solid-color types were found in about 26 per cent. of cases in the nose, and in about 5 per cent. of cases in the throat. The results in Minnesota of cultures taken almost altogether from children in institutions where diphtheria had existed from one to eighteen months previously, showed a higher degree of prevalence of all the forms. The committee believes that in healthy persons only the granular types of the forms mentioned above should be considered as diphtheria bacilli. Forty-seven tests of the virulence of granular forms found in throats of healthy people were made. Only about 17 per cent. proved to be virulent.

The committee concludes: (1) It is impracticable to isolate well persons infected with diphtheria bacilli if such persons have not, so far as is known, been recently exposed to the disease. (2) It is not advisable, as a matter of routine, to isolate from the public all the well persons in infected families, schools, and institutions, cultures from whom show the presence of diphtheria bacilli. The committee further believes that the danger from an infected healthy person depends on the age, habits, surroundings, occupation, and intelligence of the individual, and all of these matters should be taken into consideration by the health authorities.

Dr. Laird and his co-workers of the Bender Hygienic Laboratory, Albany, from July, 1901, have been making observations according to Wesbrook's scheme, and found that granular forms were found in more than half of the cases diagnosed as diphtheria. It should also be noted that in cultures for release from quarantine, solid-color forms alone were found in a much larger proportion of cases than in cultures for diagnosis. This confirms the observations of Wesbrook and Gorham, that in the later stages of the disease the granular types are frequently replaced by solid-color types. The solid types have been found to be the only ones present in a considerable number of the clinical cases of diphtheria. This is thought by the committee of the Massachusetts Board of Health to be a very rare condition, but Wesbrook and Gorham have both found them present alone in cases of clinical diphtheria, and have several times isolated solid forms in pure cultures from healthy persons, and proved them virulent to guinea-pigs.

Amyot of Ontario states that the types found in cultures vary with the locality to some extent, and Gorham agrees with this statement, but Laird says there was not a constant difference between the types from Albany and Schenectady, or between types from different parts of New York State.

Preventive Medicine.

General George M. Sternberg contributes to *Popular Science Monthly*, February, an article treating of preventive medicine. He shows that sanitary measures have greatly decreased

within late years both the prevalence and virulence of certain diseases. Referring to typhoid fever and cholera, he notes that, until quite recently, the attention of sanitarians was so firmly fixed upon the demonstrated transmission of cholera and typhoid fever through the agency of contaminated milk or water, that other modes of transmission were overlooked, or at least underrated: For instance, the carrying of these diseases by insects or by air in the form of dust. General Sternberg refers to the fact that, for many years, he has insisted upon the part played by flies as carriers of infectious material from moist masses of excreta from cases of cholera and typhoid fever. Certainly the most fatal disease in armies in the field at the present time is typhoid fever. Our war with Spain and the South-African war showed that; although some advance has been made in preventing this disease, there is yet room for immense improvement. The saddest and even reprehensible feature with regard to the mortality among troops from typhoid fever in these two wars was that much of it was preventable. Insanitary conditions in the camps, and the lack of really good water filters, combined with gross carelessness in many details, owing to the ignorance of the rank and file, and the paucity of proper supervision, were the causes of the high death rate.

Medical officers trained in sanitary matters are badly needed in armies. Experience, however, does not seem to teach wisdom in this respect, for, when a war breaks out, it is not long before typhoid fever begins to claim its victims. This is matter which requires serious consideration, and by the authorities of the army of the United States as much as by any army of the world

Insanity in the German Army.

The inhabitants of Germany and of other countries whose population is of like origin, have always had the reputation of being somewhat predisposed to mental instability. The large number of suicides which occur among these people would seem to show that this belief is not without some foundation. Further evidence has recently been given in support of the view that the Germans are prone to insanity by Assistant-Surgeon E. Stier of the German army, who has just published a pamphlet of forty-three pages on the "Prophylaxis and Treatment of Mental Diseases in the German Army."

The *Lancet*, referring to this pamphlet, says: "Relying upon an extensive examination of the statistics bearing upon his subject, Dr. Stier starts with the disturbing statement that mental affections, properly so called, are increasing not only among the civil population of Germany, but also in the army. In 1882 the number of lunatics in the ranks was 0.32 per 1,000 of strength, whereas in 1898 the proportion was 0.52 per 1,000. Compared with the total sick rate from all causes—682.5 per 1,000 in 1898, the disability from lunacy may seem small, but the above ratios are exclusive of all such affections as epilepsy, hysteria, and chronic alcoholism, in which mental symptoms are secondary. Military surgeons, continues Dr. Stier, have to consider lunacy from three separate points of view: Firstly, as it affects recruits, in order that incipient and obscure cases may be eliminated; secondly, in its latent form among enlisted soldiers, so that possible outbreaks may be foreseen and guarded against; and, thirdly, as an established disease to be treated and subdued. If, he adds, it were possible to recognize all cases of latent or potential insanity among recruits, there would not be many lunatics in the ranks. To this end it has been proposed that experts in mental disease should sit upon all recruiting boards, but to such a proceeding there are objections. For instance, the amount of time necessary for the establishment of accurate diagnosis for every recruit would be prohibitive. A military life, in the writer's opinion, is not entirely exempt from danger to the mental equilibrium of its votaries, but very often when lunacy follows, and appears to depend upon such causes as sunstroke or cranial injury, the probability is that the latter merely acted as an excitant. If the sufferer had been perfectly sound of constitution previously, the upsetting of his mental balance would not have supervened."

After discussing the various causes of insanity to which a soldier, from the nature of his calling, is peculiarly liable, Dr. Stier recommends that in every military station, large or small, there should be a special hospital for insane patients, for the reason that in a general ward lunatics exercise a deplorable effect, and it is impossible to supervise and control them. The writer also suggests that instruction in mental diseases should be made available for military officers.

It would be instructive for purposes of comparison to gather statistics with regard to insanity among the other large European armies. It is possible that mental diseases are as rife among some of these as among the soldiers of Germany. Probably, however, it would be difficult to obtain accurate figures, as no people of the world are as careful and painstaking in collecting reliable information on any subject as are the Germans. Nevertheless, the amount of insanity occurring among the civil population of a country is a good criterion of its prevalence in its army. The whole question of statistics of insanity throughout the world requires more exact attention than has been given to it in the past.

The Food Factor in Education.

"Overpressure" in education has now for some time been made the theme of endless discussion. This crusade against modern methods of training the rising generation has not been undertaken without valid cause. The youth of great cities throughout the world, are crammed with knowledge—much of which is more or less useless—while their physical condition is neglected. The consequence is that the urban population is degenerating in physique and constitution, and is becoming every year less fitted to fight successfully the battle of life. In the *British Medical Journal*, April 4, is an article which, although allowing that the present tendency to overload the minds of the young produces many evil effects, yet contends that insufficient food is a factor of much importance in the production of ill-health. And that the diet of growing children is generally inadequate, both as regards quantity and quality. Dr. Clement Dukes, a distinguished authority on school hygiene, states that the average schoolboy requires meat twice a day, and suggests that the innumerable petty misdemeanors of boys may be due to insufficient nourishment. Underfeeding is especially noticeable in the case of girls. Dr. Newsholme points out that girls thus underfed often get into the habit of relying on bread and butter and puddings, to the almost complete exclusion of meat and other nitrogenous food. The conclusion arrived at from a consideration and comparison of diets in various schools in England and France, is that, as a rule, not enough nitrogenous food is given, and that girls are generally underfed. In these days, when examinations are harder and competition

more acute than ever before, the strain upon the mental faculties and upon the nervous system of those at school and college, is exceptionally severe, and in order to preserve good health, the necessities of the body must be carefully looked after. The young, then, when studying hard should not only be given sufficient food, but suitable food.

State and Schools.

The *Hospital*, January 3, contains an excellent review of the manner in which school inspection is carried on in this country and in Great Britain. It is gratifying to our self-esteem to observe that all the English authorities quoted acknowledge that matters in this respect are managed better on this side, and urge the municipal authorities of British cities to copy American methods.

Newsholme, writing in the *Practitioner*, March, 1902, pays a well-deserved compliment to the superiority of the methods of school inspection prevailing here over those of his own country. He gives an account of the very thorough system which is in force in the schools of Boston, and mentions that the School Board of London has been advertising for nurses, one of whose duties would be the inspection of the school children's heads for ringworm. Lea, writing in *Public Health*, July, 1902, thinks that the school authorities should see that the health of the children does not suffer, and that they should, as far as possible, be protected "from the infectious and loathsome diseases so prevalent in schools." The London School Board hopes that by instructions and pamphlets the teachers themselves will be able to diagnose these complaints. As, however, Lea remarks, this is no part of a teacher's work and would be of comparatively little value. The same writer is also of the opinion that the expense of the introduction of the American system of daily medical inspection of the scholars would be more than balanced by (1) a diminution in the number of cases of infectious diseases, (2) increased school attendance, and (3) improved health of the children. The Manchester School Board estimates that through measles alone the elementary schools of Manchester lose $10,000 per annum.

Collins, also writing in *Public Health*, says that "it is difficult to say how far the State may safely go in relieving the parents of responsibility, but it is quite certain that a child of the slum, half fed, half blind, half deaf, and with only a half-formed physique, is unable to profit to the full extent by the instruction offered by the State. In aggregating children together in school-rooms, it is unavoidable that derangements should occur. Much can be done by building suitable school-houses, providing efficient ventilation and warming, and the provision of out-door covered class-rooms.

Early this year, according to the *British Medical Journal*, the School Board of London appointed eight oculists to pay 200 visits to schools under control of the Board, with the object of testing the vision of the children. A report has been presented of the work done up to the beginning of the summer vacation beginning July 23. Each child, after examination, is presented with a card, to be taken home to the parents, on which advice as to treatment is written when necessary. Serious visual defects were found in 8 per cent. of the boys, and 11 per cent. of the girls. These proportions seemed to be maintained throughout social life. Taking into consideration the various groups of schools, it may be said that the percentage of visual defects varies enormously, being small in the better-class districts and greater among the poor."

Notwithstanding that the United States is, upon the whole, in advance of Great Britain so far as school inspection is concerned, there is yet room for very considerable improvement. In New York City—to which come, and, as a rule, stay, most of the afflicted who managed to evade the port inspectors—school inspection should be especially rigorous. Through laxness of inspection trachoma is said to have spread through all the schools of the East Side. It is a paramount duty of municipal authorities and health boards to see that children in schools are not suffering from any complaint which might spread among their fellows.

The Epidemic of Cerebrospinal Meningitis at Lisbon.

Mr. H. W. Seager writes in the *Lancet* of November 1 on the experience he gained from the study of this disease during the recent epidemic in Lisbon. He says in part "Cerebrospinal meningitis is a disease almost entirely confined to the lower classes, so that probably dirt, overcrowding, and malnutrition are largely conducive to its prevalence in Lisbon. It appears to be infectious, and to a slight extent contagious. A plan of Lisbon, in which the infected localities are marked, shows large areas of houses and offices occupied by the wealthier classes quite free from this disease, while numerous cases occur in the poorer districts surrounding these areas. The disease appears to have no connection with the water supply or sewage."

The writer says that a very remarkable symptom of the disease is the abolition of all reflex action in the quite early stages; abdominal reflex action may be exaggerated, but disappears in a day or two. "The patellar reflex action not only disappears, but when the patient is turned on one side, or raised to a sitting position, the knees are so forcibly flexed that it requires considerable strength to straighten them. This state begins on the third day of the disease, and continues for fully eight days after convalescence, but the other reflex actions return earlier. The eyeball may be touched during the height of the disease, with no consciousness on the part of the patient. Herpes labialis is common among these cases, and is looked upon as a favorable sign; phlyctenulæ are rare. Delirium commonly occurs, even on the first day, and lasts for three or four days. Hemorrhagic nephritis occurs in very many cases, and lasts for three or four days. Paralysis of the bladder also occurs frequently, but is quite independent of the nephritis. Gastric hemorrhage is almost always present, and vomiting is an early symptom, especially in relapses. Various forms of paralysis often complicate this disease, and sometimes prove incurable. Other complications and sequelæ are corneal ulcers, blindness from atrophy of the optic nerve, suppurative otitis of the middle ear, bronchopneumonia, pulmonary congestion, and hemorrhage, with very low temperature, and even with no fever. These lung troubles do not always cause death, which is usually the result of myocarditis—a very serious complication. The liver is enlarged and swollen, and very tender, and projects sometimes three or four centimeters beyond the ribs. In these cases yellow blotches appear on the skin, and after death necrosed patches are found on the liver."

Although the foregoing clinical picture of cerebrospinal meningitis is vivid, and in the main agrees with the observations of those medical men who have come in contact with the disease, yet the pith

of Mr. Seager's paper is contained in that portion which deals with the treatment.

He says, concerning the treatment with injections of lysol, that of thirty-one patients thus treated thirteen died, and the eighteen who have recovered are completely cured. The early treatment, he further remarks, was by hot baths and ice to the head; under this régime 60 per cent. died. Then simple puncture of the spinal cord was tried in twenty cases, in three of which the liquid was already purulent. Of these twenty patients, nine died, and of the eleven who recovered, one was deaf, one had persistent paralysis of the left arm, and four had bed-sores. The next seven cases were treated by puncture and removal of the fluid and an injection of oxycyanide of mercury. Of these seven patients four died and three were cured. The fluid was found to be purulent in five of the cases, four of which proved fatal.

Drs. Franca and Silva Carvalho introduced treatment by lysol injections, and Dr. Franca has further proposed to aspirate the ventricles and to withdraw the fluid which, if allowed to remain, is certain to cause a speedy and painful death.

It would seem from these results that injections of lysol after puncture and aspiration have a beneficial effect on the course of the disease. Drs. Franca and Silva Carvalho also agree that in spite of the assertions of the French observers, meningococci are absolutely typical of the disease.

News of the Week.

Beth Israel Hospital.—At a meeting of the Board of Directors of this hospital, held May 28, the following were unanimously appointed as members of the Medical Visiting Staff of the hospital: Drs. Fred Walker Gwyer, visiting surgeon; Max Einhorn, visiting physician; Henry Koplik, visiting physician to the children's service; A. Hymanson and J. Barsky, adjunct visiting physician to the children's service.

Dinner to Mr. Moynihan.—Mr. G. B. A. Moynihan of Leeds was given a farewell dinner at the University Club by Dr. William B. Coley on May 26. Among those present were Drs. William T. Bull, George Ben Johnston of Richmond, V. P. Gibney, Walter P. Jones, George Woolsey, Charles N. Dowd, Joseph A. Blake, B. Farquhar Curtis, and John B. Walker.

The New York State Pharmaceutical Association will hold its annual meeting in Utica on June 16, 17, 18, and 19. It is expected that about five hundred delegates will attend the meeting. Mr. William C. Anderson of Brooklyn is a candidate for the presidency of the association, and as he has the backing of practically all the New York City members, it is believed he will be elected. Mr. Thomas Stoddart of Buffalo is now serving his second term as president. The candidates for appointment to the State Board of Pharmacy are Charles Sears of Auburn, and John Hurley of Little Falls. There will be a number of receptions on the opening day of the convention, and the local committee has arranged a series of trolley rides. There are about one hundred miles of track in and about Utica, running to the most picturesque parts of the Mohawk Valley. During the sessions of the convention there will be reports of the committee on new remedies, legislation, State Board of Pharmacy, trade interests, adulterations, and various other subjects.

A New Bellevue Hospital Site.—The New York City Board of Estimate recently held a public hearing on the plan of the trustees of Bellevue and allied hospitals to acquire the block bounded by Twenty-eighth and Twenty-ninth streets, First avenue and the East River, for a site for a new hospital. The assessed value of the land in the block is $846,000. A number of physicians spoke in favor of the plan, but the matter was finally referred to the Comptroller for further investigation.

The Harlem Hospital.—A three-story dwelling house on One Hundred and Twentieth street has recently been purchased for use as an addition to relieve the overcrowding of the Harlem Hospital. It will be renovated and made available for hospital and dispensary purposes.

Proposed Sanatoria at Colorado Springs.—An effort is being made to raise funds to build two sanatoria for consumptives at Colorado Springs, one for patients who are able to pay for treatment and the other for poor people. The income from the sanitarium for the well-to-do patients will, it is expected, pay for the running expenses of the other besides its own expenses. Each institution will cost, it is estimated about $200,000.

A Case of Laboratory Plague in Berlin.—Dr. Milan Sachs, a young Viennese physician, died last week from plague in Berlin. He had studied the disease at Agram and other Balkan cities, and came to Berlin a few weeks ago to continue his researches at the Bacteriological Institute, where he became infected with the plague. He was transferred to an isolated barrack, where he died June 5. One of the attendants of Dr. Sachs is also ill, and it is believed that he also has contracted the plague. The authorities have adopted rigorous measures to prevent a spread of the plague. All the household effects of the family with which Dr. Sachs boarded have been confiscated and burned, and all persons who came in contact with the dead man have been segregated for observation. In consequence of this death the Government has decided to issue a decree forbidding further experiments with plague germs, the risk of sperading infection being considered more dangerous to the public health than the knowledge gained in studying the deadly microbes justifies. The decree forbidding further experiments was determined upon at a conference at the Ministry of Education of the sanitary and police authorities, in which the Emperor's physician, Dr. Leuthold, Professor Renvers, and other noted specialists participated. Dr. Sachs was sent to Berlin by the Austrian Government, which intended to use his services in perfecting the sanitary arrangements in Bukovina.

Disease Germs as Weapons in Warfare.—It is reported by way of London that the Macedonian revolutionary leaders have obtained possession of a large quantity of plague bacilli, with which they threaten to cause an outbreak of the plague in Constantinople and Salonica if their demands for autonomy are not conceded. This may be true and may not, but the danger to Europe is probably not great. The report recalls the alleged attempt,forty years ago, to introduce yellow fever into New York and Philadelphia by means of infected clothing. We now know, thanks to the work of the late Major Walter Reed and his associates, that this nefarious scheme would have failed, since the virus of the disease is not conveyed in clothing soiled with discharges from yellow-fever subjects. It is probable that the attempts of the Macedonian leaders would also be foiled by their ignorance of the conditions favorable to the spread of plague, or

quite certainly by the repressive measures which would be taken by the sanitary authorities were the disease to disclose itself.

Yellow Fever is reported to be prevalent in Yucatan. Some apprehension has been created by the appearance of a disease in Caracas which it is feared may be yellow fever. The United States Consul at La Guayra has cabled to Washington that the physicians, while undecided as to the true nature of the prevailing disease, are agreed in believing that it is not yellow fever.

Scarcity of Cod-liver Oil.—The London correspondent of *The Sun* says that, owing to the failure of the fishery catch on the coast of Norway, the price of the best cod-liver oil has risen enormously. Eight gallons now cost 25 shillings. A year ago the same quantity could have been bought for 5 shillings or less. It is stated that several London hospitals now decline to supply their patients with the genuine article, and it is rumored that inferior substitutes, such as shark oil, are employed. The failure of the supply is due less to a scarcity of the fish than to the condition they are in when caught, with their shrunken livers yielding merely a fraction of the normal amount of oil. It is thought this has been caused by the failure of their food supply and the attack on them by seals.

The Christian Hospital of Chicago has come to grief through the employment of very unchristian methods of making money. It plagiarized the old scheme worked some time ago by St. Luke's Hospital of Niles, Mich., of electing physicians throughout the country to membership on the hospital staff. The destined victims were notified of their election and were requested to send a sum of money to pay for the diplomas of membership. For $25, the maximum fee, the applicant received a "beautifully engrossed certificate, which imparts confidence to patients," while for other sums the institution retailed "official buttons" and other insignia intended to impress the credulous. On these diplomas the name of Dr. John B. Murphy appeared as one of the directing physicians, and it was through the suit brought to restrain the hospital from using this name that the scheme suffered the blight of publicity. First the court enjoined the hospital from advertising Dr. John B. Murphy as president of its staff. Then Post-office Inspector Stuart arrested the principal directors of the institution, charging them with fraudulent use of the mails, and the Chicago Medical Society has been collecting additional evidence designed to expose the extent to which the hospital has carried on its operations. The federal grand jury will investigate the charges.

A New Antituberculosis Serum.—A report of researches made during a year and a half with a serum to cure tuberculosis was recently presented to the Newark Board of Health. The report is said to have been so favorable that the board will ask the Newark Common Council at its next meeting to appropriate a considerable sum to enable it to fight the growth of tuberculosis with the serum.

A Vanderbilt Hospital in Paris.—It is reported in one of the London papers that Mr. W. K. Vanderbilt, Sr., has offered to his bride the money to carry out her long unfulfilled desire to build a hospital in Paris for free treatment of the poor. The building will be the most complete that can be devised and thoroughly modern in construction. Mrs. Vanderbilt will have carte blanche in everything relating to the situation and management of the hospital, which will be called by her name.

Conference of State and National Health Authorities.—The first annual conference of the State and national public health officers, for which a call was recently issued by Surgeon-General Wyman, in accordance with the provisions of an act of Congress approved July 1, 1902, met at the new Willard Hotel, Washington, on June 3. The boards of health of various States were represented. The conference was presided over by General Wyman, and after the meeting was called to order Assistant Secretary of the Treasury Armstrong, on behalf of the government, welcomed the delegates and assured them that everything would be done to make their stay as pleasant and profitable as possible. He said that in the great work of improving the health conditions of the country coöperation between the States and between the States and nation was the secret of success, and he promised, in the name of the national government, to do everything to further this end. Surgeon-General Wyman, delivered the opening address (see p. 933). Dr. Foster of California gave a description of quarantine operations in that State, particularly in relation to the plague danger in San Francisco. He said that with the vigorous cleaning out of Chinatown the fear of another attack of this disease was rapidly disappearing. He attributed the success achieved to the hearty coöperation existing between the city, State, and national health officers in endeavoring to stamp out the infection. Dr. Foster was followed in interesting talks by Drs. Townsend, Porter, Egan, Conniff, Bailey, Souchon, Young, Fulton, Baker, and Woodward. At the suggestion of Dr. J. Y. Porter of Florida, a telegram was addressed to the Florida Legislature expressing the hope of the conference that the act now pending before that body providing for the collection of vital statistics would receive favorable action.

At the afternoon session the discussion of local health and quarantine conditions was continued, each representative explaining the sanitary laws and the method of carrying them out in his particular State, addresses being made by Drs. Wesbrook, Hunter, McAlester, Probst, Smith, Lee, Swarts, Simons, Tabor, and Cooper.

The conference adopted the following resolutions:

Whereas, The conference of the State Boards of Health of the United States with the Public Health and Marine-Hospital Service, having confidence in the earnest efforts and ability of the Governor and State Board of Health of the State of California acting in harmony with the Bureau of Public Health and Marine-Hospital Service to thoroughly eradicate bubonic plague heretofore existing in the City of San Francisco, do resolve that in the judgment of this conference, so long as the present effective work is continued, there is no need for quarantine restrictions of travel or traffic to or from that State.

Resolved, That the methods of coöperation between national and State health authorities suggested by the presiding officer, meets the approval of the conference.

A committee was also appointed to draft a resolution expressing regret at the death of Dr. Mathew Gardner, late President of the State Board of Health.

The various States were represented by the following delegates: California, Dr. N. K. Foster; Connecticut, Dr. J. H. Townsend; Delaware, Dr. E. W. Cooper and Dr. Alex. Lowber; Florida, Dr. J. Y. Porter; Illinois, Dr. J. A. Egan; Iowa, Dr. R. E. Conniff; Kentucky, Dr. William Bailey;

Louisiana, Dr. Edmond Souchon; Maine, Dr. A. G. Young; Maryland, Dr. J. S. Fulton; Michigan, Dr. H. B. Baker; Minnesota, Dr. F. F. Wesbrook; Mississippi, Dr. J. F. Hunter; Missouri; Dr. A. W. McAlester; Ohio, Dr. C. O. Probst; Oregon Dr. Andrew C. Smith; Pennsylvania, Dr. Benjamin Lee; Rhode Island, Dr. G. T. Swarts; South Carolina, Dr. T. Grange Simons; Texas, Dr. George R. Tabor; Utah, Dr. T. B. Beatty; West Virginia, Dr. Samuel F. Myers; District of Columbia, Dr. William C. Woodward.

Precautions against Tuberculosis in California.—At the last session of the Medical Society of the State of California, the following committee was appointed to investigate the prevalence of tuberculosis in that State, and to make such recommendations to the society at its next meeting as they may deem appropriate: Dr. F. M. Pottenger, Los Angeles, Chairman; Geo. L. Cole, Los Angeles; Jno. C. King, Banning; Geo. H. Evans, San Francisco, and Edward von Adelung, Oakland, Secretary.

Philadelphia County Medical Society.—At a stated meeting, held May 27, Dr. Burton K. Chance read a paper entitled "A Report of Two Cases of Orbital Cellulitis as a Sequel of Scarlatina," and Dr. George Erety Shoemaker read a paper entitled "The Management of Malignant Disease of the Uterus."

College of Physicians of Philadelphia.—At a special meeting, held May 29, it was decided to purchase for $80,000 a lot of ground 80 by 130 feet on Twenty-second Street below Market for the purpose of erecting thereon a new and commodious building adequate to the increasing needs of the institution.

The West Virginia State Medical Association held its thirty-sixth annual meeting on the 26th, 27th, and 28th of May, 1903, in Glenwood City Hall, Charleston, W. Va., President H. B. Stout of Parkersburg in the chair. The President's Annual Address contained many suggestions of great importance to the moral and material welfare of the association and will go down to the history of the association as one of the most practical and most useful presidential addresses. The secretary's report showed the association to be in a prosperous condition and showed clearly that the great strides it has made during the past year were made possible by its partial reorganization at the last meeting. The report closed with the recommendation that the association undertake to protect its members in suits of mal practice. The association acted upon this recommendation and adopted the following resolution: "That this association pledges its moral support and will substantially defend any member who shall be sued; and further pledges the services of any and all its members when called upon to attend any trial and testify in behalf of the member sued."

The following papers were read and discussed: "The Organization of the Medical Profession," by J. N. McCormack, Bowling Green, Ky.; "The Constitution and By-laws, with Some Comments and Suggestions," by Wm. W. Golden, Elkins; "Puerperal Eclampsia," by E. T. W. Hall, Weston; "The Present Status of Serum and Organotherapy," by J. M. Sites, Martinsburg; "The Promising Outlook Along Electrotheropeutic Lines," by T. L. Barber, Charleston. Symposium on Quarantine: "The Microbiology of the Common Communicable Diseases," by J. Schwinn, Wheeling; "The Etiology of the Common Communicable Diseases, with Especial Reference to the Common Methods of Communication," by A. G. Staunton, Charleston; "The Management of the Common Communicable Diseases, with Especial Reference to Public Safety," by S. L. Jepson, Wheeling; "The Public and the Physician in Relation to the Common Communicable Diseases," by J. C. Irons, Elkins. Dr. T. L. Barber to open discussion with an illustrated paper on "Uniform Signals of Contagious Disease for State and Nation." "Collapse and Shock," by W. S. Keever, Parkersburg; "Mastoiditis," by T. V. Churchman, Charleston; "Demonstrations of the Value to the Physician of Modern Methods of Diagnosis," by A. Rose, Hinton; "The Country Practitioner and What He Can Do for His Patients as a Specialist," by Jno. R. Cook, Fairmont; "Distocia and Its Treatment," by W. H. Sharp, Parkersburg.

At its last meeting at Parkersburg, W. Va., the association adopted, with certain modifications, the Constitution and By-laws recommended by the American Medical Association for State Societies. One of these modifications was the omission of the house-of-delegate feature, an account of the very small number of the county societies then in existence and the lack of self-confidence to be able to organize many such societies before many years. The efforts in this direction during the past year, however, have proven very successful, and encouraged the association to adopt the delegate system for the next meeting, thus making its reorganization complete. To Dr. J. N. McCormack much credit is due for valuable assistance in this matter.

The following officers were elected: *President*, Dr. T. L. Barber, Charleston; *First Vice-President*, Thomas M. Hood, Clarksburg; *Second Vice-President*, Dr. E. T. W. Hall, Freemansburg; *Third Vice-President*, Dr. Rolla Camden, Parkersburg; *Secretary*, Dr. Wm. W. Golden, Elkins; *Treasurer*, V. T. Churchman, Charleston; *Councillors*, C. A. Wingerter, Wheeling; J. W. McDonald, Fairmont; C. S. Hoffman, Keyser; W. H. Proudfoot, Rowelsburg; W. W. Tompkins, Charleston; O. O. Cooper, Hinton; W. S. Keever and H. B. Stout, Parkersburg, and C. R. Enslow and T. W. Moor, Huntington. *Delegates to the American Medical Association*, S. L. Jepson, Wheeling, and W. H. Sharp, Parkersburg. Fairmont was chosen as the next place of meeting.

Pathological Society of Philadelphia.—At a stated meeting, held May 28, Drs. D. L. Edsall and C. W. Miller read a paper entitled "The Calcium Phosphorus and Nitrogen Metabolism in Acromegaly." Drs. Geo. C. Stout and Herbert Fox presented a communication entitled "A Case of Cerebral Abscess." The patient was a child who had complained of pain, together with a bad odor from the ear, without discharge. Eventually the mastoid was opened, and later the brain also, but the pus was not reached. After death an abscess of considerable size was found involving the frontal and temporal lobes. Dr. A. G. Ellis read a paper entitled "Evolution of Scirrhous Carcinoma from Cystic Disease of the Mamma," and he reported an illustrative case and exhibited the specimens. Dr. Ellis read also a paper entitled "Hemorrhagic Gastritis Due to Pyloric Lodgment of a Swallowed Laryngeal Membrane." Dr. M. Howard Fussell presented a specimen of aneurysm of the aorta rupturing into the œsophagus. The patient had been a man who had vomited blood only a short time before death, which was found to be due to rupture of an aneurysm of the descending aorta. The sac had formed between the aorta and the œsophagus, and the latter was the seat of a perforation of considerable size, largely plugged by blood-clot. Dr. Randle C. Rosenberger presented specimens of

adrenals containing liver-like cells; teratological form of the tænia saginata; an appendix with two lumina; and an adult heart with a bifid apex. Dr. Brooke Anspach presented a specimen of ovarian dermoid containing thyroid-gland tissue.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

JUBILEE NURSES—GENERAL MEDICAL COUNCIL—ETHICS OF OPERATIONS—RHEUMATIC IRITIS—DIFFERENTIATION OF TROPICAL FEVERS—EATING HAIR—MENINGOMYELOCELE—ANGIOMA OF SYNOVIAL MEMBRANE—LEPROSY—ROYAL SOCIETY—BUST OF SIR W. MAC CORMAC—DEATH OF LLOYD ROBERTS.

LONDON, May 22, 1903.

YESTERDAY afternoon the King and Queen received a deputation from the committee of the Women's Memorial to Queen Victoria. This consists of a substantial sum to form an endowment fund for the Queen's Jubilee Nurses Institute. You will, doubtless, remember that the late Queen gave £70,000 of the Jubilee Women's offering to establish that institute for district nurses. It has been a great success, and many poor patients have reason to bless the Jubilee Nurses.

To perpetuate the memory of the late Queen, this women's collection has been equally successful—about £66,000 being raised in England and Wales, £6,000 in Ireland, and £12,000 in Scotland.

The King, in thanking the deputation, mentioned the additional pleasure it gave to the Queen and himself that it was subscribed as a memorial of his beloved mother Queen Alexandra, as patron of the Queen's Nurses, also briefly expressed thanks.

The General Medical Council met yesterday for its seventy-sixth session when the president, Sir W. Turner, delivered another of his introductory addresses. In it he referred to the efforts made to augment the income of the council, and said a memorandum had been prepared as a basis of a memorial to the Privy Council. Some of us think the council ought to restrict its expenditures, but it continues to follow the example of too many public bodies. He said information had been received from which it seemed that one of the provinces of Canada was unwilling to renounce its right of independent registration, but until that was done the Dominion could not enjoy reciprocity with this country. This appears to be an affair of Canadian practitioners, and like other points unnecessary to occupy the time of the Council, and so increase its expense. The penal cases to be considered are numerous and important.

The oration of the Medical Society was delivered on Monday, by Sir W. H. Bennett, who devoted it to some reflections, mainly ethical, on surgical operations. The thought that at the present day there was sometimes too much readiness to operate, and too little consideration of the ultimate benefit to the patient. No operation could be said to be absolutely safe. That a patient would be sure to die if left alone was not, in itself, sufficient reason for operating. The interests of the patient are the first consideration. Exploratory operations are not to be undertaken as a routine procedure; indeed, all routine in surgery is to be strongly condemned—applied to a particular disease it increases the danger. Judgment is the enemy of routine. Judgment as to the end of operations was really more important than skill in performing them. A conversazione followed the oration.

In writing last week about rheumatic affections I exhausted my space before referring to some experiments on rheumatic iritis which I think worth your notice. It must be admitted that iritis is a very rare complication of true rheumatism—so rare that many refuse to recognize it as such and would regard any case as accidental; or, perhaps, gonorrhœal rather than rheumatic.

Drs. A. Paine and F. J. Poynton, whose other researches on rheumatism I have reported, have, however, communicated to the Ophthalmological Society the experiments mentioned above, which tend to support the view that iritis coming on in acute rheumatism is due to their microbe. The diplococcus developes in the tissues and cells rather than in the exudation, so that it is hardly possible to identify it in fluid from the anterior chamber, and the complication is too rare to furnish an opportunity of examining the inflamed iris itself during the fever. Experiments on rabbits were, therefore, made, and the results exhibited to the society and shown in lantern slides. The specimens of iris showed diplococci *in situ*, the distribution resembling that of the organisms found in the synovial membranes of acute rheumatism. Dr. Poynton said that the ordinary methods of preparation and staining sufficed for the detection of the microbes when present, as the subsidence of the inflammation was due to their destruction or reduction to a latent state, he would not expect to find them in portions of iris removed during the quiescent period.

The differentiation of some tropical fevers was the subject of the paper at the Medico-Chirurgical Society last week, by Captain L. Rogers, M.D., I.M.S. He dealt with some 200 fevers in the Calcutta hospitals during the past two years. Serum tests, leucocyte counts, clinical notes, and temperature charts were given. These confirmed former cases which he had recorded. In fifty consecutive cases of typhoid fever there was frequently an increased percentage of lymphocytes without any increase of mononuclear white corpuscles, except during convalescence, or when the case was complicated with malaria. Captain Rogers found typhoid, as determined by the serum test, rather frequent in natives, and in this opposed to Dr. Crombie's experience, as mentioned at the Indian Medical Congress, 1894. Another series of cases went to show the value of the large mononuclear increase in malarial remittent fevers. Captain Rogers concluded that the simple continued fevers met with were malarial, and that Crombie's "non-malarial remittent"—seen almost exclusively in natives—was in reality typhoid.

Dr. Manson thought the conclusions offered were not justified, for increase of large mononuclear leucocytes occurred in other diseases than malaria. Observations in Calcutta could not be applied to African fevers. He held there were many continued fevers that were neither malarial nor typhoid.

Dr. A. E. Wright also objected to the conclusions of the paper, as well as to the method employed. We had no definite list of size of mononuclears, and the pressure of a cover-slip might easily alter a cell. Malaria was probably rather rare in Calcutta.

Dr. G. C. Low admitted that an increase of large mononuclear leucocytes occurred in malaria, but held that this was not sufficient for diagnosis.

One of those curious cases of eating hair was related at the Clinical Society by Mr. C. A. Morton, whose patient was a young woman of eighteen years. A very hard abdominal swelling, freely movable and resonant, with pain and vomiting almost suggested an omental tuberculous mass or some growth. On operation the hair ball was removed and weighed one and three-quarters pounds. Afterward a history of eating hair was obtained. Wm. Paton mentioned a case in a child of nine years, also removed by operation.

Mr. H. B. Robinson showed a specimen of spinal meningomyelocele removed from a girl of eleven months. Abdominal section had been done and a cyst found which was emptied, and the sac, which was firmly adherent to the spine, ligatured and cut away. The child died ten days afterward. At the post-mortem various abnormalities were found. A similar specimen from the Hunterian Museum was shown.

Mr. F. S. Eve read a paper on angioma of synovial membrane and of muscle. He related four cases, all occurring between the ages of ten and twenty-five years. Some complained of symptoms suggestive of tuberculosis, others had wasting of muscle. Two of the cases were of special interest, as the angioma was entirely confined to the synovial membrane, which seems to be a very rare condition, no record of it being known. Campbell de Morgan, in 1864, collected the muscular cases recorded up to that date in his article in the *British and Foreign Medico-Chirurgical Review*. In none of them was a joint or synovial membrane involved. Some were well-defined and encapsuled, others diffuse. In one pulsation was observed, in some blood could be expressed from the swelling; some were mistaken for lipoma.

Mr. Eve remarked that cases involving the synovial membrane may not really be so rare, for besides the four related he had seen two others, and probably they would have remained unrecognized but for the advances in surgery, which have enabled us to open joints with impunity.

The president, Mr. Howard Marsh, said he had never met with cases precisely similar. He suggested that these swellings might become inflamed and so resemble active, tuberculous disease. He mentioned one case in which there was pulsation leading to a question of aneurysm, but the pulsation was variable, and under an anæsthetic disappeared, so was probably a cavernous angioma of muscle. Other speakers mentioned cases in muscle, but no one had met with it in synovial membrane.

You know that Mr Jonathon Hutchinson went to India to look into the evidence there as to the cause of leprosy. He has returned as firmly convinced as before of the truth of his "fish theory," and last week gave a lecture on the subject at the Polyclinic. He thinks that recently "out-and-out contagionists" have diminished in number, and that those who agree with him correspondingly increased. At the Tau Turan asylum in the Punjab, the Hindus and

Mohammedans contribute 127 lepers from a population of 27,000,000, while 38.000 native Christians furnish 34. In Calcutta the native Christians are 1 per cent. of the population, but have more lepers than the Mohammedans, who are thirty-two times more numerous, and half as many as the Hindus who are sixty-two times as numerous. Mr. Hutchinson sees no other conclusion than that change to Christian food by the poorer natives is most powerfully productive of leprosy. Sir W. Broadbent declared he had listened to the lecture with an interest approaching conviction.

There was a brilliant assembly at the Royal Society's *conversazione*. The principal attraction was the demonstration of the properties of radium by Sir Wm. Crookes.

The College of Surgeons has accepted a replica of the bust of Sir Wm. MacCormac which has been executed for St. Thomas's Hospital.

Dr. E. Lloyd Birkett died on the 8th inst., full of days and full of honors. He was born in 1814, graduated at Cambridge in 1838, retired from practice in 1890. He was for some years editor of *Guy's Hospital Reports*, and he filled various offices at the College of Physicians, up to the vice-presidency.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

THE MANILA WATER-SUPPLY—THE MATERNITY HOSPITAL—ISOLATION HOSPITAL FOR THE CHINESE—THE CHOLERA.

MANILA, March 15, 1903.

REQUEST has been made by the natives living in the valley of the Mariquina river, from which the water supply of Manila is obtained, that the present sanitary cordon around the river be withdrawn and that they be given access to it. At present the watershed is carefully guarded by American soldiers, and pollution of the river prevented as far as possible. The natives argue that as cholera no longer exists in the valley there is no reason why they should not be allowed to use the stream as they had previously been in the habit of doing. The careful quarantine of the Mariquina valley is undoubtedly the reason why Manila has practically been exempt from cholera for the past four months, and with cholera existing at a large number of points in the islands there is no possibility that the request for the removal of this quarantine will be entertained for a moment by the health authorities. The quarantine of the river was removed for a short time last November, but this action was followed by an alarming increase in the number of cholera cases in Manila, and the quarantine was promptly re-established, with an immediate reduction in the cholera mortality of the city. It is probable that, under present conditions, the quarantine will be relaxed to the extent of allowing the natives to draw water from the river and cross it in boats, as deprivation of these privileges is working serious hardship to those living in the valley, and the policy of the Civil Government is not to excite dissatisfaction among the natives where it can possibly be avoided. In the Philippine Islands, at the present time, the relation of sanitary procedures to political considerations has to be carefully considered, and the sanitary problems are not as simple as they would be if an intelligent and sympathetic population could be counted on for assistance, and such support in public health matters as is given by the citizens of communities in the United States.

The water supply of Manila offers one of the most urgent sanitary problems at the present time. In quantity it is insufficient for the existing population of the city, allowing only about 10,000,000 gallons daily, or a total of about 30 gallons per capita for all purposes. The mains are so small and the reservoir at such slight elevation that the pressure is insufficient to force water to the second stories of buildings in many parts of the town during business hours, even when the pumps are run to their full capacity. With the rapid enlargement of the city which is going on under the stimulus of increased business due to American control of affairs, and particularly when a proper sewerage system for the city is installed, the amount of water necessary for city uses will have to be doubled. Such an increased amount will mean practically the entire flow of the Mariquina river at the dry season. At present, a flimsy dirt dam, liable to be washed out at any time by a sudden flood, forms a small pond from which the water is pumped by four engines, of obsolete type, to the top of a hill, about 140 feet high, whence it runs by gravity into a reservoir at El Deposito, where a certain amount of purification by sedimentation is accomplished. In the dry season these four engines are just capable of satisfying the city's needs, and if one or two of them should be crippled for any length of time a water famine in Manila would result. The reservoir at El Deposito holds a supply for about thirty-six hours only, an amount quite insufficient to tide over even an ordinary emergency. The Deposito reservoir is divided into two parts to permit of alternate cleaning; it consists of a large number of connected vaults hewn out of the solid rock and arched over with masonry, on a hill about 65 feet higher than the level of Manila. The water is carried into the city from the reservoir by gravity, being taken over the intervening four miles through a large pipe laid on the surface of the ground. In character, the water supply of Manila is not at all satisfactory, as at present some 20,000 natives live on the Mariquina watershed above the intake for the pumping station, and the town of Mariquina, directly on the river banks, is only about a mile and a half from this pumping station. Under such conditions absolute freedom from contamination cannot be secured even by the most strict quarantine measures, especially during the rains. The government is fully alive to the necessity of providing a more abundant and purer water supply, and a corps of engineers is engaged in drawing plans and making up estimates for this purpose. At the head of the Mariquina valley, some fourteen miles from Manila, the water comes clear and undefiled from the mountain gorges, draining a watershed which is uninhabited, and, the most of the proposed plans contemplate the drawing of water from this source. One tentative proposition is to erect a dam at the head of the valley, and carry the water into Manila by gravity, or, if the latter be not possible, to erect a pumping-station at the dam. Levels are now being run to decide this question. If a pumping station is necessary, the cost of the undertaking will be vastly increased, as the proposed dam site lies almost in a wilderness, with practically no road facilities, and it would probably be necessary to run a fourteen-mile spur of railroad out from Manila, for the transportation of machinery, material, and coal. Should this plan be decided on, the present pumping-station, conduit system, and reservoir would be held in reserve. Another plan contemplates piping water down to the present pumping station, remodelling the latter, and continuing its operation. Against this is the fact that the present reservoir at Deposito and the water conduits are too small, and must be greatly enlarged, or new ones constructed. This scheme would probably never be satisfactory, and entails the hauling of a vast amount of coal by carabao carts, over several high hills, a bad road, and some eight miles of distance from the Manila docks. A system of supply by gravity, direct from the mountains, would be expensive at the outset, but more economical and satisfactory in the long run. A filter bed for sand filtration, in connection with the new system, would be desirable, but in view of the original purity of the water at its proposed source, the cost of construction and maintenance of such a filter bed and the great desirability of at present using any available funds only for the most necessary objects, such a filtration plant will probably not now be considered in connection with present plans. It is understood that the commission stands ready to issue bonds for the city of Manila, to the extent of $4,000,000, for the construction of the new water-works. Of course with the large increase in the quantity of water supplied, better facilities for the removal of waste waters will be more imperatively demanded and the construction of a municipal sewerage system will probably be carried on at the same time.

Mention was made some time since of the financial straits in which the Asilo de Maternidad, or Maternity Hospital of Manila, found itself, and of the special effort being made to secure the funds necessary for its continuance. The committee charged with the duty of securing subscriptions has not met with much success, and the managing board has consequently decided that the hospital must be closed. The children now in the asylum will be provided for, as several prominent Filipinos have agreed to take them into their own households.

The Chinese Chamber of Commerce of Manila, which has great influence over the Chinese here, has recently decided to build a retention camp and hospital buildings for the treatment of plague, cholera, and smallpox among the Chinese. A sufficient sum of money will be expended by them properly to construct and equip these buildings according to the ideas of the board of health. These hospitals for epidemic disease will be located near to the Chinese general hospital for purposes of administration. Up to the present time all Chinese plague, cholera, and smallpox cases and contacts have been sent to the general city contagious disease hospital and detention camp, an arrangement which did not meet with the approval of the Celestial, who prefers strongly not to be separated from his own kind, and is willing to construct and maintain his own hospitals to secure this result. At a recent meeting of the influential Chinamen here, it was decided by them to expend any necessary sum to improve the sanitary condition of the Chinese districts of Manila, they appreciating that plague is far more prevalent among the Chinese than the other classes here, and that their

commercial interests are suffering accordingly The Chinese Chamber of Commerce is supporting the board of health work probably more for commercial than humanitarian reasons—but whatever the reason, its support is of great value, and the Chinese here are more amenable to sanitary control than are the Filipinos.

Cholera still exists at a number of points in the islands, furnishing a large number of foci from which it may spread with the beginning of the rains. It is present in the reconcentration camps in the southern part of Luzon, where the native troops are engaged in hunting down the bands of ladrones which still exist there. In one day reports showed the presence of the disease in Luzon, Samar, Negros, Leyte, Mindanao, Romblon, and several of the smaller islands. Except in Mindanao, the number of cases are few, and are of importance merely as showing the persistence of the infection. In Mindanao, particularly on the south and east coasts, a number of cases have occurred among the American troops engaged with the hostile Moros. During active operations in an infected region, the absolute protection of the troops engaged is not possible. What the extent of the disease is among the Moros is not known, but it is undoubtedly considerable. Every now and then the death of some hostile Moro chief, from this disease, is reported, and the officer in charge of the present military operations is said to have stated that there was more to be feared from cholera than from the Moros. Several cases of cholera have lately occurred on boats returning from the southern islands to Manila, but the infection has so far been kept out of the city from this source through the vessels being intercepted and sent to the Mariveles quarantine station.

MOSQUITOS, QUARANTINE, ETC.

A REPLY TO DR. E. SOUCHON.

To the Editor of the Medical Record:

Sir: Published in the Medical Record of April 18 there appears a reply by Dr. Souchon to my article of March 14 in critical response to the Doctor's statistics and conclusions concerning the history of yellow fever in New Orleans. The statistical table and the deductions drawn therefrom are contained in a contribution to the Medical Record, published October 25, 1902, entitled "On the Eradication of Yellow Fever in Havana."

While a difference of opinion between individuals is of small consequence, ordinarily, and of little general interest, a divergence of view between public officials regarding the application of measures preventive of disease is of great importance and much concern, especially to those who may be affected by the disease to be prevented; and, while it is a matter of small moment that Dr. Souchon, or Dr. Kohnke is right or wrong, the correctness of historical records is a matter of sufficient import to warrant discussion of the subject.

I beg, therefore, the privilege of making reply through your columns to Dr. Souchon's estimate of my observations.

I thought I had made myself very clear as to the reasons which prompted me to question the correctness of the Doctor's conclusions.

When I wrote "I differ widely from him in his main contention, that quarantine against yellow fever need not consider the mosquito," I announced my dissent from his opinion; and when in the next paragraph I wrote "the *achieving* result has *always* been the excluding of infected mosquitos," I expressed my own.

Dr. Souchon says in his reply: "I do not say in my paper that quarantine against yellow fever need not consider the mosquito."

If the Doctor desires to exercise his undoubted privilege to change his opinion for one more generally held he should withdraw his former expression, not deny it.

Language is but an imperfect medium for the transmission of thought, as the courts teach us daily, but when Dr. Souchon, after relating what quarantine had done in preventing yellow fever in New Orleans, says: "All that was accomplished without any precautions whatever having been taken against mosquitos," he implies that quarantine, in his opinion, need not consider the mosquito.

It is quite possible that the Doctor regrets having expressed this erroneous belief, but that, as Kipling would put it, is "another story."

In the very first paragraph of the Doctor's reply he furnishes the keynote to his argument, whose dominant tone harmonizes neither with science nor ethics—the one requiring accuracy, the other demanding fairness. In the first sentence of this paragraph the Doctor betrays a misinterpretation of the quotation with which I caption my article. In the second sentence he announces his idea of progress to be "to strive to make knowledge," and in the third he forthwith carries this idea into execution by boldly asserting a belief in the correctness of his own figures which is comparatively valueless, because utterly unsupported.

The mere belief of no man is sufficient warrant to establish as true that which is not true; and when the correctness of the Doctor's figures is challenged by specific reference *by date and page* to the official records (*of which he is the official custodian*), he should reply—if he reply at all—by something more specific and of greater convincing power than the mere reassertion of his own individual belief. Knowledge is not "made" in this way.

The Doctor charges me with failing to reply to the "point" of his paper, which was directed, I presume, against the importance of mosquito destruction in Havana for the prevention of yellow fever.

It was not my design to defend Major Gorgas, who needs no help, but to meet Dr. Souchon when he turned the "point" of his paper to attack my views on quarantine (with regard to mosquitos) previously officially communicated to him.

Perhaps the point of the Doctor's paper was also directed to show the great efficiency of the Havana quarantine; if so, then I met this point when I said, "Fomites could have entered Havana through its quarantine, but mosquitos could not."

Dr. Souchon contends "that the stegomyia on board of non-infected fruit vessels from ports quarantined against yellow fever are an unimportant factor in the transmission of yellow fever, because these mosquitos are very few in number and because they are not infected." I quite agree with the Doctor on this point; I even go further, and am willing to say that a mosquito or a vessel that is not infected, be she few or multitudinous, is not only "unimportant" but is actually non-existent as a factor in the transmission of yellow fever. It may be suggested very respectfully, however, that we sometimes don't *know* when a mosquito or a vessel, or a port, or even a person is infected; and to assume an absolute knowledge we cannot possess is absurd.

The Doctor asserts that investigations show 2½ per cent. of stegomyia on fruit vessels, and that only one case of yellow fever was discovered on board of a fruit vessel which could not be traced to infection ashore. "If," says Dr. Souchon, "the mosquitos on board were infected there surely would have been more than one case in fifteen years on more than one thousand fruit vessels that came from the fruit ports during these years." The Doctor forgets to add that the crews of these vessels were selected by order of the quarantine authorities from acclimated sailors, and that the carrying of passengers was discouraged during the quarantine season; and further, that during the greater part of this period sulphur disinfection of the empty holds of fruiters was practised, and that this preventive measure was *not* in operation during the three years of yellow fever in New Orleans (1897, 1898, and 1899).

The Doctor is as unfortunate in his quotations as he is inaccurate in his statistics, for, after stating that "Reed and Carroll *do not believe* that infected mosquitos reach vessels," he proceeds immediately to quote Reed and Carroll (Medical Record, October 26, 1901), who say: "In our opinion the chances of infection of a vessel by contaminated mosquitos coming aboard from a house or ship in close proximity are *very slight*." I submit that the difference between "*do not believe*" and "*very slight*" is quite considerable; especially when such an important possibility is under consideration.

The Doctor refers to the investigations of Dr. Grubbs of the Gulf Quarantine Station, and selects that which serves his purpose best, as is his privilege.

Dr. Grubbs, in his report to the United States Public Health and Marine Hospital Service, comprising Bulletin No. 11 of the Yellow Fever Institute, states very clearly and plainly that three vessels out of eighty-two brought mosquitos of the stegomyia variety to the Gulf Quarantine, and no mention is made that all mosquitos on any vessel were ship bred. Dr. Grubbs closes his report with his conclusions, from which I quote:

I think we may conclude, first, that mosquitos can come aboard vessels under favorable conditions when the vessel is not over fifteen miles from shore; second, that *stegomyia* can be carried from Mexican or West Indian ports to those of our Gulf States; third, that they can board a vessel lying at anchor a half mile or less from shore, being conveyed by the open lighters used or flying aboard, and finally, that a vessel moored a short distance from land *may become infected with yellow fever, our old beliefs to the contrary notwithstanding.*

The gravamen of my offence seems to be my insistence

that commercial expediency should not prevent the disinfection of *all* fruit vessels, as was done during our long period of exemption from yellow fever, and as was *not* done during 1897, 1898, and 1899.

Quitman Kohnke, M.D.,

Health Officer of the City of New Orleans.

New Orleans, April 24, 1903.

SECONDARY ERUPTION IN MEASLES.

To the Editor of the Medical Record:

Sir: On page 751, issue of May 9, is an abstract entitled "A Rare Case of Measles," in which it is stated that an eruption appeared over the entire body fourteen days after the initial eruption of measles. If such cases are indeed rare, I would mention that in a recent epidemic in this locality, one of my patients, a man about thirty years of age, had the initial eruption of measles April 12, which ran the usual course, and April 29 he came to my office with a macular eruption all over the body and limbs, more nearly resembling scarlet fever than measles, which lasted about three days. Temperature taken once was 99.5°; constitutional disturbance slight. He thought eating strawberries may have been the cause, but had previously passed through no similar experience.

R. C. Shultz, M.D.

Los Angeles, Cal.

OUR BEYROUT LETTER.

(From Our Special Correspondent.

THE VARIABLE CLIMATE OF BEYROUT—CHOLERA AND THE QUARANTINE—INSANITARY CONDITIONS.

Beyrout, Syria, April 28, 1903.

Beyrout, after an unexampled display of cold and wet, has again betaken itself to its accustome season of sunlight and clear skies. There are tokens of spring, and the heat of summer is in the air.

The "oldest inhabitant" tells us that for eighty years past we have not had such a "winter"—bleak and cold, and with a rainfall 30 per cent above the average. A "bit wet," remarked one of some Scotch wanderers, going about in a summer suit in what might be veritably called a Syrian blizzard of rain, hail, and thunder last December. "Nae sae bad," said one of his compatriots "ay, an' it might hae been worse!" suggested the patriarch of the party. From these premises we may conclude that Beyrout, the "Pearl" of the East, has descended from her high estate and has become wintry after all.

This is April, and a month hence we may go through all the cold and hot vicissitudes of the seasons in one summer's day—a day of twenty-four hours. Summer, blazing hot in the morning, mellow autumn among the shadows of the hills in the evening; spring as we mount higher before the dawn comes, and higher and higher still we find ourselves among the snows of Lebanon the morning after, looking down upon our starting place wrapt in the hot haze of one of our yesterdays. And this we can do, and, oh, the bother of it, because a railway has been laid and transit is quick. The railway brings up another subject—quarantine, to wit; and with quarantine Beyrout has been pregnant for the last decade to our personal knowledge. When she is going to be delivered of her burden it is impossible for lookers-on to say, but when she is herself again we hope she will reconsider her position.

Some eighteen months ago she tried to produce plague; and it was an abortion—now she has been whispering to her sister—the ancient city of Damascus—that she might give us, in default, *her* charge of cholera. But we will have none of it. We can only sit down and listen to her dirge. Cholera had her surfeit in Egypt, wandered up to the borderland of Syria, took some spoil in Tiberias, one of the districts of dwelling places, skirmished in Jerusalem, and so went to her own place.

Dwellers in Damascus during what may be called "lucent intervals" of quarantine have visited us from time to time during the last six or seven months, and seem to take it as a personal matter when we doubt the genuineness of this sample of cholera. We can only say we have had no statistics of deaths, either officially or by report, which would even tempt us from our standpoint of incredulity. We wake up one morning to find the train was not running from here to Damascus. Then we heard that a quarantine had been established midway on the line and forty miles from here. From that day to this, land quarantine has been put on and taken off, varying in its intensity from fifteen days to twenty four hours. Its permutations and combinations would puzzle a mathematician, and its spasmodic energy and unknown *rationale* are comparable in their result on the residents here to what may be experienced by an unfortunate traveller on board a ship whose berth may be situated below or in immediate proximity to the donkey-engine.

The railway quarantine station is placed at the village of Moalaka-Zahley, a village of about 30,000 inhabitants, situated on the Beyrout-Damascus railway and about half way from either terminus. The Zahley portion of the village, containing perhaps three-fourths of the population, is Christian and under the Government of the Lebanon, and therefore under the protection of the European powers, the other, or Moalaka portion, is composed of Moslems, and in the village of Damascus, and therefore, like Beyrout, under the immediate rule of the Sultan. A *cordon* has been imposed between these two portions of the same village, and although the Moalaka inhabitants have free communication with the fertile neighboring plains whence the villagers are wont to obtain their food supply, those of the Zahley portion are not allowed communication with the adjoining villages nor with their Moalaka neighbors, and having their supplies thus cut off, are practically in a state of siege. They can, of course, get supplies by rail from Beyrout, but the expenses of transport, etc., would render the prices prohibitive. In sheer desperation the Zahley inhabitants about a week ago tried to break through the *cordon* in order to get food, and were, of course, fired on by the soldiers on guard, with the result that there were some thirty casualties. Dan. O'Connell, the famous Irish advocate, is reported to have said that he could drive a carriage and pair through any Act of Parliament that ever was framed, and we imagine that, even when not driven to extremities by the fear of starvation like the Zahley folk, people will, as they have always done, find ways and means of evading land quarantine in a way quite in keeping with O'Connell's law-breaking chariot.

An edict has gone forth that our streets shall be paved, and operations have commenced in that direction. Already bands of Italian workmen are busy on the "Place de Canons," the principal, or rather the only, square in the town, and it is hoped that the good work may be perfected and not, as is usual here, come to an untimely end. During the last season's rains, we have been surfeited with mud and our streets were more or less like unto quagmires, with here and there an open drain to lend variety. For this and for other causes we had to be careful of his outgoings and his incomings, especially after sunset. There was a state of lawlessness, be it said, abroad; strangers and European inhabitants were attacked and robbed in early morning and after dusk, and murderous attacks, in several instances with fatal results, were committed on some of the natives, both rich and poor, and in most cases without apparent reason. Matters seem to be adjusting themselves, and it is some three weeks since we heard of any stabbing or shooting cases—a fairly long interval, comparatively speaking, as things have been going on.

There have been no epidemics since the endemic dengue wore itself out about a year ago. Sporadic cases of typhoid fever and smallpox are always cropping up, and, thanks to the alternations of coagulated mud and dust, tuberculosis in every form is ever to the fore. Perhaps after the streets are paved there may be some tendency in the latter to seek other quarters—that is, if, after thus paving, the town authorities be of a mind to keep their paved streets clean.

Congenital Alopecia.—There are several very different opinions as to the cause of this condition of hair loss. Great prominence is given by the author to the two fundamental processes that precede the final development of the hair, the formation and growth of the lanugo hairs at the sixteenth week of fetal life and the subsequent falling of the lanugo hair and replacement thereof by long medullated hairs in the positions that they occupy in life. This change begins in the scalp at the end of the eighth month. Concluding that the condition of alopecia is due to interference with any of these rudimentary processes, the author sums up in the following two premises: (1) If there is any interference with the development of the process of lanugo formation, there will result a delay in final hair-growth, if not a complete cessation. (2) If the hair rudiments have formed, but are subjected to a later interference, there will result a delayed development of the hair, or the hairs may be of a weak type which show a tendency to atrophic changes, or there may be a nævus formation.—Prof. Bettmann, *Archiv für Dermatologie und Syphilis.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, May 28, 1903.

The Relation of Chronic Enlargement of the Spleen to Anæmia in Infancy.—John Lovett Morse concludes from his studies with complete examinations of the blood, in the case of twenty-two infants, that when anæmia, splenic tumor and enlargement of the liver or lymph nodes are found in association with infancy, they are in no way dependent on each other, but are all manifestations of a common cause—disturbance of nutrition; that there is nothing characteristic about the blood changes found in association with enlargement of the spleen, as similar changes are found when there is no enlargement of the spleen; that the anæmia is secondary rather than primary; that there is no justification for placing the cases of anæmia in infancy associated with enlargement of the spleen or liver in a class by themselves and calling it "anæmia infantum pseudoleukæmica," or "splenic anæmia in infancy," that these terms should be dropped from our nomenclature.

The Boston Medical and Surgical Journal, June 4, 1903.

The Surgery of the Simple Diseases of the Stomach.—B. G. A. Moynihan in the perforation of gastric or duodenal ulcers prefers a prompt operation to expectant treatment, and emphasizes the necessity of a thorough exploration of the stomach for other ulcers. In the case of hemorrhage from acute ulcer, medical measures will usually suffice; if not, gastroenterostomy is the operation to be preferred. In hemorrhage from chronic ulcer this same operation is to be performed. Chronic ulcers often occur in a masked or latent form, the diagnosis from dispepsia being difficult to make. In "hour-glass stomach" there is apt to be a dual stenosis, so that one operation will not suffice, but two operations will have to be performed at the same time.

Cardiospasm and Its Treatment.—Joh. von Mikulicz-Radecki has observed about twenty cases of this disease, which he describes as an affection of the œsophagus, which consists mainly of a sacculated or fusiform dilatation of the organ, most pronounced in its lowest portion. He describes an operation for the relief of this condition, which proved a complete success. The stomach was exposed by laporotomy, and an incision was made into the anterior wall wide enough to allow the entire left hand to pass into the stomach. Under guidance of the fingers, an instrument resembling a glove stretcher was pushed into the cardiac orifice, and dilatation was gradually effected to such an extent that the blades of the instrument were about 7 cm. apart. Thus was caused a blunt dilatation of the cardia similar to the dilatation of the sphincter ani in case of anal fissure. The wounds in the stomach and in the parietal walls were then closed.

Journal of the American Medical Association, June 6, 1903.

The Uses and Abuses of Venesection in the Practice of Medicine.—Robert Reyburn declares that in certain diseases venesection is a valuable therapeutic measure, and in some instances is absolutely necessary to save life. The class of maladies benefited by the abstraction of blood are those in which there is in the body an abnormal blood-pressure threatening the rupture of a vessel in the brain or a stasis of blood in some vital organ. Typical instances are cerebral engorgement, croupous pneumonia, and puerperal eclampsia. Attention is called to the increasing death rate in pneumonia. In this disease venesection takes away the surplus blood which is overfilling and engorging the blood vessels of the lung, and also diminishes the force and frequency of the heart, which is sending to the lung far more venous blood than it can purify. Reyburn believes that many cases of threatened puerperal eclampsia can be prevented by timely bleeding. He insists, however, that the field of application of venesection is very definitely limited to the province suggested by the statements in his paper.

A Diagnostic Examination of One Hundred and Fifty Cases of Leprosy.—J. T. McDonald presents the following conclusions: (1) The microscope is the supreme agent of the final diagnosis of leprosy. No patient should be committed to a segregated colony without a bacteriologic demonstration of the disease. (2) Of clinical symptoms, maculæ, chiefly leucodermic spots, are found in 89 per cent. of all cases. (3) The lepra nodule, found in 74 per cent., is the one chief distinguishing lesion of skin leprosy. (4) Thinning, or complete loss of eyebrows and lashes, is present in 63 per cent. (5) Atrophic changes in hands and forearms, with retraction and contraction of fingers and enlarged ulnar nerve, in 32 per cent., a leading feature of nerve leprosy. (6) The plantar ulcer, found in 26 per cent., usually on the ball of the foot. (7) Absorption of phalanges in 16 per cent., with occasional spontaneous amputation. (8) Elephantiasis of hands and feet in 16 per cent. (9) Facial paralysis in 11 per cent. (10) The entire body should be carefully tested for anæsthetic areas. (11) Several of the above symptoms can be found in some slight degree at least in every leprous subject.

Results in Radiotherapy.—H. R. Varney details his experience with radiotherapy in tuberculous lesions of the glands and joints, in various skin diseases, lupus and malignant tumors. In reporting his series of the latter, numbering 50 cases, he states that it is only fair to the treatment to state that out of this number 38 were absolutely grave, inoperable, recurrent cases, so conceded by reputable surgeons, 13 were sarcoma, 6 lymphosarcoma, and 7 osteosarcoma; 37 carcinoma, 19 of which were epithelioma. The results of these cases can be summed up, briefly, as follows: With the exception of 8 cases, which are still under treatment, one year has elapsed since the rest were discharged, those living to date being constantly under observation or in communication. Cases ending fatally, 10; discharged improved, treatment discontinued, 5; referred for operation, 4; improved and still under treatment, 8; referred to other operators, 4; discharged, clinically cured, 19. The ages of the patients ranged from 18 to 84—19 females, 31 males. In cases of breast cancer the author finds a relief from pain, and sometimes a diminution in size of the new growth and its final disappearance, so that the case is clinically cured. He finds that malignant growths of the breast pathologically the same do not react the same to the rays. This depends on the resistance of the normal cell structure. Operation combined with radiotherapy offers encouraging ground for work. In treating epithelioma Varney believes it is necessary to give the longest exposures that can safely be given, to gain the promptest and best results, for it seems possible, with mild treatment, to stimulate growth, and, if long continued, to cause the disease.

Medical News, June 6, 1903.

A Case of Bacteriuria Resembling Weil's Disease.—G. Reese Satterlee presents the following summary of this paper: The picture presented by the original case was that of an acute febrile jaundice. There was a severe general infection, which must have caused degenerative changes in the liver as well as in the kidney cells. The prolonged weakness and the general muscular pains during convalescence showed that the infection was a severe general one. Experiments with a bacillus isolated from the urine, showed it to be toxic to guinea-pigs and in a lesser degree to rabbits. Acute hepatitis was marked in all cases that came to autopsy. Acute nephritis was also found. In the animal which survived the inoculation, the urine showed bacteriuria with albumin and casts.

New York Medical Journal, June 6, 1903.

Aids to Cystoscopic Practice.—F. C. Valentine has devised an apparatus which he calls a "box-phantom," looking into which through a cystoscope, the observer sees appearances such as those presented by the bladder in health and disease. In addition to this there is a larger phantom for advanced study. These are both figured in the original paper, which also contains directions for their use. Valentine believes that with these pieces of apparatus students may be easily and intelligently taught the methods of cystoscopy.

Torsion of the Testicle.—The symptoms, diagnosis, and general treatment of this rare condition are discussed by W. W. Williams, who adds notes of a personal case. His patient was a young man, aged sixteen years, who suffered from a sudden and intense pain in the right groin and testis. A hernia was found and reduced, giving some relief, but the epididymis was found to be enlarged and turned toward the front. This was replaced and immediate relief ensued. A second attack followed in a few days, and a similar condition of the epididymis was found. Replacement was tried but could not be performed. Consequently an incision was made over the cord and testis, and two drachms of bloody serous fluid escaped from around the cord. The testicle and lower portion of cord were black in color, due to a torsion of the testicle causing strangulation. The cord was ligated high up with fine silk and divided below the ligature. The author had placed an artery forceps on the cord above the testicle before dividing the cord and removing the testicle. When the forceps was removed, about one ounce of black blood escaped from the testicle and cord. The wound was closed with fine silk stitches, and a sterile dressing applied, held in place with a crossed perineal bandage. The stitches were removed the seventh day, and the patient went home on the thirteenth day. He has not had any pain since the operation.

Blepharitis Marginalis.—Three classes of cases are described by D. S. Reynolds. In the first class, the anterior

margins of the lids are dry and red, and the lash is seen, on close observation, to be thin, while the cuticle between the hairs is covered with minute scales of desquamating epidermis. There is slight thickening along the borders of the lids. In the second class, there is an excoriated, red, glazed, rounded appearance of the tarsal margin with no sign of lash. Rarely are both eyes affected in equal degree. In the third class there is an abundant accumulation of inspissated serum matting the lashes together in groups. When the crust is removed most of the hairs come away with it. There may be great thickening of the lid margins, and over its under surface dilated veins may course. In the first case the fungus surrounding the hair follicles may be destroyed by applications of a needle dipped in pure carbolic acid. The same remedy is also of service in the second class, in which the author believes ointments of all kinds practically useless. Thorough cleansing in the third class should be followed also with phenol applied to the bottom of the ulcer left by the detachment of the crust. The patient may now have a piece of gauze, smeared with petrolatum, laid over the closed lids, and a bit of cotton wool on the outside of the gauze, secured with a few strips of plaster, laid from the cheek to the forehead. This dressing should not be disturbed for twenty-four hours, when the treatment may be repeated, if necessary. Careful search should be made for any constitutional abnormality, which if found must be carefully corrected.

American Medicine, June 6, 1903.

Isolysins in the Serum of Disease.—S. Peskind has recently observed the presence in the serum of a leukæmic patient of an isolysin, *i.e.* a substance which caused hæmolysis of human blood-corpuscles. This hæmolysin may have been a product of the disease, or it may have been derived from the leucocytes, which were present in enormous numbers. The writer then experimented with the sera in other diseases to determine if isolysins were present, and if so, whether such isolysins were specific for these diseases or not. In a case of leukæmia, laking was almost complete in a short time. In two cases of anæmia there was no hæmolysis after some hours. In a case of pneumonia there was no hæmolysis after forty-eight hours. In a case of cancer of the stomach, laking was not complete at the end of forty-eight hours. In a case of cancer of the breast of one year's standing, agglutination took place in all the tubes. There was no hæmolysis after four days. The sera from two cases of typhoid fever and a case of uræmia, caused absolutely no laking of normal human blood-corpuscles after two or three days, even though drying out had occurred at the ends of the tube. But the sera in all these cases produced rapid laking of each other's blood-corpuscles, the laking beginning at the ends of the tubes where slight drying out had occurred. This laking in all probability is due to the lowered resistance of the blood-corpuscles in these diseases to hyperisotonic solutions. It is conceivable that these investigations may be of use in diagnosis.

The Medicolegal Test of Blood-stains.—E. N. Layton concludes that: (1) The reaction is caused by the development within the blood-serum of the injected animal of an anti-body or a property or substance which causes a certain reaction with the serum homologous to the one injected. (2) The reaction does not occur when normal rabbit serum is used. (3) The reaction occurs much more rapidly, especially when dilute solutions are used, if the test is exposed to a temperature of 37°C., although it will occur at ordinary room temperature. (4) An immediate result in the cold is obtainable by diluting only the blood tested, the test serum being used pure. (5) The reaction is obtainable when using a dilution of the test serum of 1-20,000, or of the blood tested of 1-4,000. Hence, only a minute stain and a single drop of the test-serum are required for making the test. (6) The delicacy of the test is not altered by the admixture of other bloods or of other foreign material, except the albumin precipitants. (7) The presence or absence of mineral salts, such as copper sulfate, or of other precipitants of albumin, can be determined by the control tests. (8) The delicacy of the test is not materially altered by the age of the stain. (9) A differentiation from monkey blood is possible, and contamination with monkey blood can be excluded, first, by a great dilution of the blood tested and a dilution of the test-serum of 1-500, with incubation; second, by a great dilution of the blood tested, the test-serum being used pure, and the test made at room temperature. (10) The test is specific, invariable, and therefore applicable to forensic use.

Philadelphia Medical Journal, June 6, 1903.

Wounds Inflicted by Modern Agricultural Implements.—D. W. Basham declares that to treat these wounds successfully, it is necessary for the surgeon to be skilled in the operation of tendon suture and nerve suture. Of all wounds to which farmers are most liable, none is so serious as those inflicted by the threshing-machine and the cotton-gin. In both cases amputation is generally required. One should never despair of a member so long as the blood supply is adequate to the needs of the parts and the promotion of the healing process. After correct antisepsis and asepsis, these wounds may be closed up, even though a joint be involved, the same as we close the abdomen under similar conditions, and the same results may be anticipated in the one case as in the other.

The Treatment of Otitis Media Suppurativa Acuta.—S. Maccuen Smith says that in the treatment of this affection it must be assumed that every effort has been made to arrest the disease before the formation of pus. But if this has already formed, it should be evacuated by a free incision of the membrana tympani, but never by simple puncture. After evacuation of the fluid from the tympanic cavity, a good recovery will be made in many cases by cleansing the canal and middle ear with an antiseptic solution followed by introducing a strip of iodoform gauze well into the deep canal to provide for good drainage, to be renewed every day or two. After the secretions have been removed by inflation, irrigation, or a cotton carrier, the surface can be gently dried with cotton and hot air, and then dusted with some impalpable powder. The general health must not be neglected. Absolute rest in bed, with free diuresis and properly conducted diaphoresis, are of the first importance. The bowels should be freely opened and the diet restricted to milk and broth. One or two days of absolute fasting and enforced rest in bed will often do more in prophylaxis than any other single or combined therapeutic measures.

The Lancet, May 30, 1903.

The Therapeutic Value of Alternating Currents Applied to the Abdominal Sympathetic Nervous System.—S. Sloan concludes as follows: (1) Those cases of uncomplicated neuromuscular asthenia in which the cause had ceased or had been removed most amenable to the treatment. By neuromuscular asthenia he means neurasthenia minus its psychic elements. (2) Regarding cases of visceral neuroses almost as much can be said. (3) Cases of persistent sickness, some of them of reflex character, have done well under the treatment, the only failure in this list having been one in which the liver was considerably enlarged. (4) The treatment may be relied upon in vasomotor cases, all of the five cases having been successful. (5) The treatment will be of little avail in neurasthenia. (6) In cases in which inflammatory mischief existed in the pelvic organs the result is not likely to be good. In such cases vaginal electric applications have given the best results. (7) When septic endometritis exists only a very temporary improvement will follow, although this may be made a permanent one if the treatment is resorted to after curettage has removed the septic condition from the uterus. (8) Epileptics are likely to derive no benefit from the treatment.

Uncomplicated Myocarditis in Children.—The histories of four cases are given by G. Carpenter. In case 1 there was a strong family history of phthisis, and certain preceding symptoms strongly suggestive of diphtheria. In case 2 the cause was undetermined, while in case 3 the cause was undoubtedly rheumatism. Pure myocarditis is rare in children. Of fifty-six cases of the chronic form Quain found but three in children. The commonly recognized causation of the acute disorder is pyæmia from bone and joint troubles. The common sequence in the acute form is abscess formation in the heart wall. This either bursts into the pericardial sac, forming a purulent pericarditis, or into the endocardium, and sets up an acute cardiac aneurysm. In all these cases, which are free from endocarditis, there are systolic and presystolic murmurs. It would appear, says the author, that the mitral murmur requires merely for its production a leaky valve, that no roughness or irregularity of the segments is necessary to that end, and that a mitral murmur is not positively diagnostic of mitral endocarditis, though it is, of mitral insufficiency. He also believes that the presystolic and mitral diastolic murmurs are indicative of a disturbance of the normal relationship between the size of the mitral orfice and the left auricle. When the latter is distended and the mitral ring distorted, this normal relationship is altered so that we have a *comparative* narrowing of the mitral orifice that is a mitral stenosis for that particular heart, and that murmurs which depend upon these anatomical changes are indistinguishable clinically from the systolic and presytolic and diastolic murmurs of ordinary mitral disease and true mitral stenosis, and that when these murmurs are present they are certainly much more in favor of endocarditis than the reverse by reason of the greater comparative frequency of

that condition in heart disease, with the reservation that mitral stenosis in childhood is a rarity.

The Differentiation of the Continued and Remittent Fevers of the Tropics by the Blood Changes.—L. Rogers gives this subject an exhaustive discussion, illustrating his statements by a series of statistical tables and charts. The various fevers considered are typhoid in Europeans and native Indians, malarial remittent, simple continued, non-malarial remittent, low, and malta. Twelve clinical histories are summarized. A marked increase in the percentage of lymphocytes without any noteworthy increase of the large mononuclear white corpuscles is of value in differentiating typhoid from malarial remittent fever. This test is, of course, in addition to that of serum injections, and the determination of malarial organisms. In malarial remittent there is a larger mononuclear increase. From the author's extensive experience, he concludes that only two forms exist at any rate of long duration—namely, typhoid and malarial remittent. Furthermore these can be distinguished in a considerable proportion of the cases by purely clinical methods, of which the temperature curve and pulse-rate and presence or absence of abdominal symptoms and the action of quinine are the most important. The remainder can be differentiated by the serum test or by the differential leucocyte count in all but a very few exceptional cases, the leucocyte count being of special value in the tropics on account of its being available when parasites are absent as a result of previous quinine treatment and its not requiring a laboratory—laboratories being very few and far between in the tropics at the present time—while it also has some prognostic value. "Simple continued fever," if it exists at all as a separate entity, which still remains to be proved, is very rare indeed as compared with malarial fevers. The so-called "non-malarial remittent fever in natives has been shown by the serum test to be nothing but typhoid fever. Low fever is distinct clinically, but is probably the result of the debilitating influences of prolonged residence in a tropical climate, including latent malaria, and is not a new specific fever.

British Medical Journal, May 30, 1903.

Case of Appendicitis in a Woman Aged Seventy-eight Years; Operation; Recovery.—A. R. Walters observed this patient. She had suffered from constipation for many years. She was of rheumatic habit. When seen on this occasion, she was suffering from abdominal pain and constipation. The temperature rose, vomiting occurred, swelling in the right iliac fossa and general tympanites, with great pain, developed. Appendicitis was diagnosed, and operation was performed. In spite of her great age, the patient made an excellent recovery.

Guaiacol in the Treatment of Smallpox.—J. J. Ridge states that in his experience in the treatment of smallpox, aside from four unvaccinated young infants who died—almost hopeless cases—there was but one death in forty-four cases. That case was one of confluent smallpox in a man aged forty-seven years, of intemperate habits and not vaccinated since infancy. The favorable courses of these cases reported is attributed chiefly to the use of guaiacal dissolved in olive oil—1 part to 80. The whole surface was annointed with this with a cotton swab at least every four hours. It allayed the irritation, and after a few applications almost abolished it. The medicine given was a hydrochloric acid mixture. The diet was simple milk and broth till convalescence. No alcohol was given. The loathsome odor was almost entirely abolished.

Clinical Observations on the Treatment of Inoperable Cancer by Formalin.—A. F. Meredith Powell reports his observations on this subject. In from three to seven days after application the cancer mass begins to detach itself in the way that necrosed tissue separates in gangrene. A line of demarcation is formed at the edge of the malignant mass. From twenty-four to forty-eight hours after the first application, the foul-smelling discharges cease. The patient becomes more bright and cheerful. In from twelve to sixteen days the writer was able to remove the growths in three cases—a sarcoma of the breast, a scirrhus of the breast, and an epithelioma of the lip (recurrent), leaving in its stead healthy granulating tissue, the skin gradually growing and closing the wound up. The process of separating is completed by the aid of a pair of forceps and scissors to snip the fibrous bands that pass into the underlying granulations. The strength of the formalin solution should be between 1½ and 2 per cent. Absorbent lint soaked in 2 per cent. formalin solution is laid on the tumor. This is covered with jaconet and cotton wool and bandaged on. The dressing should be changed six-hourly. After the third or fourth dressing the discharges and fetor cease. The further process is an aseptic one.

Case of Trypanosomiasis.—Patrick Manson reports this case observed in a woman of forty years. The temperature, as a rule, ranged from about 97° F. in the morning, to 100° F. in the evening. The pulse was always rapid and feeble. The erythema, which was a remarkable feature in the case, was first observed during the primary fever when the patient was living on the Congo. At that time she suffered much from prickly heat. The œdema, like the erythema, was most pronounced on the back and face. There was marked enlargement of the spleen. The red corpuscles were diminished in number, but, except for a short time during treatment with horse serum, not to any very great extent. The highest count was 3,880,000. The hæmoglobin was reduced in about the same proportion as the red corpuscles—36 per cent. was the lowest estimate. The red corpuscles were fairly uniform in size; there was no poikilocytosis. Only four nucleated reds were found altogether. The leucocytes were slightly below the normal number in most counts. There was an excess of the mononuclear elements. The polynuclears and eosinophiles were fewer than normal. The patient was kept in bed in a warm room and fed well. Arsenic in the form of sodium cacodylate or arsenate of iron was given hypodermically. Methylene blue was given. Horse serum was injected, but this treatment had to be stopped on account of the developing of serious symptoms.

Deutsche medicinische Wochenschrift, May 14, 1903.

Relations of Mild Infections to the Blood-forming Organs.—Felix Fregmuth, as the result of experimental research, shows that very small doses of infective agents which give rise to scarcely any clinical symptoms exert a specific action upon the blood-forming organs and excite in them an increased activity, which they do not possess under normal conditions. Hence slight infections which pass without clinical notice may subsequently give rise to severe derangements of the blood-forming organs, such as severe anæmia, chlorosis, etc. The experiments were carried on with cultures of typhoid bacilli or their toxins, which were inoculated in minute doses into rabbits. The hæmatological changes were studied by subsequently killing the animals and examining the bone marrow.

Pulsus Paradoxus.—Franz Riegel thinks that this condition, which was originally described by Griesinger in 1856, may etiologically be divided into three classes: In the first group of patients the symptom is due to a mediastinal pericarditis and caused by a direct mechanical compression of the great vessels. In the second class the origin is to be sought in a laryngeal or tracheal stenosis. Here the diminished admission of air into the lungs marked increases the normal variations in blood-pressure seen in normal respiration and produces the pulsus paradoxus. To the third class belong cases of various pulmonary and pleural diseases. In both of the latter classes pulsus paradoxus does not develop so long as the power of the heart remains good, and its presence in them is an absolute sign of diminished cardiac activity.

Berliner klinische Wochenschrift, May 18, 1903.

Etiology of Tabes.—E. von Leyden considers the exciting causes of tabes without especially entering into the consideration as to whether or no a syphilitic basis is necessary for its development. Such causes are traumatism, over-exertion, and cold. Cases are cited which exemplify these varieties of direct causation, and the fact is brought out that in several of them no personal or hereditary syphilitic history could be obtained. Experimental observations has also shown that traumatism, at least, may be followed by a degeneration of the posterior columns, cornu, and nerve roots, which in a typical manner correspond to the lesions of tabes.

Temperature Relations of Chronically Diseased and Congested Joints.—Max Herz concludes that the temperature of chronically diseased joints is always lower than normal. The slighest venous congestion increases the temperature of the extremity and calls forth in addition to the passive also an active hyperæmia. The pronounced compression of a vein produces first an increase in temperature and then a decrease, while a decrease is always immediately produced by the compression of an artery. When congested, the temperature of an extremity is more increased in a "light" bath and more decreased by the application of cold water than when the circulation is free.

Munchener medicinische Wochenschrift, May 19, 1903.

Appendicitis and Intestinal Worms.—W. Oppe reviews the literature and reports his observations upon sixty cases of appendicitis. Of these, five showed the presence of intestinal worms in the appendix. In all the cases the

oxyuris vermicularis was the sole parasite found. The number present varied from 2 to 8. There can be no doubt but that these parasites are a more frequent cause of appendicitis than is generally supposed.

A Case of Pleuritis Pulsans Dextra.—Ernst Bendix reports a rare case of pulsating pleurisy. The patient had suffered from acute articular rheumatism just previous to the development of the pleurisy. When first examined the physical signs of pleurisy with effusion were well marked, and the pulsations which corresponded in time with the cardiac impulse were painly evident. Evacuation of the pleural exudate was promptly followed by a permanent disappearance of the pulsations. From a diagnostic standpoint aneurysm is regarded by most authors as very liable to be confounded with pulsating pleurisy. Careful percussion and auscultation, however, never fail to give a plain differentiation between these conditions.

French and Italian Journals.

Tuberculous Osteoperiostitis of the Alveolar Border.—Ginestous and Lavie had a patient, a little girl of twelve years, who was afflicted with tuberculous osteoperiostitis of the alveolar border. In 1900 she had a blow over the left eye, and some time after, she noticed a hard tumor developing at the level of the superior orbital border. It was as large as an almond. It formed an abscess, and in spite of careful treatment, continued to suppurate. Other bony abscesses developed in like manner at other points.—*Gazette Hebdomadaire des Sciences Médicales*, May 17, 1903.

Abscess of the Spleen.—Angelo Cipollina reports a case of this rare disease. Among the most important symptoms he calls attention to the fever which may be continuous, or remittant, but is usually typically pyæmic. The general symptoms consist of the typhoid state, loss of strength, and a small and rapid pulse. As to the local signs, the spleen may be only slightly or very much enlarged. Pain is present, due to irritation of the capsule; to relieve it the patient usually assumes the position of dorsal decubitus with flexion of the left thigh. Prognosis of this affection is grave, surgical treatment the only resource.—*La Riforma Medica*, May 13, 1903.

Intervention in Pulmonary Gangrene.—Lejars discusses this question. He has operated five times in these cases. The results vary widely. In one of his cases, he resected two ribs and opened the pleura. After reaching the cavity, there poured out a pulpy material, black, thick, and horribly fetid. Ample drainage was made, and perfect cure resulted without even a trace of adhesions. But a second patient who presented equally all the signs of pulmonary gangrene, and who received the same treatment, although he recovered well from his operation, still coughs and expectorates. The writer thought that it was better to leave the treatment of pulmonary gangrene to the physicians, unless there were clear signs of a very localized focus, and of cavity formation. Besides, the other lung ought to be in good condition. Thoracotomy should be ample, and several ribs should be removed.—*Gazette des Hôpitaux Civils et Militaires*, May 16, 1903.

Sudden Death in the Course of, or After the Operation for Appendicitis.—Jalaguier reports three cases observed one after the other in the course of fifteen days, of pulmonary embolism coming on shortly after the operation for appendicitis. In two cases the operation was limited to the opening of purulent peri-appendicular or sub-hepatic foci. The patients at first did well, relatively speaking, then suddenly, after some days, embolism occurred. One of the patients died, the other recovered. The third case concerned an operation between attacks. The patient was doing well and the sequelæ were most favorable. But embolism developed on the twelfth day. This patient also recovered. Jalaguier declared that this was the first time that he had observed pulmonary embolism after operations for appendicitis.—*La Presse Médicale*, May 23, 1903.

Annals of Surgery, April, 1903.

Primary Carcinoma of the Vermiform Appendix with a Report of Three Cases.—From a study of the subject, and the results of personal experience, A. W. Elting reaches the following conclusions: (1) Primary carcinoma of the appendix is not of such rare occurrence as has been hitherto supposed. (2) Every appendix removed at operation or autopsy, if it presents any evidence whatever of disease, should be examined most carefully, and sections should be made from several portions of the organ for microscopical study. (3) The relationship of primary carcinoma of the appendix to chronic appendicitis, especially of the obliterative type, seems to be fairly definitely established. (4) Primary carcinoma of the appendix shows a tendency to develop at a comparatively early period of life. (5) Primary carcinoma of the appendix does not show a marked tendency either to extension or to metastasis. (6) The symptoms of primary carcinoma of the appendix are usually the symptoms of appendicitis of the chronic type. (7) The diagnosis of primary carcinoma of the appendix is in the great majority of cases impossible. (8) The treatment of the condition should always be operative.

Bulletin of the Johns Hopkins Hospital, May, 1903.

On the Occurrence of Diastolic Murmurs without Lesions of the Aortic or Pulmonary Valves.—Richard C. Cabot and Edwin A. Locke give the following summary and conclusions: (1) Diastolic murmurs without organic valve lesions are not uncommon in connection with dilatation of the aorta, localized or diffused. One of the writer's cases seems to be of this type. (2) When the pleura and pericardium are adherent, owing to tuberculosis or other causes, diastolic murmurs are occasionally audible in the præcordia. Such murmurs are notably affected by respiration and by position; they are probably due, in most cases, to suction or pulsion exerted by the heart upon portions of lung adherent to the pericardium ("cardio-respiratory murmurs"). (3) In cases of intense anæmia, when the red cells are reduced to or below 1,000,000 per cubic mm., one occasionally hears diastolic murmurs not to be explained by permanent dilatation of the aortic ring, nor as "cardio-respiratory murmurs," and not due to a diastolic accentuation of a venus hum. The cause of these murmurs is obscure.

Angioneurotic Erythema and Its Surgical Treatment by Neurectomy.—Joseph C. Bloodgood reports three cases. In the first case he remarks that the areas of erythema differ from the usual cases of angioneurotic œdema, in the persistence of the vasomotor dilatation. Associated with this persistent hyperæmia there is increased sensibility to touch, but decreased sensation to pain; sensation to heat and cold are apparently not disturbed. The areas on the cheek were far more painful and tender than those on the abdomen. In all of the areas the erythema could be made to disappear by continuous pressure; though the condition reappeared at once when pressure was discontinued. Neurectomy was performed with so far permanent relief. The œdema affected both cheeks, secondary to drainage of the antrum cavities for which neurectomy of the infra-orbital nerves was done. A second area on the left side of the abdomen was relieved by the division of the intercostal nerves. In the second case there was angioneurotic œdema of the mastoid. Chronic nephritis contraindicated ether anæsthesia. The third case was one of angioneurotic œdema of the elbow joint. At operation all of the tissues were normal except the periosteum. In separating this from the bone the outer table of the humerus was found a little rougher than usual. Upon chiselling into the external condyle, the bone was found to be normal. The œdema disappeared in a few days, but in a few weeks returned. Application of collodion greatly relieved the pain.

The Scottish Medical and Surgical Journal, May, 1903.

Notes of the Method of Eliciting the "Coin Percussion Sound" in Pneumothorax.—Hamilton Graham Langwill says that instead of making use of coins for the percussion element, let the chest wall be flicked by the finger and thumb while the physician auscultates. It will be found that the "flick" or "fillip" which is heard through the stethoscope over the normal chest as a dull thud, is at once converted into a ringing or chiming sound whenever the pneumothorax area is reached. The difference of sound heard over the unaffected and the affected area is so pronounced, that it is more easy to map out the extent of the affected area than by the old method, and also to detect a comparatively small pneumothorax. The procedure is much simpler than the other, and more rapid; no assistant is required, and if a binaural stethoscope is used the physician can see to map out with a pencil the limits defined by his percussion

The Edinburgh Medical Journal, May, 1903.

The Selection of Cases of Pulmonary Tuberculosis for Sanatorium Treatment.—T. N. Kelynack says that, concisely summarized, the most favorable cases for sanatorium treatment are full-grown, well-built adults, with normal development of chest, good breathers, without antecedent disease, of healthy stock, and trained in such occupation as does not necessarily expose to non-hygienic conditions. Among the unfavorable cases are, subjects below puberty and of advanced age. Low-class town dwellers, ill developed, with misshapen chest and deficient respiratory powers, of reckless habits or undisciplined mode of life, with bad family history, and giving evidence of previous lung enfeeblement, and general deficiency in vigor. Patients in whom tubercle has been implanted on an old chronic, bronchitic and emphysematous base generally prove unsatisfactory. When there is widespread cavitation, the benefit gained is usually but briefly retained. Phthisical patients, the subjects of serious organic affection usually gain no permanent benefit by residence at a sanatorium.

Society Reports.

AMERICAN GYNECOLOGICAL SOCIETY.

(Continued from page 923)

EXECUTIVE SESSION.

Election of Officers.—*President*, Dr. E. Reynolds of Boston; *First Vice-President*, Dr. Whitridge Williams of Baltimore; *Second Vice-President*, Dr. E. P. Davis of Philadelphia; *Secretary*, Dr. J. Riddle Goffe of New York; *Treasurer*, Dr. J. Montgomery Baldy of Philadelphia; *New Member of Council*, Dr. Joseph E. Janvrin of New York.

The next meeting of the society will take place in Boston, on the fourth Tuesday in May, 1904.

THIRD DAY—THURSDAY, MAY 14.

Dr. Philander A. Harris of Paterson began the discussion of the two last papers of yesterday's session. He said he believed that it was hard to accomplish much in cases of carcinoma of the cervix uteri. He had one case in which the vagina was not involved, that was well after seven years; only a few cases lived more than three or four years; he had had only one case of carcinoma of the external genitalia. The patient was a woman of seventy years; she died less than two and a half years after operation.

Dr. Noble of Philadelphia said that there was a certain percentage of cures in carcinoma of the cervix, though the results in this field were not so good as elsewhere in the body. Treatment consisted of currettage, and the application of chloride of zinc. It might be thought that the cure was worse than the disease, for bad fistulæ often resulted. One patient had remained well for seventeen years; another for thirteen years. He had had four cases of carcinoma of the external genitals; one case of carcinoma of the clitoris was well after one and one-half years. He had removed entirely the external genitals as well as the inguinal glands.

Dr. J. Wesley Bovee of Washington said that he had seen no case of carcinoma of the vulva which would justify any treatment but cauterization. Few cases of carcinoma of the uterus were cured. In a case of carcinoma of the uterus the earlier the disease, the more radical the proceeding should be. He called attention to the electrothermic angiotribe of Downes; he said that it was excellent to use in carcinoma of the uterus.

Dr. I. S. Stone of Washington said that he had seen many cases called inoperable, which after cauterization, had lived three or four years. He thought that chloride of zinc should be used even before operation; the electric angiotribe—to some extent—filled the indications; it was easy to re-infect a raw surface in a case of carcinoma.

Dr. Matthew D. Mann of Buffalo said that it was curious that some apparently hopeless cases turned out so well. He had a case of carcinoma of the cervix some years ago in which he tried to do vaginal hysterectomy, but could not, because the organ was so fixed; he did high amputation and the patient was now well. These cases ought to give encouragement. Some hopeful cases turned out hopeless. He had not used the electric cautery much. He had seen three cases of carcinoma of the vulva; one was the worst case of carcinoma he ever saw. The disease extended down on the perineum. He scraped it and cut it away and exposed it to the *x*-rays. He also used antitoxin, but the case grew worse under that. The second case is now under his care; operation had been followed by primary union; in this case, also, he used the *x*-rays, and now, three months later, there had been no recurrence. He should keep up the *x*-rays, perhaps, for a year. He was surprised that no one had mentioned the *x*-ray in the treatment of carcinoma. In some cases it did much good; pain and hemorrhage and discharge stopped; other cases went on just the same, with no effect from the treatment. He thought this treatment should be tried extensively.

Dr. Cushing said that he had seen two cases of carcinoma of the vulva. He had operated upon both; both recurred. In carcinoma of the uterus some of his worst cases had recovered. Some of the apparently most hopeful had recurred. Not enough attention was paid to the infection of raw surfaces. He believed in removing the glands and fat; the same principle prevailed as in carcinoma of the breast.

Dr. Thaddeus A. Reamy of Cincinnati called attention to the specific character of this paper—Carcinoma of the Cervix. Carcinoma of the body of the uterus in a certain number of cases would be cured; the cervix seemed to be a favorable field for primary carcinoma. If it could be established beyond controversy that the case of carcinoma of the cervix was cured, it might shed some light upon the etiology of this trouble. If the removal of this carcinomatous tissue was followed by cure, then it would settle the fact that the disease was local. He could cite many cases in which there had been no recurrence after five or six years.

Dr. Reuben Peterson of Ann Arbor closed the discussion. He emphasized the point that the lymphatics were not always involved in carcinoma of the vulva. There were two distinct classes of cases of carcinoma of the cervix and vulva; perhaps this might explain the strange phenomenon about these cases—there might be a carcinoma only as large as a finger-nail, and extensive operation would be followed by recurrence; in other cases the growth might be greater, with no recurrence. We were dealing with two distinct kinds of carcinoma. The same held true in carcinoma of the breast. In case of carcinoma of the breast there might be a very small focus with infected glands; in other cases, there would be more extensive trouble of the breast, but no recurrence after operation.

Discussion: Should the Uterus Be Removed in Cases of Double Pyosalpinx, When Operating through Either the Abdomen or the Vagina?—Dr. Philander A. Harris of Paterson said that all women who had double pyosalpinx were sterile, and that most of them would remain so in spite of treatment or operation; that they suffer more or less from pelvic pains, not only in connection with movements of the body but independently of them. Pain varied with the case; increased temperature, headaches, constipation, and emaciation characterized a large proportion of cases. He had had one case which carried a temperature from one to two degrees above normal daily for one year and until operated upon; but neither fever, headache, nor emaciation was common to all cases. Menorrhagia with clots and a lengthening of the menstrual period was a common accompaniment of pus tubes. Such patients often said that they menstruated ahead of time. Dysmenorrhœa was present as a result of infection in about two-thirds of all cases. If menstruation was painful before the existence of pus tubes the painful period was more prolonged and the suffering far more pronounced. Leucorrhœa was generally very profuse in the beginning of uterine and tubal infection. It was nearly always present in a degree, but there were many cases in which it almost ceased or was not complained of and disappeared for weeks or months while the disease was progressing in the tubes and ovaries. As a consequence of double pyosalpinx, both sexual inclination and capacity for participation were greatly diminished. In isolated cases inclination for coitus was markedly increased. Far more often it was repressed, while the pain caused by the sexual act disinclined—if it did not forbid—participation. The above were the more important complaints and accompaniments of pyosalpinx. For the past four years the speaker's operations for diseased tubes had consisted principally of bilateral exsection of the tubes; consequently leaving both ovaries, one, or part of an ovary, and the maintenance of menstruation in at least 95 per cent. of all the cases operated upon. In the past four and a half

years he had performed about 150 abdominal sections in which both tubes were exsected in every instance; most of the patients were cured of all the pelvic pains and discomforts complained of after the occurrence of the tubal infection. Ninety-five per cent. continued to menstruate, while probably 90 per cent. returned to the menstrual habit, which characterizes menstruation prior to the infection. If menstruation had been painless prior to the uterine and tubal infection, simple excision of the diseased tubes cured the dysmenorrhœa, which arose from such infection; if the dysmenorrhœa was a regular part of menstruation prior to the uterine and tubal infection, excision of both pus tubes had little—if any—effect upon such primary dysmenorrhœa. The more grave and distressing and persistent symptoms referable to pelvic inflammation did not arise from endometritis, but from tubal disease; he thought that we no longer needed to sacrifice all of these parts when only one form of anatomical structure was seriously at fault. The suppurating fallopian tubes were the particular anatomical structures at fault, and he advised, as a matter of routine, their exsection, leaving the uterus and ovaries with the patient. If an ovary was abscessed it should be removed. If both ovaries were abscessed and the patient far from the expected menopause, the larger should be removed, but the smaller one incised, disinfected with carbolic acid, and left *in situ*. The complaints arising from the existence of endometritis often ceased after simple exsection of double pyosalpinx; if the symptoms of endometritis continued and greatly harassed the patient, the uterus might be removed by vaginal section. The price of removal of the uterus in every case of double pyosalpinx might be partly estimated by the following results: First, loss of menstruation in every instance. Second, partial or complete extinction of the sexual quality in a large proportion of the cases, together with incomplete physical capacity for sexual participation. Third, injury to the nervous system of the patient, arising from her knowledge and appreciation that she had been prematurely and possibly unnecessarily deprived of these and other qualities which rendered her physically and, to a certain extent, morally inferior to other women.

Discussion: Should the Uterus Be Removed When the Ovaries and Tubes Are Removed in Cases of Double Pyosalpinx, When Operating through Either the Abdomen or the Vagina?—Dr. I. S. Stone of Washington presented this communication; he said that it was beyond question that gonorrhœa was responsible for the vast majority of these pus cases; the mucous lining of the uterus transmitted the microbe and bore the brunt of the attack, rather than the muscular structure of the uterus. Hysterectomy was unnecessary unless it could be shown definitely that the organ was the seat of deep-seated abscess or equally dangerous conditions, which continued to endanger the patient's life and caused persistent and annoying symptoms. No organ should be removed unless absolutely necessary. In a large majority of cases the pus found in diseased annexa was sterile; it followed that the chief element of danger from sepsis was eliminated, and the uterus was not the seat of dangerous microbic infection. The exception to the above rule might be found in puerperal infections. When purulent annexa were removed, the uterine cornua should be excised, and the uterus permanently sealed, and thus made a barrier against further infection, and also to permit effective treatment addressed to the uterine cavity, if necessary. Hysterectomy required additional time, caused further traumatism, and necessitated changes in the anatomical relations of vagina, bladder, etc. If necessary to drain the pelvis by way of the vagina, the usual route through the cul-de-sac posterior to the uterus, answered every purpose. Finally, a number of women objected to panhysterectomy, and besides, the question of its effect upon the mental status of the patient was *sub judice*.

Dr. Matthew D. Mann of Buffalo read a paper on the same subject. He believed in the necessity of saving the tubes, and particularly the ovaries, especially in young women; but here we presupposed that the ovaries and tubes must be removed, and the question related solely to the "emasculated uterus" and all thought of retaining the sexuality or fertility of the woman was laid aside. He operated by the abdomen, rather than by the vagina. The almost sole cause of pus tubes was gonorrhœa, though there might be a mixed infection. The uterus was usually infected and might make trouble afterward, and be the cause of spreading the infection. The uterus was no longer of any use. Menstruation did not always stop after removal of the tubes and ovaries, and if it remained it might become excessive and cause trouble. It might become the seat of cancerous disease. In acute infection, removal of the uterus afforded the best means of securing drainage. The results of the vaginal route where the uterus was always removed, warranted its removal by the abdominal route. The woman's sexual life was unaffected by the removal of the uterus. The additional time taken for its removal was more than counterbalanced by the securing of good drainage.

Dr. Charles P. Noble of Philadelphia presented a paper on the same subject. He said that the superiority of hysterectomy over the removal of the uterine appendages for pyosalpinx and abscess of the ovary consisted not only in its lower mortality but in its lower morbidity. When hysterectomy was done, the four arterial trunks supplying the pelvis were ligated, so that the control of oozing was much better. When the appendages were removed and the uterus left, the posterior surface of the broad ligament and more or less of Douglas's pouch was left raw and oozing; it was difficult to control the oozing points by ligature, and the result was that drainage was more often required; or, on the other hand, intraperitoneal exudate more often resulted. When hysterectomy was done, this oozing surface was largely removed, and what was left of it was covered over by the comparatively healthy peritoneum from the anterior wall of the broad ligament and bladder. There was one group of cases in which the pus was seldom infected and in which, with a clean technique and the thorough arrest of oozing hemorrhage, the pelvis could be left after the operation of hysterectomy in a fairly normal condition, thus avoiding the necessity of drainage and the various post-operative complications inherent in that method.

Dr. Gordon of Portland proposed the query: When Both Ovaries Must Be Removed, Should the Uterus Be Removed? In 75 per cent. sexual function was improved; in 20 per cent. it was not changed; in 5 per cent., possibly, it was abated. It seemed absurd to leave a functionless organ after the tubes and ovaries had been removed. In gonorrhœa there was left an infected organ with two arteries pumping into it, which made it a focus of congestion and pain; he saw no reason for leaving the uterus. He didn't believe that the ovaries were the seat of sexual functions. The ovaries had little to do with sexual desire. That depended on something else. He protested against the conservation of this useless organ. It would have to be removed to relieve the patient.

Dr. Bache Emmet of New York said that in many cases the uterus had not been infected as well as part of the tube. The pus was also often sterile. In some cases the uterus was a decided benefit in maintaining some degree of menstruation. He believed that in pendulous abdomen the uterus would form some point of support for the abdomen. In disease of the uterus it should always be removed. After the uterus was removed the atrophy of the vagina would cause great trouble. It would cause pain in sexual relations.

Dr. Bovée of Washington believed that it depended greatly upon the condition of the uterus as to whether it should be removed when the tubes and ovaries were removed. He removed it more for adhesions

and not so often for infection; the additional traumatism incident to the removal of the body was not important. He rarely removed the cervix; in removing the cervix the vagina was shortened, which was a disadvantage.

Dr. Reamy of Cincinnati did not believe that the ovaries were the seat of sexual desire, except in so far as the physiological harmony was considered. If it were necessary to save life by removing the uterus, then the organ should be removed. The uterus was not an unimportant organ.

Dr. Dudley of New York said that this was only a revival of the old discussion; sexual instinct was due to a combined action of the entire organism. In cases of double pyosalpinx it was wise to remove the uterus when the pyosalpinx was of septic origin. The patient could have gonorrhœa after the removal of the uterus, for she could have vaginitis, rectitis, etc. There were cases of pyosalpinx without infection, from cold. He thought that the chief cause of septic pyosalpinx were, first, from abortion, next from gonorrhœa.

Dr. Arthur Johnstone of Cincinnati believed in the persistence of sexual functions after the removal of the organs, as long as spinal cord and vagina and clitoris were left. True, cirrhosis of the vagina came from neglect of vaginitis. The vagina in this trouble should be treated as carefully as was the eye in trachoma. He believed that vaginitis was due to the pathological condition and not to the removal of the organ.

Dr. Stone of Washington did not believe in removing the uterus for procidentia; there was no real existence of gonorrhœa in the uterine walls, it was endometritis.

Dr. Noble said that many pus tubes were due to criminal abortion or to infection in childbed; infection played a definite rôle. He believed in drainage. There were fever deaths and better recoveries from radical operations. We were through with conservative operations for pus cases; conservative operations on the ovaries was a different matter.

Dr. Harris of Paterson said that in a considerable percentage the sexual instinct was decreased after the removal of the ovaries.

Ureterocystotomy.—Dr. J. Wesley Bovée of Washington narrated the history of this operation, pointed out the indications, discussed the diagnosis, routes and methods of operation, complications, technique, and after-treatment. He then detailed histories of cases, with results.

Dr. George H. Noble of Atlanta, Ga., spoke of bladder drainage. He liked a permanent catheter; he fixed the ureter without tension into the bladder and made a tight joint. He folded up the bladder about the ureter in order to make it tight.

Dr. Polk said that bladder implantation would eventually lead to stricture. He believed in the end-to-end junction and through-and-through suture.

Dr. Peterson of Ann Arbor reported a case in which he put the ureter into the bladder; the patient died a few days later; the operation was more or less dangerous.

Note on the Occurrence of Gallstones in Insane Women.—Dr. W. P. Manton of Detroit said that gallstones were of very frequent occurrence among insane women. The causes were difficult to determine. He discoursed on autopsy findings in these cases.

Excision of the Proximal Ends of the Fallopian Tubes at Their Origin in the Uterus, the Operation of Choice, for the Extremely Rare Cases Wherein Sterility Is Desirable.—Dr. Philander A. Harris of Paterson gave a description of the operation of sterilization. He made an elliptic incision into the uterine cornua, rather closely encircling the tube. He passed a hook beneath the tube, and while lifting it with gentle tension, severed its lumen as near to the uterine mucosa as possible. He closed the chasm in the uterus with interrupted small catgut sutures. He scarified the small area of peritoneum at a point on the upper posterior aspect of the fundus uteri nearby, but not endangering or involving the sutures which closed the chasm. He flattened the cut end of the fallopian tube and attached it to this denuded surface with two or three fine catgut sutures. The other tube was, of course, treated in a similar manner; the route of approach to the field of operation might be made through the ordinary median line suprapubic incision or from the vagina between the bladder and uterus. The only operation of this character which he had performed was done by the vaginal route, which he regarded as the preferable one for such operators as were experienced in infrapubic sections. The speaker then described the secondary operation for the cure of sterility affected by the primary operation above described. He concluded by saying that he thought there was necessarily but a very, very limited field for the legitimate employment of this or any other operation which rendered a woman sterile. If, however, sterility was proposed, and sanctioned, he believed that exsection of the proximal ends of the fallopian tubes was the easiest, safest, and most desirable proceeding for effecting that result. To sum up the subject, this was to take the place of the Porro operation; to take the place of bilateral removal of the ovaries; to take the place of bilateral excision of healthy tubes. Menstruation would not be sacrificed. Every advantage arising from retention of the ovaries would be preserved to the individual, excepting the single item of impregnation. Tubes thus disconnected from the uterus would probably remain immune from future gonorrhœal infection of the endometrium. A patient thus sterilized could doubtless be cured of her sterility by implantation of the tubes through the uterine cornua to the uterine cavity. While there were doubtless cases which were characterized by certain conditions of the body, mind, or nervous system, calling for the voluntary production of sterility, there must necessarily be a very limited field for the employment of this operation. If a case was to be surgically sterilized it should be effected in such manner that the patient and her friends might feel that she could be restored to fertility should the pathologic factors of her case so abate or disappear, as to render impregnation and pregnancy permissible. No attempt was made to present the indications for an operation which produced sterility for temporary purposes, although such instances were believed to be within the range of possibility, and if so, they emphasized the advantage of doing the primary operation in the manner proposed.

Dr. Bissell reported a case; the patient had a justo-minor pelvis. When he reached the patient in her first labor, the child had been dismembered, the head being left in the uterus; at the second pregnancy Cæsarean section was suggested; labor was brought on at eight and one-half months. The child could not come through the natural passages. Cæsarean section was performed and the child soon died. At the third pregnancy Cæsarean section was performed, and the patient asked to be sterilized; the speaker exsected the tube from the uterus, opened the broad ligament and anchored the tube. He said that every normal tissue in the body should be preserved; it was preferable to sterilize a woman and tell her there was a possibility of her becoming pregnant.

Personal Experience in Operations upon Diabetic Patients.—Dr. Charles P. Noble of Philadelphia said that of the seven patients operated upon by himself, six made good recoveries, and one died of diabetic coma. In the six remaining cases the healing of the wounds and the general progress of the patients toward recovery was not different from that in patients not the subject of glycosuria. In looking up the literature of the subject, he was able to add to his own list sixty-two cases of operations upon diabetics, upon those organs of the body which were the special field of the gynecologist and abdominal surgeon, making a total of sixty-nine cases. Of the sixty-two, there were fourteen operations upon the female breast, thirty-one operations upon the female generative organs, and seventeen abdominal operations other than on the generative organs. Of the sixty-nine

patients, fifty-two recovered, and seventeen died—a mortality of 24 per cent. Of the seventeen deaths, one was from erysipelas, two from sepsis, five from causes not stated, and nine from coma. A careful reading of the reported cases would indicate that the proportion of deaths from other causes than coma was not extremely high. The chief cause of death after operations upon diabetics was coma, and apparently this result was the one which was the least possible to guard against. His first operation on a diabetic was an accident; the urine from two patients to be operated on the same day was mixed in the laboratory, the supposed diabetic was refused operation and the patient supposed to have normal urine was operated upon. The error was not recognized until the following day. This patient made a good recovery from the operation—removal of the breast, except that there was suppuration in the axilla, due to a sponge left high up in the axilla. The favorable course in this case was a factor in inducing him to operate upon the subsequent cases. His rule was to postpone operation if there was more than .2 per cent. of sugar present in a total excretion of three pints per day. The contraindication to operation was strongest in those patients suffering markedly from the constitutional symptoms of diabetes —poor nutrition, wasting, intense thirst, and morbid appetite.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

Stated Meeting, Held April 21, 1903.

LEWIS A. CONNER, M.D., CHAIRMAN.

A Case of Complete Obstruction of Both the Superior and Inferior Venæ Cavæ.—Dr. ALFRED MEYER reported this case. (See page 806.)

The Nature, Frequency, and Possible Significance of the Various Forms of Epileptic Aura.—Dr. WILLIAM P. SPRATLING of the Craig Colony for Epileptics was the author of this paper. He said that the word "aura" originally meant a vapor emanating from, or surrounding the body, but this narrow meaning had been greatly broadened in the use of the word to indicate the warning of an epileptic seizure. It was now believed that the aura originated in the central nervous system, and was referred to the periphery. In recent years there had been a growing tendency to look upon the aura as essentially constituting a part of the epileptic attack, and, in the opinion of the speaker, this was justifiable and reasonable. The various auras could be best studied by grouping them under four heads, viz., the psychic, the sensory, the motor, and the irregular. Perhaps those of a sensory nature were of the greatest importance because they far outnumbered the other varieties. Out of 815 males and 510 females studied with reference to the aura, 319 males and 186 females had a sensory aura. A psychic aura was present in 4 per cent. of the cases, and a motor aura in 2 per cent. Some form of aura was present in 589 out of 1,325 cases, or 45 per cent. It would be safe to say that 50 per cent. of all epileptics presented an aura. It was impossible to estimate the number of cases in which the irregular auras were present, but they were by no means common. A psychic aura might make its appearance in a certain abnormal mental state and leave its impression upon the brain. The most common form was a sudden acceleration of the imagination. In some instances this was preceded by some confusion of ideation. Fear, of a primary and unreasoning kind, was often met with in connection with psychic auras. The question arose as to how this fear was artificially induced. Warnings, taking the forms of ideas, were usually dependent upon sense conceptions, especially of vision. Sensory auras partook of the greatest range of character. Visual auras greatly predominated, and usually took the form of flashes of light. Sometimes they took the form of optical illusions, though still more rarely a temporary blindness might usher in the attack. Sometimes there were flashes of colors; sometimes surrounding objects appeared to be greatly magnified for a few seconds before the attack. When color only was seen it was apt to be either red or blue. It was interesting to note that red, which was oftenest seen, had the smallest retinal field. Occasionally auditory and visual auras were associated. Auditory auras were usually roaring voices, sounds, as of the waves of the sea, and buzzing noises in the head. The epigastric aura was more common than all the other sensory auras combined. It was present in 200 cases, or 15 per cent. The first and most common form was an annoying sensation in the pit of the stomach. A second form was a deeply seated burning pain, and a third was a choking sensation, which rose until the throat was reached, when consciousness was lost. It was a most important problem to determine whether the original disturbance was to be sought in the respiratory center primarily, or whether it lay somewhere in the periphery, as in the stomach or heart, or especially in the circulation. Many cases exhibiting the epigastric aura suffered from indigestion. One of the most common forms of motor disturbance was that of running before the onset of the attack, and such patients were apt to become violent. Some epileptics turned around two or three times before the attack. The author said that his experience had taught him that the more sudden and complete the epileptic attack the less likely it was to be preceded by an aura, while the greater the departure from the ordinary type the more likelihood there was that an aura would be present.

Dr. WILLIAM M. LESZYNSKY said that it was important to study the initial manifestations of an epileptic attack. Where there were motor phenomena preceding the attack one should be careful not to confound Jacksonian epilepsy with true epilepsy. An aura was really a warning of which the patient was cognizant, whereas objective phenomena preceding the attack were not usually classed as auras. It often required much patience and careful observation to determine the existence of an aura. It was only very exceptionally that one could accomplish anything by treatment begun as soon as the aura appeared In every instance the patients had been maniacal in the beginning and were conscious of it, but could not control it.

Dr. L. PIERCE CLARK said he believed the aura of epilepsy was always sensory or psychosensory at bottom, a fact which was quite in accord with the contentions of Dr Prout and himself as to the pathology of the disease. Epilepsy was essentially a sensory phenomenon with a motor manifestation. He did not believe, however, that the aura of the fit began in the peripheral portion of this highly complex reflex arc of the cerebral cortex, but rather in the sensory type of cells of the cortex. A disturbance of these cells in the fit caused both a peripheral sensory projection, constituting the aura, and, later, an excitation, or better, a withdrawal of inhibition over the motor cells immediately engaged in the epileptic convulsion. There would be some sort of aura in every case of epilepsy if the rate of cerebral diffusion of the discharge were slower or less complete in range. Thus, there was retention of consciousness until very late in the fit in hemi- or monospasm. and in those convulsions, spreading slowly over the entire body, in which there was a leisurely order of muscular march of the fit, Jacksonian in type but general in effect. The explanation for the great frequency of one type of aura over that of rarer forms appeared to him to rest upon the degree and extent of the area such sensations possessed in the cerebral cortex, as was particularly well shown in the frequency of the abdominovisceral type of aura. In primordial life the greater portion of sensory impulses clustered about the gastrointestinal tract; hence, its wide representation in the human cortex and its frequent central disturbance in the disintegration

of this organ in epileptic fits. The length of time the aura lasted and its degree of elaboration showed the degree of reluctance of the other cerebral centers to participate in the fit; in other words, the longer and more elaborate the aura the less inclined apparently was the cortex to engage in the epileptic explosion. Many epileptics, on the point of recovery, had only the aura of their former grand mal fits; hence, the criterion for best prognosis in the surgical treatment of traumatic cases was found in those cases in which the aura consisted of a sensory disturbance in that part or extremity which would be engaged later in spasm and, when the seat of cranial trauma was over, that corresponding motor area involved in the fit.

The Aura and Preventive Treatment.—Dr. Clark then exhibited a neat and convenient bottle which he gave to such patients as were able to employ amyl, ammonia, or smelling-salts to advantage in warding off individual attacks, especially minor ones. It possessed many advantages over the "pearls" or bottle which, because of their awkward shape were not kept ready for instant use.

Intellectual Aura — Continuing, the speaker mentioned briefly the rather rare intellectual aura and reminiscent dreamy state, citing two cases, both of severe and long standing grand mal. The first patient described the warning as coming on like a dream, surrounding objects appearing familiar but dim and distant. Thi state lasted one or two minutes without any outward change in the patient, who meanwhile sat in deep and pleasant reverie. The second patient described a very similar state in which, though the surroundings were familiar, the place could not be located. There was a "dreamy luxury" associated with this aura, which preceded every epileptic seizure. Twice in this patient's whole experience the aura occurred but no attack followed. Dr. Clark said that possibly the more or less marked mental diplopia of the Buddhist or shinto devotee, the remembrance of a former life cycle, might be an analogous mental state to that of the intellectual or reminiscent aura of epileptics and the hypnotic state. The intellectual aura must not be confounded with the ordinary visual aura. Jackson plausibly contended that such epileptic discharges were probably in the purely psychic areas, particularly in the highest represented centers in the frontal and temperosphenoidal lobes.

Dr. Thomas P. Prout said that it was through studies of the aura that epilepsy first came to be regarded as a cortical disease. Epilepsy was certainly a sensory disease with a motor manifestation, and was due primarily to the irritation of sensory elements lying in the cortex. The motor manifestations were apt by their prominence to overshadow the other portion. The work of the past five years had done much to give a foundation for a correct understanding of epilepsy. After severance of the pyramidal tracts in dogs and monkeys on both sides it had been found that the motor phenomenon could be induced by irritation of the cortex. If the cortex were painted with cocaine, the pyramidal tracts being intact, no convulsion could be produced. From this it was concluded that sensory elements of the cortex must be irritated in order to develop the fit, and that the fits developed in tracts which transmitted motor reflex impulses. The correctness of these experiments had been vouched for by a number of investigators. The particular element of the cortex most seriously involved appeared to be the cells of the second layer, cells which were distinctly sensory in type. A study of the sensory side of epilepsy was almost sure to throw much light upon the nature of this disease.

Dr. E. H. Williams said that some years ago he had investigated a number of cases with reference to the urine, but had been unable to detect any difference in the urine at the time of the seizure and of the urine for several hours before and after the seizure.

Dr. Ira Van Gieson referred to a case in which there had appeared to be two different auras—one, a sensation of dizziness, and the other the perception of a black vapor or cloud approaching.

Dr. Louise G. Robinovitch was of the opinion that we did not yet know what constituted an aura. In one case, there was preceding the attack an irresistible impulse to bite children. The patient was an alcoholic and a degenerate. She looked upon this as the result of a temporary paralysis of the frontal lobes, those in which were situated the centers which inhibit the sensory centers. She was of the opinion that during an aura there was, for the time being, a paralysis of the frontal lobes, possibly as a result of a toxæmia. She believed that no matter what the nature of the aura the psychology in every instance was the same. The exhilaration manifested occasionally in the form of an aura seemed to her to be akin to that observed in general paresis. It had been said that persons of low intelligence were more apt to have an aura; the reason for this was perhaps to be found in the fact that these patients were apt to be degenerates and their nervous systems were more easily rendered unstable by a certain degree of toxæmia. Cases of unilateral aura also went to confirm what had been said about degeneracy in relation to aura.

Dr. Spratling, in closing, said that bromides were too often given in a way which masked the important symptoms of epilepsy, among others the aura. His paper had dealt with what could be seen rather than with what the patient felt. They were making some observations at the Craig Colony at the present time with regard to the condition of the urine, but the research was not sufficiently far advanced to warrant the drawing of any conclusions.

The Toxic Actions of Urotropin.—Dr. Warren Coleman read this paper. He said that urotropin was a product resulting from the action of formaldehyde on ammonia. Toxic symptoms were not infrequently noted under a daily dosage of fifteen grains, and individuals differed very greatly in their susceptibility to it. According to Keyes, this susceptibility varied in the same individual at different times. Urotropin was quickly absorbed and eliminated, the rapidity of its complete elimination depending upon the dosage. Apparently urotropin was not ordinarily decomposed in the blood. Formaldehyde could not be demonstrated in the urine of persons taking urotropin, yet clinical experience showed that it possessed a distinctly antiseptic action on the urine. One observer had maintained that acid urines apparently produced a partial decomposition of the urine. Whatever might be the action of urotropin it was the most powerful urinary antiseptic in our possession. It was nevertheless quite irritating to the urinary passages, according to Keyes. Many clinicians did not share this opinion. Urotropin acted also as a diuretic and as a solvent of uric acid. While urotropin was being administered it was common to note some irritation of the stomach and some slight malnutrition. Diarrhœa and abdominal pain were observed in a few cases. One case had been reported in which the skin became irritated and resulted in the development of an eruption somewhat resembling measles. These phenomena disappeared promptly on stopping the urotropin. Headache and ringing in the ears had also been noted. Albuminuria had been produced experimentally in rabbits by the administration of urotropin. Irritation of the bladder manifested itself under two forms, strangury and cauterization of raw surfaces. Bladder irritation was perhaps the most common of the toxic effects of urotropin. The tendency to irritation of the bladder depended partly upon individual susceptibility, but largely upon the size of the dose. When sufficiently severe it was associated with the passage of bloody urine. There were at least seven cases on record of hæmaturia resulting from the use of urotropin.

Dr. Coleman then reported the following case: The

patient was a woman of seventy-three years suffering from pneumonia. Just as the lung was clearing she complained of pain in the bladder and of frequent micturition. The vesical irritation gradually increased in intensity, and in eleven days the urine became turbid. She was given 7½ grains of urotropin dissolved in half a pint of water. In a few hours she developed strangury, and in 17½ hours the urine was deeply blood-stained. Through a misunderstanding a second dose was given, with the result that the urine became very markedly bloody and contained pus and blood cells with a large amount of mucus. Bacteriological and cystoscopic examination were impracticable in this case. The urotropin was stopped, and then there followed a curious paroxysmal hæmaturia for some days. After some time one more dose of urotropin was given, and this was quickly followed, as in the first instance, by strangury. hæmaturia, and hæmoglobinuria. The disappearance within twenty-four hours seemed to warrant the conclusion that the urotropin was responsible for this condition. The disappearance of the hæmaturia and its return on the ninth day and persistence for six days he would explain by the supposition that there was an ulcer of the bladder. This assumption was reasonable because of the great suffering experienced by the patient whenever the bladder was irrigated. It was found that the intravenous injection of formaldehyde into a healthy subject in quantity sufficient to make a 1-to-100,000 solution in the total blood of the body, gave rise to strangury, hæmaturia, and hæmoglobinuria. In spite of the toxic effects noted, it was the general clinical experience that urotropin was very liable to give rise to these ill effects.

Dr. James Pedersen commented upon the uncertainty of action of urotropin as a urinary antiseptic, even in the same individual. He had noted its diuretic action in a limited number of cases. In about a half dozen cases he had observed some irritation of the bladder, a mere burning sensation without strangury. He had never seen hæmaturia or hæmoglobinuria or pain in the kidney as a result of the administration of urotropin. His custom was to administer the drug in a dosage not exceeding thirty grains a day and given preferably in doses of five grains.

Dr. E. L. Keyes, Jr., said that urotropin was so commonly used that the profession generally should fully appreciate its power to produce irritation. He had noted almost every form of irritation except hæmaturia and hæmoglobinuria. He had sometimes given as high as eighty or ninety grains a day in order to conquer a bacteriuria, and had then reduced the dose. Some persons had stood this dosage very well, yet he had observed irritation produced by five grains of the drug given three times a day. He always warned the patient to look out for irritability of the bladder, nausea and diarrhœa, the commonest forms of irritation caused by this drug. He had encountered unfortunately a few cases in which general practitioners, in treating mild cases of prostatic hypertrophy, had increased the dosage of urotropin as the patient's irritation became greater, thinking it due to decomposition of urine. All symptoms of irritation quickly disappeared on stopping the urotropin.

Dr. Louis Faugères Bishop remarked that he had very frequently prescribed urotropin but had not observed any toxic symptoms.

Individual Vaccination Stylet.—Dr. Frederic Griffith exhibited an ingenious little instrument, the invention of Dr. Mareschal of Paris. He said that his attention had been first called to its value by a ship surgeon on one of the Atlantic liners, who was required to vaccinate many hundred immigrants on every trip. Owing to the difficulty in managing seasick persons, this work was always done on the first day out. With the aid of two stewards to "load" the instruments and line up persons to be vaccinated, it was possible to vaccinate from 800 to 1,400 immigrants in a single day The instrument itself resembled a penholder with a spring for throwing out the "pen" after it had been used. In employing the instrument the point was dipped into the vaccine virus and then used to make a cross-shaped scarification upon the arm. By pressing the spring in the handle the point was thrown out, and a new one could then be quickly inserted ready for the next vaccination. The method was inexpensive, the instrument and a supply of 100 points costing apout two francs, or fifty cents. So far as known no dealer in this country kept them, but they could be procured of the manufacturers, in Paris

Book Reviews.

Tuberculosis. By Norman Bridge, A.M., M.D., Emeritus Professor of Medicine in Rush Medical College, Member American Climatological Association, etc. Pp. 302. Philadelphia and New York: W. B. Saunders & Co., 1903.

This volume comprises the lectures given by the author during the last three years, certain statistical matter being added. The bacillus tuberculosis is first described, then the tuberculous process, forms of the disease, etiology. symptoms, signs, diagnosis, prognosis, and treatment. Special attention is devoted to the prophylaxis of the disease, and at the same time the author has judiciously discussed the matter of the practical care and management of those afflicted with its non-surgical forms, and emphasis has been laid on the matter of protecting the community from the spread of infection.

It is always somewhat of a risk to place a medical book in the hands of the laity. In the present instance, when the anti-tuberculosis crusade is being waged so vigorously and when the aid of the laity is being so strenuously invoked, it is well at times to be able to recommend a book which is thoroughly scientific and yet one which can be understood by the average intelligent patient. Such a book, we think, this is, and we congratulate the author on the result of his labors.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose, and Throat, and Other Topics of Interest to Students and Practitioners by Leading Members of the Medical Profession throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, with the Collaboration of John B. Murphy, M.D., Chicago; Alexander D. Blackader, M.D., Montreal; H. C. Wood, M.D., Philadelphia; T. M. Rotch, M.D., Boston; E. Landolt, M.D., Paris; Thomas G. Morton, M.D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburgh, and John Harold, M.D., London, with Regular Correspondents in Montreal, London, Paris, Leipsic, and Vienna. Philadelphia and London: J. B. Lippincott Co. Vol. III, Series 12th.

The present volume of International Clinics is even of higher standard than the preceding numbers of this series. The book is somewhat larger than heretofore, and the quality of the illustrations is better, both with regard to mechanical reproduction and to their value as aids to the text. The different articles are especially lucid and contain information of practical nature, and, as a rule, cover all of the essentials of the subject treated.

The monograph on Blood, by Dr. Thomas R. Brown of Johns Hopkins Medical School, is especially worthy of mention as containing, in a limited space, a fund of information, practically including the whole field of blood research, augmented with an extensive bibliography, which renders the whole a nucleus on which can be reared an extended and exhaustive study of the blood, and all of the special branches thereof.

The article on Abdominal Diagnosis is notable for calling attention to points on the distribution of the nerves, which have an important bearing on the subject, and have been neglected by most practitioners.

On the whole, the volume should prove of great benefit to those who are called upon to be fairly familiar with most branches of medical science, and who require short and concise articles containing the salient points of the different subjects brought up to date.

The Prize Essay on the Erection of a Sanatorium for the Treatment of Tuberculosis in England. Together with a Preface by the Chairman of His Majesty's Advisory Committee, a Number of Appendices, Illustrative Plans, and a Bibliography. By Arthur

Latham, M.A., M.D., Oxon., M.A. Cantab; Assistant Physician and Lecturer on Practical Medicine at St. George's Hospital; Assistant Physician at the Brompton Hospital for Consumption and Diseases of the Chest; Formerly Physician to Out-patients, Victoria Hospital for Children, and Radcliffe Traveling Fellow in the University of Oxford; in Association with A. William West, Architect, Honorary Deputy Treasurer of St. George's Hospital. London: Baillière, Tindall & Cox, 1903.

The essay before us was written in competition for the prize offered by King Edward VII for the best exposition of the principles and details appertaining to the erection of a model and modern sanatorium. The author is to be congratulated in that he has, together with his associate architect, produced a work which will be an excellent guide to those interested in the building of sanatoria adapted for consumptives. The first part of the work is apportioned to the principles which underlie the details which are given later on. The author weighs the advantages of the single and the several detached buildings, and concludes that the latter is, from a medical standpoint, the better. The plans, however, can be adjusted to the more economical method if necessary.

Not only are all the details of the building given in careful detail, but the surrounding grounds and their appointments are also considered.

A large portion of the text presents statistics of the results, both seasonal and general, obtained at various institutions, the class of cases treated, the types of construction, ventilation, aspect, heating, sputum disposal, methods of disinfection, sewage disposal, etc. In addition to the very valuable text there are nearly two dozen ground plans, diagrams of shelters, etc., which serve to give the architect's views on the subject which has become of universal interest.

An excellent bibliography completes the essay, which can serve to give additional information to those seeking further data. We consider the ideas expressed as thoroughly modern, and the instructions given as eminently safe.

A Manual of Materia Medica and Pharmacology. Comprising All Organic and Inorganic Drugs Which Are or Have Been Official in the United States Pharmacopœia, Together with Important Allied Species and Useful Synthetics. Especially Designed for Students of Pharmacy and Medicine, as Well as for Druggists, Pharmacists, and Physicians. By David M. R. Culbreth, Ph.G., M.D., Professor of Botany, Materia Medica, and Pharmacognosy in the Maryland College of Pharmacy; Professor of Materia Medica and Pharmacognosy in the University of Maryland Medical and Dental Schools. Third Edition, Enlarged and Thoroughly Revised. Philadelphia and New York: Lea Brothers & Co., 1903.

This excellent work anticipates the forthcoming pharmacopœia, in being based upon the already outlined list of drugs and preparations to be included in that official guide to the pharmacist and prescribing physician. The recapitulation tables at the end of each section, a very useful feature of the book, contain the names, source, and preparations of all these official drugs. For the benefit of those not familiar with previous editions it may be noted that Dr. Culbreth bases his classification of drugs upon their Sources rather than upon their physiological action or therapeutical uses. Thus, the book is divided into various sections treating respectively of organic drugs from the vegetable kingdom, organic drugs from the animal kingdom, inorganic drugs from mineral kingdom, organic carbon compounds, and non-pharmacopœial organic compounds. There is also a section on the microscope and its uses in the study of drugs. The illustrations are numerous and beautiful, every plant and its official parts, the sources of the animal drugs, and even the crystals of such drugs as occur in that form are depicted. The work is one on materia medica solely and does not deal at all with therapeutics. The present edition has been revised and in part rewritten to make it conform to the new pharmacœpia.

A Textbook of Pharmacology and Therapeutics, or the Action of Drugs in Health and Disease. By Arthur R. Cushing, M.A., M.D., Aber., Professor of Materia Medica and Therapeutics in the University of Michigan; formerly Thompson Fellow in the University of Aberdeen and Assistant in the Pharmacological Institute in the University of Strasburg. Third Edition, revised and Enlarged. Philadelphia and New York: Lea Brothers & Co., 1903.

The *raison d'être* of this treatise is stated by the author to be the bridging over of hiatus which exists between the phenomena occuring in the normal organism and those which are elicited in the therapeutical use of drugs, and the demonstration of how far the clinical effects of remedies may be explained by their action on the normal body, and how these in turn may be correlated with physiological phenomena. "It necessarily follows that the subject is treated from the experimental standpoint, and that the results of the laboratory investigator are made the basis of almost every statement." It must not be supposed from this, however, that the book is solely for the theorist and the cabinet physician, for it is very practical in its scope and contains many suggestions of great value to the physician at the bedside. In this third edition, appearing only eighteen months after the second, some new matter has been added, and such other changes as were necessitated by recent advances in pharmacology have been made.

The Work of the Digestive Glands. By Prof. J. P. Pawlow. Translated into English by W. H. Thompson, M.D., M.Ch., F.R.C.S. London: Charles Griffin & Co.; Philadelphia: Lippincott & Co., 1902.

The present work contains a detailed account of Professor Pawlow's celebrated experiments with regard to the knowledge of the action of the various digestive juices (saliva, gastric-juice, pancreatic secretion, succus entericus).

Pawlow seems to have definitely shown that there exists secretory nerves of the stomach and pancreas. In addition to these special nerves, vasomotor nerves also pertain to these glands. The importance of appetite is well illustrated in the following words which we may cite: "We are therefore justified in saying that the appetite is the first and mightiest excitor of the secretory nerves of the stomach, a factor which embodies in itself a something capable of impelling the empty stomach of the dog in the sham feeding experiment, to secrete large quantities of the strongest juice. A good appetite in eating is equivalent from the outset to a vigorous secretion of the strongest juice; where there is no appetite this juice is also absent. To restore appetite to a man means to secure him a large stock of gastric-juice wherewith to begin the digestion of the meal."

The importance which human instinct plays is well appreciated by Pawlow. The old and empirical requirement that food should be eaten with interest and enjoyment is strengthened by facts obtained from experiments on animals. In every land the act of eating is connected with certain customs designed to distract from the business of daily life. A suitable time of the day is chosen, a company of relatives, acquaintances, or comrades assemble. Certain preparations are carried out (in England a change of raiment is usually effected, and often a blessing is asked upon the meal by the oldest of the family). In the case of the well-to-do a special room for meals is set apart; musical and other guests are invited to while away the time at meals—in a word, everything is directed to take away the thoughts from the cares of daily life, and to concentrate them upon the repast. Heated discussions and serious readings are held to be unsuitable during meal time. In the case of the poorer classes, in whom mental activity is less highly developed, the greater amount of muscular activity and the constant lack of more than sufficient nourishment ensure a strong and lively desire for food in a normal manner without recourse to any special regulation or customs.

Pawlow has shown the important fact that the digestive glands possess the faculty of secreting varied juices according to the nourishment taken, *i. e.* different articles of food evoke a juice with different qualities.

The present volume abounds with new facts and ideas, is interestingly written, and must be recommended in the highest terms to the medical profession.

Cours de Minéralogie Biologique. Sélection et Minéralisation. Spécificité de Minéralisation—Minéralisation et Pouvoir Rotatoire des Sérums. Quatriéme Série. Par J. Gaube (du Gers). Paris: A. Maloine, 1903.

The text of this little manual is presented in two parts and arranged in the form of lessons, seven in the first part and eleven in the second. In his first lesson the author states that mineral matter predominates in organic matter. He takes up various minerals and speaks of their characteristics and the effects of their combinations in the body, and dwells upon the relations between mineral matter and organic matter. He discusses the part taken by mineralization in the acts of natural selection, and speaks of calcium as the metal of construction and magnesium as the metal of reproduction. In the second part he considers the serums and their relation to minerals.

A Compend of Diseases of Children. Especially Adapted for the Use of Medical Students. By Marcus P. Hatfield, A.M., M.D., Emeritus Professor of Diseases of Children, N. W. U. Medical School, Physician to Wesley Hospital, Home for Crippled Children, Chi-

cago Orphan Asylum, etc., Third Edition, Thoroughly Revised. With a Colored Plate. Philadelphia: P. Blakiston's Son & Co., 1903.

Although this is a handbook of only 235 pages, the subjects included are varied, and the text is arranged in a very convenient form. The writer treats first of the anatomy and physiology of the infant, the physiological and traumatic accidents of birth, and septic infection of the newborn. Then follows a chapter on early ailments and hygiene and dietetics of the infant. Various diseases incident to this period of life are next considered—diseases of malnutrition, epidemic and endemic infectious diseases, and diseases of the nervous, respiratory, circulatory, and digestive systems. There is a valuable appendix which treats of various kinds of milk and its modification. This volume is a particularly attractive member of this series.

Biographic Clinics. The Origin of the Ill-health of De Quincy, Carlyle, Darwin, Huxley, and Browning. By George M. Gould, M.D., Editor of *American Medicine*; Author of "An Illustrated Dictionary of Medicine, Biology, etc.," "Borderland Studies," "The Meaning and Method of Life," etc. Philadelphia: P. Blakiston's Son & Co., 1903.

In this attempt at diagnosis, based upon the scanty references of medical import in the biographies and letters of men prominent in their day, Dr. Gould has opened up not only a fascinating field of study for judicial minds, but one in which cranks and faddists may disport themselves to their heart's content and to the entertainment of their not too easily persuaded readers. We hasten to add, lest our meaning be misunderstood, that this observation is altogether general in its application.

Dr. Gould has patiently reviewed and subjected to special criticism the works, published letters, and biographies of the men mentioned in the title, and taken therefrom every reference to the ill-health to which they all were subject in greater or lesser degree. Then sifting and weighing the mass of evidence so obtained, he reaches a diagnosis of the underlying cause of their sufferings. Those familiar with the author's views need not be told that his diagnosis in each and every case is eyestrain. His readers may not, and many, of course, will not, agree with him in his conclusions; nevertheless, we venture to say all will be interested in following his argument and the new reading of the biographies of the illustrious subjects of this study will afford entertainment and sharpen the powers of observation.

Following the diagnostico-biographical section are four chapters on the relation of eyestrain to the general health, which are instructive, though, like the statements of many specialists, whose limited vision hides from them the possible influence of other congenital or acquired abnormalties, they appear to the general reader somewhat extreme in their conclusions.

Compendium der Operations und Verbandstechnik. Von Dr. Eduard Sonnenburg und Dr. Richard Mühsam. Erster Teil. Allgemeine Operationstechnik, Verbandstechnik. Mit 150 Abbildungen im Text. Berlin: Verlag von August Hirschwald, 1903.

This, which is the first part of a work on surgical technique as a whole, is devoted to minor surgery and general considerations on the preparation and application of dressings. It has no points of superiority over the many books on the same subject that have appeared in this country, and in many respects its teachings are at variance with those in vogue here. In particular, the chapters on the sterilization of bands, instruments, ligatures, etc., seem to lack thoroughness, and, as is usual in continental writings, the use of rubber gloves during operations is deprecated. Many of the photographs of plastic dressings are good and several new forms of hip vests, fracture beds, etc., are figured.

Nichtarzneiliche Therapie innerer Krankheiten. Skizzen für physiologisch-denkende Ärzte. Von Dr. Buttersack. Zweite Auflage, mit acht Abbildungen im Text. Berlin: Verlag von August Hirschwald, 1903.

In this attractively written little volume of two hundred pages the subject of non-medicinal therapeutics is presented in satisfactory outline. Much detail is, of course, impossible in a work of this size, but this branch of treatment is still so poorly understood with us that the book ought to find many readers and stimulate further study in the larger manuals. The first seventy odd pages are devoted to a philosophical discussion of the psychology of the sick and the interrelationship of body and mind in sickness and health. The remainder of the book is taken up with the application of light, water, exercise, and air to therapeutic purposes, and the modern methods for their use are described. The various continental baths are discussed, though not all are mentioned, and their special advantages noted and adequate descriptions of phototherapy, medical gymnastics, etc., given.

Erste Ärtzliche Hülfe bei plötzlichen Erkrankungen und Unfällen. In Verbindung mit Dr. E. v. Bergmann, Dr. C. Gerhardt, Dr. O. Liebreich, Dr. A. Martin. Bearbeitet und herausgegeben von Prof. Dr. George Meyer. Mit 5 Abbildungen im Text. Berlin: Verlag von August Hirschwald, 1903.

In view of the widespread popular interest which has followed the movement started by Esmarch twenty years ago, and having for its object the dissemination of knowledge of the measures to be taken in the first treatment of the injured, it is rather surprising that more attention has not been given to this subject in medical literature. The number of first-aid manuals written for the laity, is very large, but this is the first work we know of, intended for the use of the profession. It comprises in the form of lectures on the main subdivisions of the subject concise information as to the treatment of all classes of injuries and contingencies requiring prompt attention, and should prove a most convenient book of reference for consultation in emergencies. The main headings are: The First Aid Treatment of Injuries, The First Aid Treatment in Internal Diseases, The First Aid Treatment in Poisoning, The First Aid Treatment in Diseases of Women and in Obstetrics, and the First Aid Treatment of Coma and Apparent Death. The discussion of these topics is throughout most practical, and the book is one to be of use to all practitioners.

The American Year Book of Medicine and Surgery, being a Yearly Digest of Scientific Progress and Authoritative Opinion, etc., with Critical Editorial Comments by J. M. Baldy, M.D., J. C. Da Costa, M.D., W. A. Newman Dorland, M.D., Geo. Fetterolf, M.D., John H. Gibbon, M.D., V. P. Gibney, M.D., C. A. Hamann, M.D., H. F. Hansell, M.D., Barton C. Hirst, M.D., D. B. Kyle, M.D., Wendell Reber, M.D., J. Hilton Waterman, M.D., under the general editorial charge of George M. Gould, M.D., Surgery Philadelphia, New York, London: W. B. Saunders & Co., 1903.

We are again pleased to see this annual review, which has come to be indispensable to the busy man, now that the number of medical publications is so great. The editors of this volume have evidently expended much effort in examining the surgical and gynecological literature of the year, and in picking out what was considered worth including in the present work, and the result is an important work of reference, the usefulness of which is, however, short-lived. Whatever has attracted attention, as well as much of what might seem of minor importance, is admitted to these pages, and individual opinion is accorded full attention. The illustrations and make-up are good, and numbers of interesting clinical experiences are recorded.

Practical Physiology. By A. P. Beddard, M.A., M.D., Demonstrator of Physiology, Guy's Hospital; Leonard Hill, M.B., F.R.S., Lecturer on Physiology, The London Hospital; J. S. Edkins, M.A., M.B., Lecturer on Physiology, St. Bartholomew's Hospital, and others. London: E. Arnold, 1902.

This manual consists of a series of practical experiments and demonstrations on physiology and physiological chemistry, for students of medicine. The series is arranged in elementary and advanced courses, and lends itself especially to teaching by means of demonstrations and experiments, in which little apparatus is required. The experiments upon the physiology of Muscle and Nerve are based upon the practical courses given at Oxford, and are limited, as far as possible, to those experiments which can conveniently be performed with simple apparatus by a large class of students. The subject of Physiological Chemistry is well covered in an elementary and an advanced course. The Sight receives a very thorough treatment. The list of experiments, at once simple and instructive, is of such a nature that they should attract and interest the student who performs them or witnesses their demonstration. The work is to be commended as a successful attempt to facilitate the teaching of physiology by a method in which the student personally performs or witnesses actual demonstrations, and should prove useful to those practising this method of instruction.

Textbook of Medical Jurisprudence and Toxicology. By John J. Reese, M.D., late Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc. Sixth edition, revised by Henry Leffmann, A.M., M.D., Professor of Chemistry and Toxicology in the Woman's Medical College of Pennsylvania, Pathological Chemist to the Jefferson Medical College Hospital, etc. Philadelphia: P. Blakiston's Son & Co., 1902.

The new edition of this well-known work illustrates the

progress in toxicology since the previous edition. The extensive use as household remedies of various synthetic organic bodies has given rise to many instances of poisoning. Phenol and water-gas are now common causes of death, suicidal or accidental. Several new phases of treatment may be noted, such as free washing out of the stomach, the use of alcohol in phenol poisoning, and the applications of potassium permanganate. The long-current belief in the antidotal value of atropine in morphine poisoning is abandoned. The rather over-serious discussion as to the possibility of spontaneous combustion of the human body would seem more in place in a temperance pamphlet.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending June 6, 1903:

	Cases.	Deaths.
Measles	471	18
Diphtheria and croup	437	52
Scarlet fever	261	29
Smallpox	1	..
Varicella	98	..
Tuberculosis	396	158
Typhoid fever	50	10
Cerebrospinal meningitis	..	9

The Diagnosis and Treatment of Iritis.—A. Maitland Ramsay says that in the treatment of this condition the patient ought to be put to bed in a darkened room, kept on simple diet, and be forbidden smoking and stimulants. The three chief indications to be met are to dilate the pupil, to subdue pain, and to combat the constitutional disorder which is the predisposing cause of the attack. Of all local applications atropine is the one that is indispensable. It puts the iris at rest, and not only relieves pain and intolerance of light, but also by its mydriatic action hinders the formation of posterior synechiæ and tends to break down adhesions which may have already formed. Should it fail to give relief, or its use be followed by exacerbation of pain, examination must be made for increase of intra-ocular tension, and if this be found the drug must be at once discontinued. When the symptoms are severe it is good to combine cocaine and dionine with the atropine, but of even more value are the local applications of heat or cold, and of leaches.—*The Scottish Medical and Surgical Journal*, May, 1903.

Primary Acute Miliary Tuberculosis of the Conjunctiva.—George A. Berry reports a case of this very rare condition. It was undoubtedly primary, and belongs to the first of the four groups into which Sattler classifies this affection, the one in which the disease most closely resembles, both clinically and anatomically, the usual form in which tubercle affects the mucous membrane. The group is characterized by the appearance in the ocular or palpebral conjunctiva of miliary nodules, which have a tendency to break down and coalesce, cause comparatively little surrounding inflammatory reaction, and are uncomplicated by any coxcomb-like or papillary excrescences. In this group there is nearly always swelling of the pre-auricular gland. The microscopical examination shows typical miliary tubercle imbedded in densely vascularized granulation tissue. In the case described the extent of the area of conjunctiva involved, as well as the massiveness of the subjacent hyperplasia, was much greater than anything that has been described elsewhere. The extent to which, and the rapidity with which, the superficial lymphatic system connected with the eye became involved also showed an unusual virulence.—*The Edinburgh Medical Journal*, May, 1903.

Asthma of First Sleep.—Lépine reports a remarkable case of asthma. It occurred in a man of thirty-five years of arthritic temperament, who for six years had had almost every night an attack of typical asthma. The attack would occur during the first sleep at night—when the sleep was deepest. At times when sleep was more profound than usual, the attack was more intense. At times this patient took an excess of alcohol. On the night following, he slept badly, and the asthmatic attack was very light or even did not occur. But the next night when sleep was more profound than usual, the attack was terrible, in fact, so violent that the patient stopped drinking. He also slept on a very uncomfortable bed, inclined laterally. By this means he rested badly and so avoided the attacks to a great extent. He entered the hospital for acute articular rheumatism, and while he was being treated with salicylate of soda the asthma ceased. After the rheumatism disappeared the asthma came back in a light form, but ceased again, either spontaneously or under the influence of atropine. The characteristics of the attacks, and the absence of visceral lesions demonstrated that this was a case of true asthma.—*Lyon Médical*, May 17, 1903.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending June 6, 1903:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
Alabama, Mobile	May 23–30	6	..
California, Los Angeles	May 16–23	1	..
San Francisco	May 17–24	1	..
Florida, Jacksonville	May 24–31	3	..
Pensacola	May 16–23	2	..
Baker County	May 16–23	1	..
Columbia County	May 16–23	3	..
Levy County	May 16–23	5	..
Washington Co.	May 16–23	1	..
Illinois, Belleville	May 23–30	4	..
Indiana, Evansville	May 23–30	1	..
Indianapolis	May 23–30	4	1
Iowa, Des Moines	May 24–30	1	..
Louisiana, New Orleans	May 23–30	8	..
Maine, Patten	May 27	1	..
Maryland, Baltimore	May 23–30	1	
Massachusetts, Fall River	May 23–30	16	
Holyoke	May 23–30	1	
Michigan, Detroit	May 23–30	9	
Grand Rapids	May 23–30	3	
Minnesota, Winona	May 23–30	2	2
Missouri, St. Louis	May 24–31	3	
Montana, Helena	May 1–31	3	
Nebraska, Omaha	May 23–30	1	
New Hampshire, Nashua	May 23–30	8	
New York, New York	May 23–30	3	
Ohio, Cleveland	May 23–30	1	
Hamilton	May 23–30	3	
Pennsylvania, McKeesport	May 23–30	3	1
Philadelphia	May 23–30	41	7
Pittsburg	May 23–30	19	3
		Four cases imported.	
South Carolina, Charleston	May 23–30	1	..
Tennessee, Memphis	May 16–30	4	..
Utah, Salt Lake City	May 23–30	6	One case imported.
Washington, Tacoma	May 25–June 1	2	..

SMALLPOX—FOREIGN.

Austria, Prague	May 2–16	14	..
Belgium, Antwerp	May 9–16	7	..
Brussels	May 2–16	..	4
Ghent	May 2–16	..	2
Canary Islands, Las Palmas	May 2–9	18	..
Santa Cruz de Teneriffe	May 9–16	2	..
Colombia, Bocas del Toro	May 12–19	..	1
France, Marseilles	Apr. 1–30	..	36
Germany, Hamburg	May 9–16	1	..
Great Britain, Bristol	May 9–16	11	..
Cardiff	Apr. 4–May 2	11	1
Dublin	May 9–16	17	4
Leeds	May 16–23	25	1
London	May 9–16	7	..
Manchester	May 9–16	10	1
Nottingham	May 9–16	5	..
Sheffield	May 2–9	1	1
Sunderland	May 9–16	1	..
India, Bombay	Apr. 28–May 5	..	83
Mexico, City of Mexico	May 3–10	16	6
Russia, Moscow	May 2–9	3	..
Odessa	May 2–16	6	..
Turkey, Smyrna	Mar. 28–Apr. 5	..	1

YELLOW FEVER.

Costa Rica, Limon	May 14–21	4	1
Mexico, Tampico	May 16–23	..	5

CHOLERA.

India, Calcutta	Apr. 28–May 2	..	65
Madras	Apr. 25–May 1	..	1

PLAGUE.

India, Bombay	Apr. 28–May 5	..	704
Calcutta	Apr. 28–May 5	..	228
Karachi	Apr. 26–May 3	187	156

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INFANTILE INSANITY IN ITS RELATION TO MORAL PERVERSION AND CRIME.*

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THE determination of the responsibility of children with criminal tendencies, is, naturally, a matter of some difficulty; and it is of the utmost importance that the investigator should bear in mind the different phases and stages of mental development in early life, as well as certain tendencies which cannot be compared with, or gauged by, the behavior of the adult, as is so often done by those who are disposed to hold the child to a strict accountability for all he does and says that may be considered wrong. The word "moral," as applied to infantile delinquency, is clearly out of place when we consider the imperfect mental organization of the very young individual. In ordinary cases there is, of course, very little use in looking for that exercise of reason and judgment which is so clearly present in the adult, even though in a perverted form, for the offenses of children before puberty are largely unthinking, and imply at best, but a low grade of responsibility. It is for this reason futile to attempt to extort confession, with the expectation of obtaining a valid response, or bringing the child to a realization of its wrongdoing, for vehement argument, expostulation, and threats can only result in eliciting what are, at best, the results of suggestion or will cause the victim to lie for the purpose of escaping the torture of the inquisition or punishment, which is all he is likely to realize. It need hardly be necessary to refer to the many instances when, under fear or suggestion, innocent children have even admitted the commission of the crimes of others. In most cases the offence is often apt to be imitative, thoughtless, performed to satisfy the immediate appetites or demands; or is the result of the excessive egoism which is so prominent during the early years of life; or is associated with a disregard of the future or its consequences. Someone has likened this childish condition of mind to that of the instinctive adult criminal, whose acts often imply a limited responsibility, for in them wrongdoing is the product of the immature mind.

The purposeless vicious acts of children are familiar enough. Pet animals are butchered or mutilated by young subjects who have witnessed the shedding of blood, or who are prompted by mere curiosity, and such acts have no significance for them; the petty thefts of the very young, simply mean acquisitiveness, and an ignorance of the laws of *meum* and *tuum;* incendiarism is prompted by the love of seeing fire and the craze for excitement. Suicide even, need not bring with it any suspicion of mental disease, and cases are reported by Durand-Fardel, in which the simplest disappointment, such, for instance, as the loss of a pet bird or failure to keep up at school, prompted the taking of life in this way. Undoubtedly, this is often due to the ignorance of the meaning of death. The fact that several young criminals are found in the same family may mean nothing, except in so far as imitation, vicious education, and example are concerned,for the police reports constantly show records of family crime of this kind. The Children's Society was recently called upon to take care of the younger members of the Daly family, the head of which was serving a long term in the penitentiary. Five of his seven children, most of them of tender years, were habitually engaged in various forms of theft, though it does not appear that any were insane, but that they had succumbed to the influences of their criminal environment. What future generations of this family may show, may be inferred from the history of the Jukes. On the other hand, all of the offences of childhood may sometimes be clearly marked symptoms of insanity or, at least, of a psychopathic condition. The disordered mental states of children, leading them to the commission of crime, can hardly be said to fall under the head of *adolescent insanity*, which usually appears at puberty, but is rather the expression of the degenerative mental state which precedes that psychosis, and is too disordered and inconstant in its nature to be exactly defined or classified. Certain neurotic children, even as early as the third or fourth year, may develop peculiarities in which ethical and moral defects are present and constant and, for this reason, their peculiarities differ from the occasional acts of sane children. A form of useless lying, with defiance of authority, waywardness, sexual perversion, and intolerance of restraint, as well as cruelty, is nearly always present. The children are dull, so far as systematic work is concerned, but sharp and precocious in other ways. That lying is a symptom of insanity is, of course, well known, but there is a kind of lying among the degenerate that differs from that of the mentally afflicted as well as the normal individual. It is the conscienceless and habitual kind that seems to be objectless as well as unnecessary. It begins in the very young, and, as has been said, is associated with other forms of moral delinquency. The biographer of Madame Humbert, the famous French confidence woman, referring to a little girl whose subsequent enormous swindling transactions were well known, says that her capacity for deception began at a very early age, for when she was only five she would return from a walk of a half hour and declare that she had had hair-breadth escapes and thrilling adventures, and tell of the wild outbursts of male admiration that had greeted her. Madame Humbert herself was a precocious liar and neuropathic, presenting stigmata of degeneracy, and it was a part of her sexual nature to be able to see "those visions which words transform into lies." At the age of thirteen, when Thérèse Daurignac, she forged her father's name and carried hidden securities in her corsets, "obtained, heaven knows where." The history of this creature is full of interest to the student of criminology. In hysteroid psychoses, where lying of a characteristic kind exists, there is a ways a species of limited responsibility.

The records of the Children's Society, which are those most available, are in every way unsatisfactory, one reason being that it does not appear that the children arrested for crime are examined by psychiatrists, unless they are clearly imbecile or

*Read before the Psychiatrical Society, New York, April 1, 1903.

idiotic. Doubtless a large proportion of what are tabulated as "ungovernable children," especially where the parents are insane, would show the existence of some mental weakness, and perhaps, a decided degeneration.

Speaking in this connection of heredity, it is a somewhat curious fact that, in these cases, the mothers are more often insane or intemperate than the fathers, which, I believe, is not in keeping with the ordinarily accepted opinion. While it is the view of some modern writers that actual insanity in the very young is rare, the literature of psychiatry is very rich in these cases, and Esquirol, a great many years ago, reported a large number of interesting examples of mental disease and crime in infants. Since his day, there can be no doubt of the now generally recognized fact, that many forms of

adult insanity are found as well in early life, among them, primary limited delusional insanity or paranoia, paretic dementia, and even circular insanity (Kelp). In fact, the mental disturbance bears a close resemblance to the degree of development, the acquisition and storing up of concepts, and the ability of the child to use them at the particular time of life. It does not do to say that children cannot have delusions, although it is rare for there to be any complex or elaborate false beliefs or series of related delusions, prior to the time when association and selection power are developed to any degree.

The disturbances of ideation usually consist of insistent concepts and resulting compulsive acts, and there does not appear to be any very elaborate association of ideas leading to the formation of a judgment. In an old, but suggestive case, reported by Esquirol, of a little girl of six and a half years, who wished to kill her stepmother as well as her younger brother, punishment had no deterring effect, and she was constantly seeking weapons with which to kill those she disliked. The following interrogatories and answers show the condition of mind to which reference has just been made:

"Why did you wish to kill your mama?"
"Because I do not like her."
"Why do you not like her?"
"I do not know."
"Has she ill-used you?"
"No."
"Is she good to you, does she take care of you?"
"Yes."
"Why do you strike her?"
"To make her die."
"Your blows cannot kill her; you are too small for that."
"I know that. One must suffer before they die, and I wish to make her turn ill, then she may suffer and die, for I am too little to kill her with one blow."

Insane children often have obsessions which are continued. They are rarely talked about, and the impulse is the first evidence of the mental mischief. In but few instances, is there a fear of the tyranny of the dominating idea and its transformation into a dangerous outward expression, and there is rarely apprehension of the consequences. Sometimes the realization of the possible results of the act are tardy and only follow the explosion. In a case of T. F. Fisher's a young boy said to his mother, "I have behaved well to-day, haven't I?" and without further conversation, suddenly threw a stone at her. He was immediately alarmed at her narrow escape, crying out, "Why didn't you dodge it? Why, I might have killed you!" This appreciation of the consequences sometimes exists, but there is none of the dread of the obsession which is so commonly met with in advanced life. In an exceptional case that fell under my observation, the patient being a boy of seven, there was *delire de toucher* and timid doubts. The idea of killing a member of his family was so strong that in his efforts at control and consequent fear, a state of excitement resulted which approached a confusional psychosis.*

In the majority of cases there is an apparent absence of the so-called "moral sense," and especially is this the case when homicides are committed, when the subjects are often boastful, flippant, and have talked callously about the deed. A case was narrated of a boy who drowned a boy smaller than himself, that he "might see the little devil kick in the water."

The Pomeroy case, which C. F. Folsom and other Boston alienists discussed, is an example of this kind, and in taking this for a text, C. F. Folsom divided the criminal insanity of children into five groups, which were: (1) delusional insanity, (2) insanity from masturbation, (3) epileptiform insanity, (4) moral insanity, (5) moral imbecility. This table is open to the objection that these psychoses often overlap each other or are found in association. It is much better to consider insane criminal perversion in the young as due: (1) to idiocy, imbecility, or an epileptic psychopathic condition; (2) to true primary delusional insanity; (3) to a psychopathic state, with a degenerative basis, with delusive ideas and obsessions, and (4) to paretic dementia and other adult mental diseases rarely developing in childhood. It is not my intention to discuss the first division, suffice it to say, that pyromania is exceedingly common among epileptic children, perhaps more so than in any other form or disease, and one case is reported by Meschede, in which, upon no less than three occasions, the child burned buildings, and on another made a murderous assault in obedience to an auditory hallucination.

Paranoia, in young subjects, is for reasons already stated, not so common as the other insanities. Consequently, crime among children, as the result of delusion, is correspondingly rare. I may relate the case of a boy of twelve which, I think, illustrates the

*Cases are detailed by Fisher, one of a boy eight years old, who flayed and cut puppies and chickens, avoiding vital parts. At eleven he shockingly mutilated a child of three by cutting it with a sharp bone, inflicting no less than nineteen wounds and nearly cutting off its right ear. He confessed his misdeeds, and said he could not help them. He was as intelligent as most boys of his age.

manner in which it might occur. I saw the subject first about eight years ago. He came of distinctly neurotic stock, two of his uncles on his father's side and an elder brother having been insane, and confined in asylums. The mother was hysterical, and the father's habits were bad, so far as alcohol was concerned. As a child, he had been exceedingly "nervous," and all his early illnesses had been characterized by a predominance of nervous symptoms. At the age of eight he had chorea, which was temporarily cured, but reappeared twice afterward. He is megalocephalic, and his frontal bosses are prominent. His lips are thick, and his teeth irregular and crowded. He is hypermetropic. His ears are abnormally long, and stand well out from the side of the head. There is a history of onanism, and the

genital organs are larger than they should be in a boy of his age. He has given his family a great deal of trouble, being at times capricious, hypercritical, insanely conceited and cynical, defying authority, and sometimes running away from home. It was difficult to keep him at school, and when there he did not apply himself. He seemed to take readily to mathematics, but other subjects gave him great trouble. As a young child, he had been subject to night terrors and had always dreamt of disagreeable things. He usually manifested a certain degree of timidity, irresolution, and doubt. While at school he conceived the delusion that he was an illegitimate child, and that his father was not his real father, but a certain prominent person was, and the boy's conduct and letters reflected his profound belief in this. After a period of strange conduct, with great reticence and preoccupation, he one day astonished his family by accusing his mother of previous illicit relations with his delusional father, and this naturally led to foolish punishment. From his school he wrote before this, as follows: "It was the idea I was not your son, and the idea almost drove me mad at times. . . . It began about a year ago, a mere fancy at first; I laughed at the idea. I gave it thought and allowed it growth and it got a hold on me, the growth turned into reality, and how I have suffered." He declared that his schoolmates had turned against him because of this; he avoided them, and he attributed their disregard to the knowledge of his doubtful paternity. One boy, he said, had called him a "bastard," and he came home full of enmity toward his mother, and in a very excited way, made the charge. This was evidently an hallucination of memory. He said, in another letter: "I acted badly at times when at home, to see if my doubts would not be confirmed by your lips." In all his letters, which are numerous and which covered a period of several months, his delusion was reiterated, and had obtained complete possession of him. It was only after some time that medical advice was sought, and this was because he had provided himself with a pistol, and had so clearly shown his intention of doing his mother harm, that the family were frightened, and I was called in to see him. He was immediately removed from home, placed under restraint, and it was not until several months afterward that his false belief was wholly removed and he was allowed to return home; but it cannot be said that he is well to-day.

A large number of the reported instances of juvenile crime are in subjects in whom an unstable degenerate state exists, which is often the result of improper environment and unsuitable, improper, or no education at all, when dysphrenia of variable duration may be developed. Sometimes, indeed, it is permanent, and though the conduct of the youthful malfactor is looked upon as carrying with it a certain amount of responsibility, such individuals. develop into dangerous and habitual criminals, who as recedivists, keep our criminal courts busy and crowd the prisons. Born with all the weakness which springs from defective heredity, they become, in congenial soil, precocious, drunkards, thieves, or murderers. No jeremiad is needed to picture the influence of the worst factor of the day—the pollution of the tone of all grades of society by the irresponsible newspapers, which appeal to the ignorant and impressionable. Not only are all ordinary ideals of pure life thus perverted, but social distinctions and standards are upset, envy and covetousness are fostered, and murder and anarchy are encouraged by a disingenuous appeal to a falsely created sense of injustice. In the very young what might be growing principles of a high kind, are nipped in the bud. When the neurotic child is a little older, defiance of society is taught, and a feeling of unrest is converted into a delusion or delusions. The instability of the nervous organization which is present at puberty and increased by excessive masturbation, increases to the extent that a psychosis is formed, possibly with fixed ideas of a pernicious kind.

The celebrated case of Jesse Pomeroy is an apt illustration. Pomeroy had done little else than read dime novels of the most lurid kind in which the heroes were outlaws, and the usual tales of border murder and crime crowded the pages. So powerful was the influence of these books that by a species of auto-suggestion he identified himself with the bloodthirsty hero who had killed his three-score of men and took the names of the most picturesque ruffians, and with his schoolmates enacted the stories, working himself up to a state of fury. The violent episodes were reproduced, boys being tied to trees and devilled. For some time he committed no grave offences, but eventually carried out his brutal ideas by torturing and afterward murdering young boys and girls. One child was found tied to a telegraph pole with his back cut to ribbons, and bearing the appearance of having been rubbed with salt. His

counsel thus summed up the shocking incidents of his life:

"In the Winthrop school in Charlestown, in 1871, he made faces in school. The teacher said that at times it was utterly impossible to make him understand. When reprimanded he would say, 'I could not help it.' He thought it very unjust if he were punished.

"As early as December, 1871, while he was living in Charlestown, he went over to Chelsea and took a strange boy with him to the top of Powder Horn Hill, some two or three miles from where this boy lived, and for no apparent reason or purpose. He stripped the young child, as he did all his victims, and whipped it, making it go through certain acts before him, and then told him to go home. In February, 1872, another act of this kind occurred. Pomeroy left his home, unknown to his parents, and found another boy in Chelsea, also a stranger. He was taken to the top of Powder Horn Hill and there treated in the same way as the first. This was in the winter time and he was put up there in some ice. Pomeroy whipped the boy, stuck some pins into him, and went through a general performance, the details of which are not told, but it undoubtedly was of a sexual character. Again, in July, he took another boy from Chelsea, he still living in Charlestown, for he went from Charlestown to Chelsea; he did not seem to go to any other place. He took that boy up the same hill and substantially went through the same performance with him, whipping the boy more or less, taking off his clothes and making him get upon a stone and dance. In one instance he made the boy say 'the Lord's Prayer,' ending with a vulgar word.

"About the first of August the Pomeroy family moved to South Boston. He had been there but a short time when he commenced the same thing with the boys there, who were utter strangers. On the 17th of August he took a strange child out near some marshes, where a boy named Millen was subsequently killed by him, and there undressed him, whipped him, making him say obscene words, and danced around him. The next occasion was on the 8th day of September, 1872, when he took another boy, repeating the performance as usual. On September 11, three days afterward, he took another strange boy out to the same place by the marsh. The four South Boston boys all went out to the marsh. He went through the usual performance and took out a large knife, which he seemed to have carried in a pocket in his coat, a sort of old butchers' knife that was used about the house, or for carving, wounded and slashed his victim. This boy was the first one that he had cut seriously. He was cut on the head. As he danced around him, and while the blood was on the knife and running from it, he sat and laughed.

"Again on the 17th, six days afterward, he took another victim, also an entire stranger, and tied him to a telegraph post, near the bridge in the vicinity of Chelsea and whipped him. Subsequently, on the 20th day of September, he was arrested. He pleaded guilty and was sent to the State Reform School. There was no proof against him except the statements of smaller boys, and there was some doubt of his guilt in the community. At the Reform School he attempted to use a knife, but was discovered by a teacher. When discovered he said he was not doing anything. At one time a snake was killed in the road. When Jesse saw the blood he wanted to attack the snake again. It was with great difficulty that he was diverted. After that he behaved well and was discharged from the school. He said he would never do a wrong thing again. The first lapse after his release occurred on the 22d day of April. On the 8th day of March he killed a girl named Curran. Jesse at his mother's direction opened her store, which was a small place. He went there at half-past eight o'clock in the morning, and while engaged in sweeping it out the Curran girl came in. She was an entire stranger to him and he to her. She came to purchase an article of some kind. Evidently the thought instantly came to him and he told her to go into the cellar where it was to be found, and then within three minutes from the time the girl descended the steps she was dead. When she went down to the cellar he immediately locked the front door. It is understood that she stepped down and stood in the center of the place below, facing Broadway. He stepped up behind her and in an instant cut her throat. She died quite suddenly without any great struggle. He then took and drew her to one side and covered her over with ashes and rubbish and left the body. She was missed, but no suspicion was aroused as to where she was and no tidings were obtainable. Mr. Robinson says, 'I understand the boy has said, since these matters came out, that he cannot control himself; that if he were out—that is, if he were at liberty—he might do nothing, yet, on the other hand, if the opportunity arose he could not resist.' I once put the question: 'If it was my little boy and I should leave him there, would he be safe?' He said 'No.' He should not mean to do anything, but it did not make any odds whose boy it was. If this feeling came up which he cannot control, and which, he says, is irresistible, he would do these things again."

On one occasion he carried his victim home on a sled, and before killing another, forced him to repeat the Lord's prayer, ending up with a vulgar word. There was much conflict of opinion about this case at the time of the trial, but all of the experts, save one, held that he was insane, and it was recorded as a case of limited responsibility. All admitted that he was weak-minded, that his memory was at fault, and that he was without a clear conception of the horrible nature of his acts. Although possessed of linguistic ability, and regarded as bright at school, he was clearly deficient in other ways and was at times erratic. Many physicians, however, looked upon him absolutely as the product of the pernicious literary influences. Pomeroy had, no doubt, an obsession to kill, which originated in the books he had read, he was a degenerate and a habitual onanist, and probably a sadist. In discussing the case, C. F. Folsom thought there was a motive in his love for torturing, and did not believe that he ever meant to murder. Experience had taught him that, up to that time at least, he could enjoy his horrible sport without undergoing anything that was really punishment to him. Folsom, however, agreed with his fellows, that a psychopathic condition existed.

The very interesting case of Richard Murphy is an example of the dangerous effects of sensational newspaper reading upon a weak and susceptible neurotic boy. I first examined him a short time after his arrival in New York, two years ago, and I believe he was subsequently seen by Dr. Peterson, who expressed an opinion at the time. While there is some doubt about the condition of this subject, and his responsibility, I am thoroughly convinced from several interviews then and within a few months, and from subsequent study of his case, that a psychosis exists, in which there is a delusive tendency, if not really existing delusions of grandeur, combined with a moral perversion, which brings with it a limited responsibility.

Richard Murphy, a little boy of eleven, registered at the Waldorf-Astoria hotel during the month of June, 1901. He was very small, very self-possessed and resourceful, and after assuring the manager of his solvency by a fraud, boldly made the acquaintance of several of the well-known habitués of the place, among them, Mr. Keene, Senator Depew, and other capitalists and politicians, with whom he talked much as an intelligent and well-informed man would, even criticising Mr. Keene's financial methods. He afterward fell into the hands of the reporters, who lost no opportunity of publishing his exploits. While his precocity was unusual and he possessed information of the topics of the day far beyond other boys of his age, not to say many intelligent adults, he was boastful to an extent that suggested that the things he stated were pathological lies if not delusions. He was on his way on a trip around the world, according to his statement, and at his home, in a small town in Missouri, was the editor of a newspaper of great importance and large circulation, and the number of his employees was very great. In the midst of his brief good time at the Waldorf, it was found that he was without means, and that he had resorted to the common trick of showing a dummy roll of bills which he had cleverly contrived. He was taken under the wing of a well-known Catholic priest, and his offences condoned by the hotel proprietor. During the two or three weeks he was at St. Vincent Hospital in this city, I examined him before he was sent home to his father in the West, who was, naturally, very much concerned about the escapade of his son. I found him to be a tiny boy, 4 ft. 5 in. high, with a dolicocephalic head. He had a deformed or V-shaped palate, but no dental irregularities or defects, His right palpebral opening was slightly smaller than the left, and there was a difference of over an inch in the length of the arms. There were no other defects indicative of imperfect development, and no actual abnormalities of the ears; his cutaneous surface was hyperæsthetic, and he admitted that he had habitually masturbated. In the presence of his friend, the priest, I talked with him for nearly an hour. He betrayed little or no acute moral sensibility, and would not explain his actions. He had theoretical views of an ethical standard, but these were elastic. There was a decided indication of the sincerity in the boy's manner and method of answering my questions, and that he was an enthusiastic believer in his own importance, and told wonderful stories of his newspaper I had no doubt, and this really amounted to exaltation.

When interrogated as to his newspaper venture he said:

Q.—When was it that you started that big paper?
A.—When I was eleven years old.
Q.—How large was it?
A.—It was sixteen pages, five columns wide and fourteen inches long.
Q.—How many subscribers did you have?
A.—We had 152 when we started; when I left home we had 14,000, distributed mostly in Jefferson City, St. Louis, and Chicago.
Q.—What is the size of Jefferson City?
A.—It has a population of about 20,000.
Q.—How many subscribers did you have in New York.?
A.—About 126.
Q.—I thought you had more than that in New York City.
A.—No.
Q.—What is the name of this paper?
A.—We kept the name of *Spectator*.
Q.—What are the profits?
A.—(To Father Ducey)—Do I have to tell this?
Q.—(Father Ducey)—It is for your benefit, you know.
A.—Well, you see I made clear—I charge a good deal for advertising, you know, and besides, we bought a good many things. I bought things during the year, you know. Now you mean what did I make?
Q.—What were your gross receipts?
A.—Well, about $12,000.
Q.—And your net receipts?
A.—About $7,000.
Q.—What did you buy? Presses?
A.—Yes, one Campbell's and two Chambers' and—
Q.—Did you have a Hoe press?
A.—We had already printed for some time on a Hoe, but only when we got out an extra edition.
Q.—What did the presses cost?
A.—The Chambers and—was $750 and the Campbell's $1,250. The office is on Madison between High and Main.
Q.—Some ill-disposed people said you did not have any office at all, that it is the place where your father is employed. Was that so?
A.—(Looking puzzled) I do not understand.
Q.—You have your own presses and plant, have you?
A.—I have my own plant. You just go into the *Tribune* office and see if it is not so.
Q.—You are taking a long trip, aren't you?
A.—Yes, it is a long distance.
Q.—Have you ever taken so long a trip before?
A.—Only little business trips for the paper, never so long as this before.
Q.—Have you been a great reader of newspapers?
A.—Well, we have a great many exchanges and I read them.
Q.—How tall are you?
A.—Three feet. I see (to stenographer, while measurements of his head are being taken) you write shorthand.
Q.—Did you have any stenographers in your office?
A.—Well, I should say! You ought to see my private secretary, he was a dandy!
Q.—How much did you pay him?
A.—Twenty-five dollars at the last. I paid him only fifteen to begin with.
Q.—What was your total weekly payroll?
A.—Two hundred and twelve dollars.

Nearly two years after his return home, he again appeared in New York and called upon me. I then questioned him about his previous experience, and he admitted that there "must have been something the matter with him" to have caused him to behave as he did at the Waldorf, yet he reiterated his stories of the important things he had done, and his possessions, supplementing them with others equally grand as to his career since. When he left me it was to call upon Senator Depew. He stated that he was without money which, at the time, I believed to have been the case. On the 26th of January, 1903, the newspapers were again filled with the exploits of young Murphy, who was arrested in Washington, after driving to several of the leading hotels in the endeavor to secure a suite of rooms with a private bath. When he was finally accommodated at the Raleigh, he dismissed the cab, giving the driver four times his usual fare. He was arrested for passing a worthless check for $20 in a New York department store on Sixth Avenue, and admitted that he had made a deposit of $5 in a savings bank, had obtained the pass-book, in which he had made false entries of deposits of $20 and $40. It was after this that he called upon the head of the dry-goods firm, who was a stranger to him, and by his assurance and apparent frankness, had induced that gentleman to certify his check for $20. This seems to have been but one of his many offences, and, in his portmanteau, it is said, were found playing cards, poker chips, and receipted bills of the best hotels throughout the country. It would appear that the boy's life, during the past year, at least, had been marked by consistent swindling, of the most ingenious kind. When arraigned before Judge Wyatt, he strenuously objected to having his case tried and wished to have it transferred to "a grown-up court.' His request was, however, denied, and he was sentenced to the Catholic Protectory on the 30th of January, where he now is.

Although various opinions have been expressed as regards this boy's condition and the manner of his responsibility, I am inclined to look upon the case as one of degenerative insanity, in which delusions of grandeur existed, in connection with very great

sharpness of certain faculties, and the blunting of the moral sense. It certainly is not simple precocity, whatever that may mean. I learn that there is a probable hereditary basis, and that the child has always been neurotic. From my several interviews, I am sure the boy believed the lies he told—certainly, his whole behavior supplemented this conclusion, and he was more than a mere criminal. Legally, perhaps, he was responsible, for his method of stealing had all the marks of cunning and acuteness. He surely had a comprehension of abstract right and wrong, and the knowledge of the consequences of his act, but he swindled that he might be able to live up to his expensive delusions.

The same morbid mental erethism is sometimes shown in other directions, and I can recall the case of a mere boy, of neurotic temperament, the son of a livery-stable keeper in a small country town, whose ideas of New York society had been imbibed from one of the yellowest of the Metropolitan papers. One of his first purchases when he came here was a suit of evening clothes, with which he hoped to gain admission to the much-advertised inner circles about which he had read so much in his favorite journal. His social ambition being thwarted, he became despondent, and finally dressed himself up, put a white flower in his button-hole, and then went up to Central Park, where he committed suicide.

The unstable condition which is found in these cases often leads to alcoholism and sexual excesses, even in boys and girls before puberty. Rossi and others publish numerous cases of alcoholism in children of tender years, two of these being in boys under five, and examples are more common in older subjects. I may, in this connection, refer to the personal case of a boy of ten years who had always been queer and different from others. He had a most fantastic imagination, and some ability as a draughtsman, at the age of five or six drawing constantly. His subjects were always allied to the horrible—devils, imps, and killing. He indulged in reckless and useless lying, read sensational stories, stole money frequently from the older members of his family, and took the silver brushes from his mother's bureau, which he pawned. This boy masturbated freely, and polluted the little boys who played with him. Upon one occasion, several years before I saw him, he was allowed to drink wine at the table. This seemed to stir an irresistible appetite, and upon another occasion he was found drunk from whiskey he had taken. After this it required the greatest care to keep him from taking spirits, but in spite of all that could be done, he was brought home unconscious upon several occasions.

The Goncourt brothers in one of their least known stories picture the degenerate daughter of a "camp-wren" or straggling army prostitute. This child, whose life is drawn with so strong a hand, manifested gradual insane upheaval of morals when her psychopathic state was intensified at puberty by compulsory sexual stress and excitement. The ultimate results were factious insanity of an incurable kind and dementia. It so often occurs that even when there is no expression of crime, a condition of elation and light mania may pass into one of the stuporous psychoses with ultimate dementia if strenuous measures of correction are resorted to. A case of this kind, in which insanity was evidently the amplification of an *originare verrüktheit*, was that of Czolgosz who, after his semi-maniacal outburst which led him to assail Mr. McKinley, was treated in prison with the most brutal violence for the purpose of extorting a confession and revealing the names of his possible confederates. When he was brought to trial there was a condition of mental torture and dulness as a reaction state that closely approached dementia. I was a witness of his manner in the court room, and feel sure he did not know the nature of the indictment to which he was asked to plead. These cases are referred to for the purpose of illustrating the susceptibility of some fundamental states of mental instability and weakness, to strain and pressure. They suggest the importance as well of humane and methodical management, care, and protection, rather than unreasoning harshness.

The management of vicious and insane children is full of difficulties, for on one side the unwise interference of the injudicious humanitarian does great harm, while on the other, the unthinking disciplinarian, who is loth to admit the irresponsibility due to disease, would have us treat them as other criminals. An example of the lax methods of the former and the serious consequences, allusion may be made to the case of A. Stewart, a boy who at the age of nine was committed in New York for truancy, but was released through the interference of friends. On March 31, 1897, he associated with young thieves and was again arrested and released. On October 21, 1897, he was arrested for vagrancy, and again on the 28th for truancy. On this occasion he was held for two months, when he was released. He was rearrested on March 28, 1898, and on March 22, 1899, on April 27, 1899, May 9, 1899, and finally sent to the House of Refuge, where he cut another boy's throat because, as he said, he "had a grudge against him." Although I understand this boy was found to be sane, there is a grave doubt as to whether he fully knew the nature of his act, and it is quiet probable that had he been continuously confined and subjected to intelligent discipline, he would never have committed the shocking murder.

So often is childish weakness that is not insanity regarded as responsible criminality that the children who might be guided aright by wise control are placed in penal institutions or sent to idiot asylums if they become incorrigible, or even trying. An occasional good school, presided over by a sensible man, or a training ship, of course, provided for a few, but what are really needed are correctional institutions where children are not stamped as young felons; farms and trades' schools and removal from malodorous tenements and association with older criminals. The governmental regulation of newspapers and injurious publications is to be hoped for, and the provision of a censor, as in Great Britain, who does some good in the regulation of plays, is perhaps a possibility of the future, while the enforcement of existing laws for the protection of minors would not only go far to suppress juvenile crime, but would diminish the force of many factors that now develop dangerous insanity in psychopathic subjects.

Separation of the Urine from the Two Kidneys.—Georges Luys discusses this question from the various points of view, dwelling with considerable detail upon the history of the development of the method. He claims to have been the first to practise the procedure in France, giving credit for the originality of the suggestion to Lambotte of Brussels, whose initial work on the cadaver and later upon the living subject was begun in 1890. In the same year Luys took up the matter, and by a careful presentation of the bibliography demonstrates the validity of his claim to priority. The clinical side of the subject is fully exploited, and the paper contains several illustrations of apparatus used and the proper position of patients for its successful employment.—*Revue de Gynecologie et de Chirurgie Abdominale.*

GASTRIC AND INTESTINAL CRISES.

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I HAVE selected "gastric and intestinal crises" as the subject for my paper, because we deal here with conditions on the borderline between the specialty of stomach and intestinal diseases and other pathological states.

The "crises gastriques" are, for instance, only in a very small degree, if at all, the expression of a disease of the stomach itself, and must be considered rather as symptoms or reflex signs of other organic troubles.

Gastric crises, have, indeed, been first described in 1856 by Sir William Gull,[1] an internal clinician. The subject, however, was held in such small esteem, or rather excited so little interest, that Leyden, in 1863, in his work on diseases of the nerves, mentions only three cases, one of his own and two by other observers. It was Charcot and his school who were the first to recognize the im portance of this condition. Since the first reports from the Salpétrière, in 1868, many more cases have been reported.

It might, therefore, appear superfluous to revert to this theme. But since the clinical picture is not quite as well known as might be desirable, and since I have had the opportunity to observe an exceptionally large number of cases during a period of years, I hope to arouse your interest.

I will confine myself to those crises or attacks of colic originating from a distinct lesion of the central nervous system or from functional disturbances of the same, leaving aside any of the others that may be caused by kidney stones or gallstones, movable kidney or liver, by intoxications, worms, uterine or ovarian troubles.

By far the most interesting of these conditions are those crises arising in the course of sclerosis of the posterior columns of the spinal cord, typical dorsal tabes. And here those attacks are of most interest which are present in the very first stages of the spinal-cord affection at a time when the real classical symptoms of tabes are not yet present, and only some of the so-called preataxic symptoms, that are of rather dubious value and are easily overlooked, are found.

I wish to start out by saying that the early symptoms of tabese, ither singly or in greater number, could be demonstrated in all cases observed by me. Among these symptoms are:

1. Eye symptoms, *i. e.* reflex rigidity of the pupils, paralysis of the external eye-muscles and optic atrophy. I put less stress upon the inequality of the pupils, as this sign may frequently be present from other causes and even in perfectly healthy people. Lately O. Schaumann[3] has called attention to the fact that for special diagnosis differences in the pupils are of very little value. L. Mann[4] thinks that rigidity of the pupils is a more constant sign than the absence of the pastellar reflex; but we must bear in mind that it is a sign that may also occur in multiple sclerosis, cerebral syphilis, progressive paralysis, brain tumors, and even alcoholic neuritis (Gudden). Any single one of the signs just mentioned or about to be mentioned are not sufficient for a diagnosis; we must have at least two objective signs of tabes. The same, also, holds in regard to the reflex of convergence and myosis. We must also remember that the paralysis of the external eye-muscles which affect sometimes one, sometimes several muscles, are often evanescent in the first stage of the disease. Atrophy of the optic nerve occurs in only about 15 per cent. of the cases of tabes, according to statistics of Uthoff. This sign is said to occur often at a time when the patient is absolutely unaware of any other symptom.

2. Westphal's sign is of great significance, although it may occur outside of tabes. In one remarkable case I have seen it disappear and reappear at a later period of the disease.

3. Disturbances of sensibility are mostly present in the lower extremities—at times also in the trunk. Paræsthesia of the posterior pharyngeal wall and of the anal mucous membrane may occasionally appear as the first symptom of disturbed sensibility.

Feeling of abdominal constriction, disturbances of coördination, and lancinating pains are usually absent at this period.

Of the so-called gastric crises of tabes dorsalis, I have observed during the last ten years: In the hospital, 40 cases (54 attacks); in the polyclinic, 34 cases; in private practice, 15 cases. Total, 89 cases.

Unfortunately, I do not possess complete notes on all the cases, being only able to analyze fifty of them.

I assume that the general character of these attacks is known and will therefore at once proceed with my own experience.

The first question that occurs to us is, how frequently a syphilitic infection has preceded? In 26 cases syphilis was admitted 16 times, denied 7 times, and dubious 3 times. In nearly 62 per cent., therefore, a history of syphilis is present. This corresponds to the present view regarding the relation of both diseases.

The duration of the disease varies greatly. Among my cases are some of 10 years' duration. The average is about 2 years and 10 months. The shortest time was two months.

The attacks return always at shorter intervals. At first 1½ years may intervene, later only one year, ½ year, 3 months, 6 weeks, even 14 days; in the end they may appear every few days. In the same way the duration of each attack may vary. The attack may last from half an hour to 24 or 48 hours, and may at times consist in repeated attacks, so that the entire crisis may be prolonged for 2 or 3 weeks.

The course of each attack also varies.

Usually it begins with cramps in the epigastrium and over the cardiac area, accompanied first by slight nausea, followed later by vomiting. The latter is usually very intense and attended by violent pains. At first food remnants are vomited, soon, however, only mucus and bile, occasionally mixed with small amounts of blood extravasated from the capillaries. Real vomiting of blood is rare. It was designated by Charcot as black vomit. I have seen it only four times, combined twice with melæna.

In some of my cases the patients maintained that they were vomiting more than they had taken. Usually the attack comes as sudden as lightning, only to disappear as quickly, so that a person that has turned with pain only a few moments previously sits up in bed a few minutes later perfectly well enjoying his meal. In other rarer cases the attack begins slowly and gradually with a feeling of nausea and eructation on an empty stomach, becoming more and more intense and slowly disappearing again. I have also observed a sort of aura, consisting of pains in back or chest, feeling of constriction and depression.

Whereas we usually encounter violent, nearly unbearable, pains, these were entirely absent in two cases, and the attack was accompanied each time only by vertigo and vomiting. In one case stupor resembling deep coma resulted. Here there was

also present a pronounced gastrectasia, which also gave the symptoms of this trouble during the intervals between the attacks.

The character of the attack may frequently change in the same patient, gradually becoming less severe, so that eventually it consists only in a slight feeling of soreness and nausea.

It is surprising for how long a time these crises may precede the occurrence of severe tabetic symptoms. I have myself observed a patient for five years, during which time he had five attacks; in another the gastric crises covered a period of ten years. These are the cases in which tabes develops very slowly and insidiously. Usually the attacks abate in severity or stop entirely with the development of typical tabetic symptoms. I have, however, observed cases in which the crises lasted with increasing severity up to the stage of ataxia and the other grave complications.

As to the condition of the stomach in these crises it is evident from what has been said that a serious or lasting functional or anatomical disturbance cannot be present in most cases. We have to deal mostly, and if there are no complications, only with passing disturbances, referring to gastric secretion.

At first an increase of secretion, especially of HCl was assumed to be present. This, however, is surely incorrect. Among 37 cases in which the HCl secretion was determined, hyperacidity was found in 9 cases, normal acidity in 9 cases, and subacidity in 19 cases. The cases of subacidity largely prevail therefore over those of hyperacidity, and it has further been shown that during the attack, with the exception of one case in which an acidity of 25 was always found, the acidity is less than in the interval. Thus in one case during the attack no HCl was present, although ordinarily an acidity of 45 to 65 was found. The acidity of the vomited matter was regularly less than that of a test-meal given immediately before an attack. One case is on record in which the test-meal showed an acidity of 46, the vomit of 40, and the empty stomach of 50, speaking for the presence of parasecretion.

The condition of the patients in the interval is usually good as far as the stomach is concerned. There are, however, some cases in which dyspeptic disturbances are present at all times.

The bowels were usually sluggish, and in only two cases was there diarrhœa during and after the attack. The urine shows no special changes, the occurrence of traces of albumin and occasionally of acetone not being characteristic of the attack.

Much less frequent than the gastric crises are the intestinal and especially the anal crises.

The first are characterized by cramp-like contractions of the abdomen, especially the hypogastrium, accompanied by intense boring or tearing pains. The abdomen is hard as a board, sometimes of a scaphoid shape. In some parts, for instance in the ileocæcal region or over the pubes, protuberances of the size of a walnut to that of a fist, may occur and disappear again with a gurgling sound. There is a desire for stool with a high degree of constipation, and the inability to expel wind. The attack usually lasts only a few minutes but recurs several times during the day and then disappears. Such attacks return at stated periods, in the meantime the abdomen being perfectly normal.

The rectal crises are especially characteristic. The patients suffer from a strong desire for stool, but without result. Only a few small fecal particles and mucus are discharged with a great deal of effort. The patients experience the sensation as though a sharp knife or a hot iron was being turned around in their rectum. These attacks are exquisitely painful, but disappear quickly, and the patient then feels as well as before.

The diagnosis of gastric crises is difficult because they occur mostly in the so-called preataxic stage of the disease, *i. e.* at a time when specific symptoms, as disturbances of coördination, marked disturbances of sensibility, affection of the joints, etc., are still absent. I have already spoken of the significance of the various signs.

I attach the most importance to the mode of development of the attacks, occurring at first rarely, later more frequently, the previous history of syphilis and, as far as the character of the attack itself is concerned, its frequent beginning with cramp-like boring and tearing pains in the epigastrium, which later are accompanied by vomiting. As far as this last symptom is concerned, there may be various modifications and deviations from the regular course, as explained above. Vomiting or pain may be absent, just as the character of the attacks may vary in one and the same case.

It is difficult to separate the real tabetic crises from the attacks of nervous vomiting, as may occur sometimes with organic, usually functional, disturbances of the nervous system. Charcot observed periodic vomiting in general spinal paralysis, in multiple disseminated sclerosis, and in compression of the spinal cord in its cervical portion by a fractured vertebra.

Similar observations have been recorded by later authors. These cases offer, however, no special difficulty, according to my experience. These attacks usually lack the distinctive type and occur, as a rule, only when the symptoms of the original malady are already well advanced, whereas the characteristic sign of the gastric crises consists in the absence, or at least the insignificance, of the specific symptoms of tabes.

It is much more difficult to distinguish them from those attacks of nervous vomiting recurring periodically without demonstrable disease of the central nervous system, such as has been described in Germany, especially by Leyden[5] and Boas, and which has been named paroxysmal or idiopathic vomiting.

These attacks very strongly resemble tabetic crises. They differ, however, in the following points:

1. There is nothing typical about the time of the attacks, or they may present a peculiar type of their own, the attacks recurring, not at successively shorter intervals, but rarely, and then always with regularity. Thus I have observed in young girls stomach cramps regularly, or with longer intermissions at the time of menstruation, accompanied by vomiting or nausea. They looked pale and anæmic, had no appetite, a coated tongue, etc. In other cases the crises recurred at a certain season —for instance, the spring or the fall.

2. There are no specific signs present pointing to a disease of the spinal cord.

3. Neurasthenic or hysterical symptoms are usually present.

4. Such attacks are usually brought on by the partaking of food, and it frequently may happen that the same article of diet may precipitate an attack at one time and not at another.

5. *Exjuvantibus*, it may be said that the so-called idiopathic crises may be influenced therapeutically, which is hardly ever the case with the true tabetic crises.

Other kinds of crises that might be considered are the painful vomiting of lead colic, of severe morphinism, of pregnancy, or accompanying the formation of stones in the gall-bladder, kidney or bladder,

also the vomiting of grave malaria, and reflexly from the uterus or bowel and intestinal parasites.

All these conditions may be diagnosed by a careful examination—sometimes, of course, only after a longer period of observation. Errors, however, cannot always be avoided. A case has been published from Leyden's clinic in which gastric crises followed a lead colic, and the true nature of these attacks was discovered only after a long period of observation. I, myself, have diagnosed "crises gastriques" of tabes in a patient upon whom later a surgeon, under the assumption of the presence of gallstones, operated unsuccessfully.

A case detailed by Werner[6] is, perhaps, most characteristic in this respect. It concerns a woman who, since 1883, complained of gastric pains, which gradually developed into true gastric crises. At first they were attributed to the pregnancy of the patient and were treated by cauterization and dilatation of the cervix. Since they remained after confinement, and symptoms of dilatation of the stomach developed, a gastric ulcer with pylorospasm was diagnosed, and on May 4, 1887, a gastroenterostomy was done by Hahn of Berlin. After the operation, the crises continued unabated, and they were now attributed to the adnexa of the uterus, and the patient was, accordingly, castrated on November 4, 1887. This operation was also unsuccessful, the patient vomiting until February, 1888. At that time the vomiting stopped and she was free from all troubles. Now all signs of tabes developed, together with those of phthisis, of which she died on June 5, 1888. The autopsy revealed a marked sclerosis of the posterior horns and phthisis. The gastric intestinal fistula was also found, and at its opening in the stomach an ulcer had developed, as sometimes happens after these operations.

From such cases we learn to what errors a wrong diagnosis of these crises may lead and how important a correct appreciation of the condition of the patient may become.

The same may be said of intestinal and anal crises, these varieties being, however, much less frequent than the gastric crises. The diagnosis in these cases, however, is, in my opinion, somewhat easier, as the symptoms of tabes are usually well marked at the time of their occurrence, so that a little doubt as to the nature of the attacks exists, as in the laryngeal crises, the lancinating pains in the joints, feeling of constriction, and other conditions of the sensory or sensory motor sphere.

As to the true nature of these crises, we are still absolutely in the dark. We know that their origin must be central, whence radiates a periodical stimulus to the periphery. At various times during the course of years nuclear lesions or neuritic changes have been observed by different investigators in the roots and peripheral nerves, especially the recurrent and sympathetic nerves. Kahler, Demange, Landouzy, Déjérine, J. Ross, Oppenheim, and others have found these changes. Other lesions that have been noted are atrophy of the root of the vagus, pigment atrophy, and degeneration of the sympathetic ganglion cells and of Remak's fibers, degeneration of the peripheral vagus, and of the laryngeal nerves, etc.

All these lesions, however, were found after the disease had reached its climax and was over the crisis. Neither do they explain the periodicity of the attacks, which can hardly be reconciled with the presence of a lasting histological change. Some special stimulus must without doubt be present, just as in an epileptic seizure. As to their nature, we are unable to say anything. To me it appears most likely to be a sort of autointoxication, characterized by the presence of a toxin or chemical substance which has no influence upon normal nerves, but readily produces a state of irritation on such nerves whose neuronic integrity has been impaired. Thus the frequency of the attacks increases as the degeneration of the nerve elements progresses. That each single attack reaches a climax, thereby exhausting itself, is also not without analogy. Finally the attacks cease because the line of transmission has been destroyed or, at least, does not respond to the stimuli sent out.

Regarding the treatment of the crises dependent upon a disease of the central nervous system, nothing very favorable can be said. I have used at various times the most varied means to suppress the attack as such in a symptomatic manner, or which, by attacking the original disease, were to prevent the recurrence of the attacks (suspension, antisyphilitic treatment, silver nitrate, etc.).

First of all, I must emphasize the fact that we do not know of any means of cutting the attack short. It has been said of some of the antinervines, *i. e.* antipyrin, strychnine ($\frac{1}{30}$ grain subcutaneously), cerium oxalate, that they occasionally shorten and alleviate the attack (Ostankoff, Basch, Oppenheim). Thus Basch[7], among 18 cases, saw the attack cut short twice and alleviated three times after the use of 1½ grains of cerium oxalate every 3 hours, as soon as possible after the beginning of the attack. I have used this drug only in few cases, as it was always entirely without effect even in 2½-grain doses.

The occasional success of this and numerous other drugs that have been recommended from time to time (*e. g.* amyl nitrite, or erythrotetra nitrate [Pal]) is difficult to estimate properly, because the attacks vary so much in their course and severity, and because tabes, as is well known on account of its proteus-like nature as a disease, easily influenced by suggestion. It is a well-known fact that each new method of treatment of this disease is at first ushered in by an ephemeral success.

In grave cases we must have recourse to morphine, and we will usually, in the beginning, be able to check the attack with relatively low doses. The amount of morphine, however, will have to be increased, the more frequently the attacks return and the quicker they succeed one another. I have had several patients in whom large doses of $\frac{1}{3}$ or $\frac{1}{2}$ grain of morphine, given repeatedly during the day, produced only an alleviation but not a cessation of the attack.

There is a further danger in the fact that these patients readily become morphinomaniacs and eventually take a subcutaneous injection whenever they feel the least discomfort in the epigastrium.

Just as in all other colics that return periodically, as gallstone or kidney colic, the individual behavior of every patient toward morphine is different. Some resist a long time, others easily get rid again of the habit, and the third class fall victims to the morphine habit. I never allow the patient to use the syringe himself, no matter to which category he belongs. It would, however, be absolutely wrong to withhold morphine for fear of forming a habit. As I have previously[8] shown in these cases, it does not shorten life, but rather prolongs it.

As the nerve irritant probably is sent out from the central nervous system by way of the posterior horns, success would seem to be promised by means of a method of treatment, which was described years ago by Leonard Corning, but which has only recently been extensively tried by a French physician, Fernand Chatelin. This method consists in the injection of local anæsthetics into the epidural space of the spinal cord from the sacrum. For this

purpose we look for the two small bony prominences which constitute the fifth posterior and inferior sacral processes and which are situated on both sides of the termination of the rima ani. Here a small triangular depression is perceptible, into which the cannula is thrust. Such injections have, indeed, been employed by Hulier and Vidal in one case of gastric crises due to ulcer of stomach, by Berguignan in the vesical crises of a tabetic patient. The solution employed in such cases is made up of sodium chloride, 3½ grains, cocaine hydrochlor. 1½ grains, and sterilized water up to 3⅔ ounces.

I myself have used these epidural injections in a number of cases, and can assert that technically the procedure is simple and easy. With none of the patients were there any special painful sensations, paræthesias, or pareses after the injection.

The treatment of cases of periodic vomiting due to functional neuroses, *i. e.* idiopathic vomiting, is much more satisfactory than that of gastric and other crises due to organic changes in the central nervous system. General tonic treatment by means of hygienic and dietetic measures and suitable drugs (iron, arsenic, etc.) will accomplish a great deal. Locally, irrigation of the stomach with soothing or slightly astringent solutions (aq. chlorof., argent. nitric.), sedatives (especially bromides, hyoscyamus, orthoform, etc.), and, if vomiting is of reflex origin, painting the nasal mucous membrane with cocaine are usually of value. We cannot, however, deny that obstinate cases may occur, which defy treatment for a long time and which lead to great weakness of the patients. Here the differential diagnosis will be especially difficult, so that often extended observation or the course of the disease can decide the question.

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Middle-ear Disease in Tuberculosis.—The views of Robert Levy are summarized in the following statements: (1) Any of the usual aural affections may affect the tuberculous as well as the non-tuberculous. (2) The usual modification of an acute otitis in a tuberculous subject is manifested in the course the disease pursues. (3) It is a doubtful question whether the bacillus tuberculosis is present as a distinctly etiological factor or as an accident. (4) Comparatively few cases of tuberculosis in children and relatively few instances of bone tuberculosis are met with in Colorado. (5) Clinical tuberculous otitis occurs with moderate frequency in Colorado, being secondary to lesions of the respiratory torgans. (6) Tuberculous otitis may develop when the general symptoms of tuberculosis have been arrested and the patient's condition unusually good. (7) Tubercle bacilli may find their way into the middle ear through the Eustachian tube, through the lymph channels or the blood currents. (8) Unusual care must be exercised in the application of the nasal douche in tuberculous patients. (9) The discharge may be arrested, but not permanently as a rule. (10) It must be exceedingly rare for miliary tuberculosis to develop from an otitis as the focus of infection. (11) Through-and-through irrigation with tubercle-bacilli-destroying agents is of prime importance in the treatment. (12) General and climatic treatment must be conscientiously carried out.—*The Laryngoscope.*

INTRAVENOUS INFUSION IN PUERPERAL SEPTICÆMIA.

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The following cases were treated at Gouverneur Hospital during my recent term of service. Although but two cases are reported, the results, particularly in case II, are sufficiently suggestive to warrant their publication, with the hope of a further trial of the treatment in puerperal septicæmia.

Case I.—M. B., aged twenty-six years, primipara. Admitted to hospital December 28, with the following history: About three weeks before, the patient had a normal labor. After two or three days she began to complain of fever and occasional chilliness, loss of appetite, sweatings, etc. These symptoms increased in severity until she was compelled to come to the hospital. On admission her symptoms were as above; the cervix was large, dilated and boggy, and the seat of a bilateral laceration. The uterus was enlarged and but slightly tender on pressure. Temperature, 100½°; respiration, 40; pulse, 116.

On the following day the temperature rose to 103°, and on the next day (third in hospital) to 105½°. The patient was curetted and a large mass of post-partum detritus and blood-clots was removed; uterus irrigated with an antiseptic solution and a gauze drain was introduced; this was removed after thirty-six hours.

The following day the temperature fell to 101°, but only to rise to 104° within the next twenty-four hours.

On January 2, when I first saw the patient, her condition was as follows: She was in a semi-apathetic condition, temperature, 104¼°; pulse, 118; respiration, 28; abdomen slightly distended and tender over the uterine and left hypogastric regions. Examination of heart, lungs, and kidneys gave negative results. There was no change during the next five days, the temperature ranging from 101° to 104½°; the pulse was always between 108 and 130, the patient gradually growing weaker and losing ground.

On January 7 I removed the entire endometrium with a sharp curette and applied pure carbolic acid to the denuded surface; this was done to remove the local foci of infection, disinfect the uterine cavity and seal up the opened lymph channels. It was followed by a fall of temperature to 100°.

The next day (eleventh in hospital) the temperature again rose to 104°, and on the following day to 104½°; the next day (January 9) to 105½°. At this time the patient's condition was so bad, the pulse so weak, and her vitality so low, that she was given a hypodermoclysis of 750 c.c. of decinormal saline solution. This was given only with the idea of keeping the patient alive during the night. It was followed by a chill lasting half an hour and a rapidly falling temperature, so that, twelve hours later, the thermometer registered 96¼°; a fall of 9¼ degrees.

The following day (January 10) the temperature rose to 103¾°. January 11, temperature 105°; a hypodermoclysis of 750 c.c. decinormal saline solution was given, followed by fall of temperature within twelve hours to 102°. January 12, maximum temperature, 104½°.

January 13, maximum temperature, 105½°; hypodermoclysis of 1,000 c.c. decinormal saline solution. Temperature fell to 99¾° within twelve hours; but it rapidly went up again to 105¼°. At this time pneumonia developed in the left lung and consolidation was complete in twenty-four hours.

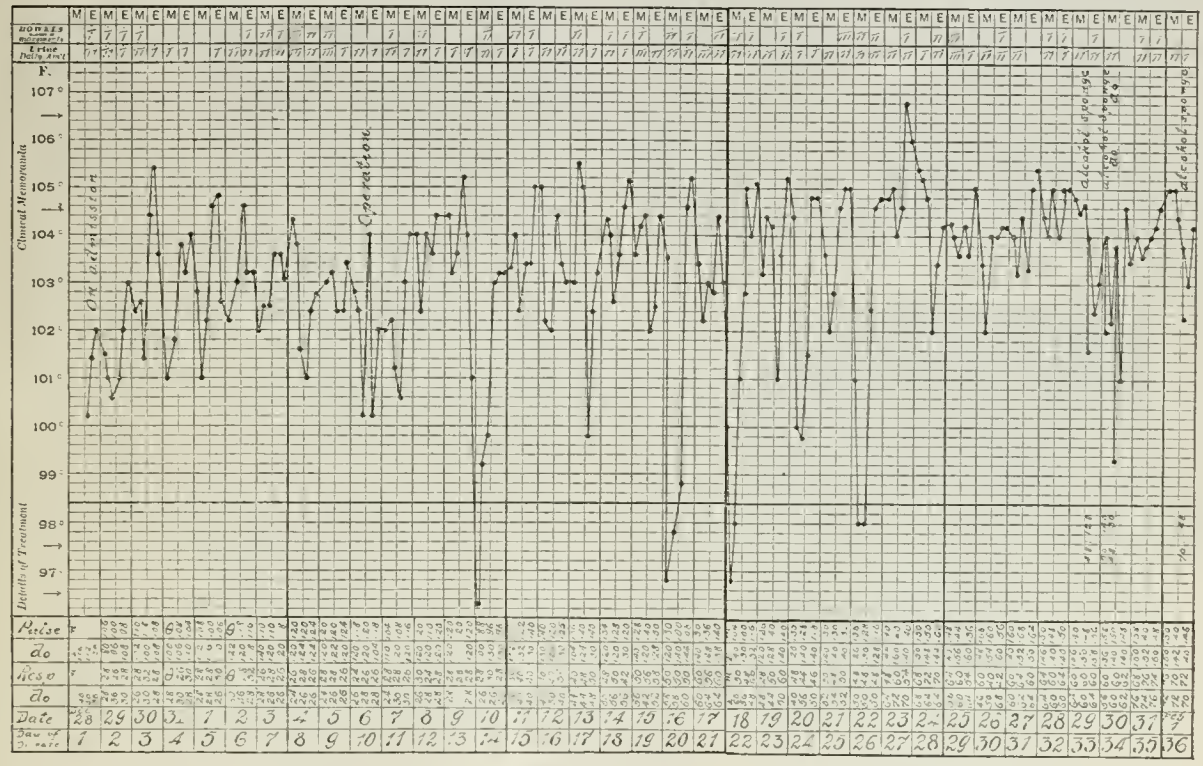
January 14, the patient's condition was appar-

ently hopeless; the septicæmia showed no signs of abating, respiration about sixty to the minute, labored and shallow; pulse very weak and at times irregular. At this time my attention was called to the treatment of puerperal septicæmia by the intravenous infusion of formalin solution, 1-5000, and I directed my house physician, Dr. Whitman, to give the patient 750 c.c. of this solution into the vein of the arm. This was done at 9 P.M., when the temperature was 104½°. It was followed by a chill lasting twenty minutes, and during the next twelve hours, the temperature fell to 96¾°, a fall of 7¼°. Within the next twelve hours the temperature rose to 105¼°, higher than it had been at the time of the formalin infusion. January 16, condition of patient unchanged. January 17, temperature, 104½. I determined to give the formalin infusion again. After 90, or at most 100, c.c. had passed into the vein, the patient stopped breathing, became pulseless, and I thought she was dead. Hypodermic injections of whiskey and strychnine and oxygen inhalations revived her, and discontinuing the formalin solution, 750 c.c. given, followed by fall of temperature to 99¾° within twelve hours. This infusion was not followed by a chill, but by a most profuse perspiration, which lasted throughout the entire time of falling temperature. Before this infusion was made a specimen of blood was again taken for examination. Professor Schultze subsequently reported the streptococci present, but in reduced numbers.

January 20, temperature, 105°; respiration, 56; pulse, 140. General condition of the patient very bad.

January 21, temperature, 105°. Intravenous infusion of 750 c.c. formalin solution was given, followed in one hour by a very profuse perspiration, and in twelve hours by a fall in temperature to 98°.

January 22, maximum temperature, 104¾°. The patient's condition was so bad and the heart's action so weak that I feared the removal of the patient to the operating room for intravenous infusion might be followed by a fatal result, so I directed a hypodermoclysis of 750 c.c. of decinormal saline solution.



CASE I.

tion (which I thought had been the cause of the collapse), I gave an intravenous infusion of about 900 c.c. of decinormal saline solution. This was followed in one hour by a chill lasting fifteen minutes.

Prior to the infusion, a specimen of blood was taken to be submitted to Prof. O. H. Schultze of Cornell University for examination. He subsequently reported the presence of streptococci in the blood.

Within twelve hours of the infusion of the decinormal saline solution (I exclude the formalin solution as entering into this infusion on account of the small quantity used) the temperature dropped to 96¾°, exactly where it had fallen after the formalin infusion. In fact, a comparison of the temperature chart after the normal saline solution and after the formalin solution infusions shows identically the same temperature changes, viz., a fall from 104½° to 96¾°.

January 18, temperature, 105°; respiration, 64°.

January 19, temperature 105¼°. Infusion of formalin solution, 750 c.c. This was without result on the temperature.

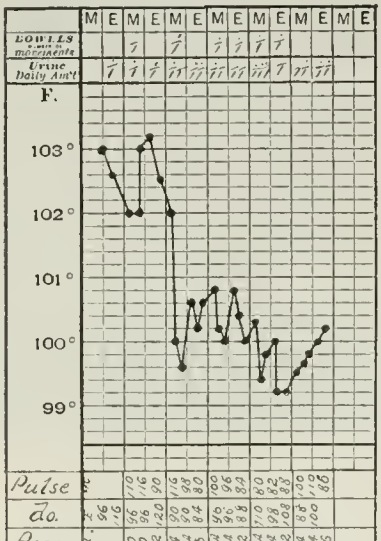
January 23, temperature, 106¾°; respiration, 70; pulse, 150. No sign of resolution in left lung; posterior (hypostatic) congestion at base of right lung.

Hypodermoclyses of decinormal saline solution, averaging from 750 c.c. to 900 c.c., were given on January 27, 28, 30, 31 and February 1. From January 23 the condition became worse and worse, the temperature never falling below 103¼°, and the respiration always remaining above fifty per minute until her death on February 2.

On February 1, about thirty-six hours before death, I obtained a specimen of her blood, which was said by Professor Schultze to be free from the streptococci. In the light of this report I am compelled to believe that the persistent high temperature of the latter part of this history was due to the pulmonary involvement and not in any way dependent on a condition of septicæmia. I have reported this case in detail because of the conclusions I draw from it and because of the bearing it had in determining my treatment of the case subsequently to be reported.

The patient came to the hospital with a well-marked puerperal septicæmia. After following the usual treatment in such cases for about two weeks, the condition going from bad to worse, I was compelled to look on the case as hopeless and death inevitable from septicæmia. At this time I used the formalin infusion after the plan of Dr. C. C. Barrows. I was impressed with the idea of directly introducing the germicide into the blood and thought we had at last discovered the way to remove systemic septicæmia. The result of the infusion was all that was looked for; but the improvement did not last, and after forty-eight hours, a second intravenous infusion was given, this time of decinormal saline solution; the result was identical in every way; the temperature curves being a repetition one of the other, the chills and sweating being exactly the same. I then began to think that perhaps the result was not due to the formalin but to the over-distension of the blood vessels with the resulting increased action of the skin and kidneys carrying out of the circulation an amount of septic serum equal to the amount of water infused. I was the more impressed with this idea in consequence of the marked fall of temperature on January 7, a fall of 9¼° following a hypodermoclysis of normal saline solution.

As I did not receive the bacteriological report of the blood specimen of January 19 in time, I gave another formalin infusion, the last, on January 21. All the subsequent infusions and subcutaneous injections during the period of eight days before the death of the patient were of decinormal saline solution.



CASE II.

The 750 c.c. of 1-5,000 solution used by Dr. Barrows, when mixed with the total volume of blood, becomes a solution of about 1-50,000 or 1-60,000, and a solution as weak as that probably inert.

I was therefore impressed with the idea that the result was due, not to the germicidal properties of the formalin, but to the transudation following the over-distension of the blood vessels, and determined to treat the next case of puerperal septicæmia with a large intravenous infusion of normal saline solution. This case presented itself on February 1 with the following history:

CASE II.—B. F., aged thirty years, married eleven years; six children; youngest two years of age. Eight days before admission patient aborted at about the third or fourth month of pregnancy, the entire contents of uterus being expelled. After three or four days she had a chill, followed by fever, sweating, etc.

On admission to the hospital the temperature was 103°; pulse, 96; respiration, 36. The uterus was slightly enlarged and softened; thick mucopurulent bloody discharge from cervix; feeling of discomfort, but no decided pain over the uterus.

When I saw the patient on the next day her condition was as above, but her temperature had risen to 103¼°. She received at once an intravenous infusion of 1,200 c.c. of decinormal saline solution at a temperature of 110°. This was followed in one hour by a chill lasting about twenty minutes and a fall of temperature (during twelve hours) to 99¾°. During the same time the pulse fell from 116 to 80 per minute, and the respirations fell from 30 to 18 per minute. Prior to the infusion a specimen of blood was taken and presented to Professor Schultze for examination. He reported the presence of streptococci.

For twelve hours after the infusion the temperature and pulse remained practically normal and the patient free from morbid symptoms of any kind until the time of her discharge from the hospital on the sixth day after admission. I did not wish the patient to leave so early, but she was resolute in her determination to go, so I was compelled to discharge her.

I desire to call special attention, in the history of Case I, to the temperature curves of January 15 and 16, and of January 17 and 18—these following on the former date a formalin infusion, and on the latter date a decinormal saline infusion, and also the temperature of January 9 and 10—this extreme fall following a subcutaneous injection of 750 c.c. of decinormal saline infusion.

209 WEST TWENTY-SECOND STREET.

THE CORRELATION OF ALCOHOLISM, CRIME, AND INSANITY.*

BY C. A. DREW,

MEDICAL DIRECTOR STATE ASYLUM FOR INSANE CRIMINALS, BRIDGEWATER, MASS.

ON December 21, 1901, J. M., a smooth-faced boy of seventeen years, of fair complexion, dark-brown hair and blue eyes, was admitted to the State Asylum for Insane Criminals from the State Reformatory. The physician's certificate upon which the commitment was based reads as follows: "To His Excellency W. Murray Crane: We have this day examined J. M., seventeen years of age, committed August 4, 1900, for larceny, sentence expires August 29, 1905, and would respectfully report: J. M. has been reported several times for being noisy at night; he has been five times reduced to the third grade. At one time he tried to escape and was found with a club, with which he was going to try to assault the officer. He was quite pleasant at our examination and announced at once that he was an anarchist; that he did not believe in society, but was a society man. That eminent men in the State appeared to him at night in the spirit form and threatened him with false charges, and it was not infrequent to have the spirits of some of the officers present at the same time; that he was going to kill all of them, as well as some people who were trying to cheat him out of a large farm in Texas that has been in his family for years. During the whole of the examination he would smile most of the

*Read before the American Association for the Study of Inebriety in Boston.

time, but sometimes he would scowl and try to appear very earnest. His pupils are dilating, his pulse is small and irregular, and he has lost fifteen pounds. There is much about him that is undoubtedly assumed, and nearly all the stories about his education and habits are false; he says he is a graduate of Harvard and was sentenced here for killing two Chinamen at Three Rivers, but he has been very persistent in his threats at killing, and he harps on the ghosts coming into his room at night and has lost flesh, although he eats his rations all up. We feel that he has delusions of persecution that are more or less mixed with weak-minded ideas of anarchism, and advise that he be sent to the asylum for insane criminals."

It is in the records that this young man was found on examination to have a fairly well-developed bony framework, but rather thin in flesh, cutaneous circulation sluggish, pulse small, regular and easily compressed, heart and lungs, palate and ears normal; tongue protruded straight with no marked tremor and no knee-jerk, the so-called "patella reflex." could be obtained.

Concerning the mental examination it is written that he was "moderately excited, silly, frequently making irrelevant remarks. Alternately scowling and grinning. Has considerable difficulty in collecting his thoughts, but memory appears good. Apparently has had delusions of various character for some time. Says that the officers made trouble for him and provoked him; that one of the officers beat him. Says he has been unable to sleep for some time; that he broke up the furniture. Says that he wanted to kill one of the officers there, and that when he gets a chance he will run a knife into him."

Concerning his previous history as related by himself. He says "he is twenty-one years old and thinks he was born in Worcester, Mass., but is not sure, as he was put into an orphan asylum when a baby. Father, Jeremiah, is dead. Mother, Ellen, married now to M. L. B. Thinks he has one sister dead. Family history unknown. Has been smoking, chewing, and drinking since eight or nine years of age. Drunk 'lots of times.' Has been through the grammar school. Sent to Oakdale Truant School at fourteen for two years. His first arrest was for stealing knives in Worcester; put on probation. Next for stealing rubbers. Probation. Next for stealing a copper boiler. Spent about two months in House of Correction, Worcester, then discharged. Next arrested for stealing silk skirts. Sent to Lyman School, assaulted an officer there with a base-ball bat and was transferred to Concord. While in the latter place has been frequently punished for breaking the rules, striking officers, and breaking furniture."

I read you the plain records of this case, because this young man represents a class, not small, numerically, among those admitted to the Massachusetts Asylum for Insane Criminals, and because his case embodies some facts and illustrates some truths related to the subject of this paper. There are phases of his case pointing to a bad heredity and certain symptoms doubtless depending on the direct toxic effect of alcohol on the cortical neurons of the cerebrum. An almost total absence of moral sense is not uncommon in patients whose father and mother were both inebriates, even though the patient has never used alcoholics. And we do occasionally receive a patient, born of inebriate parents, who is an abstainer from alcoholics, not for any moral reason, but seemingly because his embryo organism revolted from the alcohol in his mother's blood. Fantastic and irrational ideas, hardly fixed sufficiently to be called delusions, are common to the weak-minded offspring of such parents. It should be noted that our patient says he was put into an orphan asylum when a baby, and we have very little reliable information concerning his parents; but I would observe that it is not usual for a boy of eighteen or twenty-one, even, though he has been smoking, chewing, and drinking since the age of eight or nine years, to have progressed so far in crime, unless a neuropathic or alcoholic heredity was his heritage. His claim of being an anarchist, that he did not believe in society, etc., was doubtless the fruit of his reading about the assassination of our recently-deceased President. The loss of knee-jerk, or patella reflex, as well as other nervous symptoms present on his admission, suggested a condition approaching multiple neuritis, of which alcoholism is the most important causative factor. Ordinarily acute alcoholic insanity is curable, but moral imbecility or instinctive criminality, due to a neuropathic or inebriate heredity, is usually incurable, and I am not very hopeful concerning the future of our young friend, J. M.

I would add that J. M. is not demented in the ordinary sense. On the contrary, his mind is very active, and he looks you in the eye with a saucy, defiant smile. He is fertile in resources in attempting to change his dwelling-place. He has slid down a dust shoot from a second story, climbed the face of a brick building by the aid of projections which a good sailor might have hesitated to utilize, passed hand over hand along telephone wires toward what seemed to him to be liberty, until the wires broke, leaving him, after something of a fall, unharmed and still within a walled enclosure. Feigning a desire to have his window closed, he called a strong, experienced nurse into his room at night and attempted, by a sudden attack, to take the latter's keys, notwithstanding the nurse was forty pounds heavier and stronger than himself. Failing to get the keys, he sprang quickly from his room, turned a lock from without, leaving the nurse a prisoner within, while he waited in the hospital corridor for another nurse to capture, perhaps feeling as proud as did General Funston after the capture of Aguinaldo. The other nurse captured J. M., but our hero was not discouraged; it is not in his mentality to be discouraged by creatures of flesh and blood. He is a favorite among his fellows and is as devoid of fear as the dare-devil fictitious heroes of Anthony Hope or Richard Harding Davis. His social instincts are well developed, and let me say in passing that good men and women seem to be waking to the transcendent importance of the social instinct in the human animal. This seems to me to be among the most hopeful signs of the times, for the social instinct, of which the procreative and maternal instincts are parts, is a living power, ever acting, leading to an earthly heaven or hell, according to which way is made the most attractive.

Turning from the concrete case of J. M. to the more general question of the correlation of alcoholism, crime, and insanity, a time limit alone would exclude all but a few of the pertinent facts which have come under the writer's observation. During the year ending September 30, 1901, cases were admitted to the Prison Department of the State Farm as follows: 1,118 cases for "drunkenness," 311 cases as "vagrants" or "tramps," and 29 as "vagabonds" or for being "idle and disorderly," 18 cases were committed for other offences, the majority of whom were transferred from other penal institutions that the prisoner might have the benefit of the hospital department of the State Farm. Of this total of 1,476 cases admitted within

a year, 691 had been previously committed. For 356 this was the second commitment, for 10 it was the eighth commitment, and for 1 it was the seventeenth admission as a prisoner to the State Farm.

During the past two years 154 cases were committed to the State Asylum for Insane Criminals—an offspring and department of the State Farm—by due process of law. These 154 cases were from the various penal institutions as follows: 35 from State Prison, 35 from the several Houses of Correction in Massachusetts, 15 from the Massachusetts Reformatory, 10 directly from the courts or jails—not having received sentence—and 58 from the Prison Department of the State Farm. Twenty-three of these 154 cases were arrested for crimes "against the person" including 4 cases for assault with intent to kill, 2 cases for manslaughter, and 6 cases for murder. Breaking and entering was the charge in 24 of the 154 cases. It is difficult to get a reliable family history from many of these patients and almost impossible to get the truth from near relatives. These men usually talk frankly, sometimes boastfully, of their own shame. Many do not hesitate to tell the truth about a father's intemperate habits, but a mother's weakness is another question, and to lie boldly and perseveringly, lest a reflection be cast on her name, is an impulse native even to the typical insane criminal. But in spite of the difficulties, the painstaking efforts of my senior assistant has secured information in the majority of cases, in which such errors as exist will be in the minimizing of the facts pointing to a bad heredity.

Of the 154 cases admitted in two years, 11, or 7 per cent., claimed never to have used alcohol as a beverage. Of these 11 cases, 3 were epileptics and 2 were well-marked cases of imbecility. This will indicate how rare it is for one who is an abstainer from alcoholics, and not an imbecile or an epileptic, to be sent to the Asylum for Insane Criminals in this State. Ninety-six, or 62 per cent., of these cases considered themselves hard drinkers, the majority having been drunk many times. The remaining 31 per cent. considered themselves only moderate drinkers, or were too demented to tell, or for personal reasons refused to give information concerning their habits as to the use of alcoholics. Fifty-six, or 36 per cent., of these cases acknowledged intemperate fathers, while 21, or less than 14 per cent., acknowledged intemperate mothers. For many reasons it is impossible to say just what proportion of our patients are insane because of alcoholism, even more difficult than to determine just how much of the crime in our land is due to the same toxic agent. My observation leads to the belief that the offspring of sound, temperate parents are less likely to suffer from alcoholic insanity, though heavy drinkers, than the second generation who may not drink one-half so much. I would agree with Berkley* that "pronounced alcoholism in the parents always means examples of mental disease and weak-mindedness in the children, provided the alcoholic tendency is not acquired somewhat late in life." An inebriate father is certainly a handicap, an inebriate mother is a greater misfortune, but the offspring of an inebriate father and mother seems almost to be doomed from its birth. The question whether alcohol may be called a food—so much debated—seems to me to be mainly of academic interest, largely a splitting hairs over terms.

I prescribe alcohol sparingly as a medicine, as I I do strychnine, nitroglycerin, and digitalis, but almost never alcohol in case of young patients. But as a food, beef essence, cereals, and peptonized milk are much more reliable friends.

*Mental Diseases, page 106.

The pathology of alcoholism, criminality, and insanity each has a length and breadth of its own and can hardly be touched upon in this paper.

The man who drinks because his comrades drink is not of a kind with him who yields to an impulse from within which has almost the resistless force of an epileptic explosion. The latter is just as truly the victim of a neurosis as the epileptic. The instinctive criminal, the habitual criminal, the occasional criminal, and the criminal by passion are not of a kind, although the lines of demarkation cannot be sharply drawn. In all these cases, however, alcohol plays an important causative rôle, because, as Victor Horsley† of England Kraepelin‡ of Germany, Berkley§ of Johns Hopkins, and others have affirmed and demonstrated, the oft-repeated presence of even a moderate quantity of alcohol in the circulation will cause marked changes in the cortical neurons of the brain; a change in the shape of the nucleus, the disappearance of the granular masses, and the shrinking of the protoplasm of the cell body are among the changes discovered by modern laboratory research. Because these cells are the material basis of man's moral sense and conscience, the physical representatives of his aspirations, his likes, his dislikes, his hopes, his fears and his will power, their harm or immunity from harm seems to me a question before which the question of the food value of alcohol, or the effect of alcohol on stomach and liver, even is insignificant. It seems to be a law of nature that the most highly organized tissues suffer first and most from toxic agent in the blood, and so it is that the moral and ethical sense suffers first and most, and is often the only manifest evidence, in the first generation, of the baneful effects of alcoholics taken in moderate quantities, even as these attributes of mind are the latest developed and the crowning glory of man.

The widely-varying powers of resistance to toxic agents of the central nerve cells of different individuals is an important part of the difference in constitutions and temperaments, and has given rise to extremes of opinion. The neurotic fall an easy victim to the direct action of alcohol, while to the more stable, Crime is apt to stand as the child and Insanity as the grandchild of Intemperance.

Concerning the relation of alcohol to insanity among the non-criminal insane in Massachusetts, the State Board of Insanity has embodied on page 81 of their report for 1901 the aggregate statistics from five State hospitals, and the Boston Insane Hospital for the two preceding years. These statistics embrace 4,437 admissions, and the cause of insanity in 14.88 per cent. of these cases is given as intemperance. This may be taken as the most reliable information we have on the subject, but it must be remembered that statistics concerning the causation of insanity are confessedly unreliable for many and manifest reasons. On the one hand, members of the family refuse to acknowledge a bad heredity, and the patient is inclined to conceal bad habits. On the other hand, a single factor is commonly recorded as the cause of insanity when many factors have been potent influences. A neurotic organization—degenerating nerve cells—may cry for the anæsthetic effects of alcoholics, even as alcohol may cause this same degeneration.

The statistics referred to include both men and women, while alcoholism, as a direct cause of insanity, is about three times more common among men than women. A study of the statistics of the Worcester Hospital for Insane, the reports of which

†*Alienist and Neurologist*, January, 1901, page 197.

‡Clinical Psychiatry, translated by Deffendorf, pages 107-132.

§Mental Diseases, page 247-266.

evidence much pains in investigating causation, seem to show that alcoholism has been a sufficient cause of insanity in about 7 per cent. of the women and 21 per cent. of the men and a causal factor in about 10 per cent. of the women and 32 per cent. of the men admitted to that hospital. The poverty, overwork, stress, and worry, blighted hopes and consequent ill health, which follow in the wake of inebriety, are not debited to alcohol in these statistics. If these so-called "moral and mental" causes were traced back, the proportion of insanity charged to alcoholism might be much more equal between men and women.

THE MEDICAL OFFICER OF THE UNITED STATES NAVY.

By GILBERT TOTTEN McMASTER, M.D.,
NEW HAVEN, CONN.

THE navy is the nation's sea army. Officers and men lead a military life in their mobile castle of steel surrounded by the ocean. They are subject to the same military laws (with changes incident to the variety of service) that the army obeys. But the least understood of all officers of a battleship is the surgeon.

The United States Navy Medical Officer must be a "many-sided man." His literary and professional requirements are exceptionally severe. Uncle Sam demands men physically perfect and free from inherited taint. The young surgeon will ascertain that foreign languages, diplomacy, and elegance of manner are essential if he wishes to be an officer, gentleman, and a regular. The ships of the navy visit every quarter of our little globe. Diseases peculiar to climatic conditions will be encountered, and the surgeon must be master of the situation. All varieties of classified and non-classified conditions fall to his lot. As a broadening process, he has the advantage over his brother ashore to a certain extent.

Duties.—The duty of paramount importance is the health of the ship's company or station. On shipboard the surgeon must examine the sick bay dispensary, medical store rooms, holds, sleeping quarters, and water-tight compartments. His shore duty implies strict sanitary inspection of the Naval Hospital, its grounds and appurtenances thereof, together with the healthful arrangement of officers' quarters, marine barracks, and the naval prison, if the yard contains one. All boys, men and cadets, he must examine as to the physical qualifications for the service. He must ascertain if vaccination is required and perform the same. Food and water brought aboard in a foreign port, he must analyze as to its fitness for consumption by the ship's company. He must keep a medical journal of the entire cruise—subject any time to inspection by his captain or the ranking surgeon—and send it in quarterly with his report to the Bureau of Medicine and Surgery at Washington, no matter where his ship may be.

The captain shall be informed by him daily at 10 A.M., in writing, of the names and conditions of the sick.

The surgeon must, at all times, hold himself in readiness to attend the sick and wounded. He shall, when ordered, distribute tourniquets, and instruct both officers and men in their use. If an American merchantman applies for help in a foreign or home port, the surgeon must answer the summons, provided it does not endanger the health of his ship's company. Once every week the medical officer, in company with the executive, must personally inspect the holds, living spaces, and staterooms and report the same to his captain. The health of the crew he must always have in mind. Spirits and liquors, the property of the government, shall never been trusted to the care of enlisted men, except when needed for the sick, and then to be immediately consumed.

His surgical instruments, he cannot dispose of at his pleasure, but must institute a board of survey, who, if they see fit, will condemn and recommend later designs. When his ship goes out of commission after a long cruise, he must execute an inventory of all medical stores incident to a vessel of war and a medical officer, and transfer the same to the senior medical officer of the station.

[1]On entering a foreign port, the surgeon shall exhibit his bill of health of his ship's company to the medical officer of the port, and must make, in writing, a report of all diseases, epidemics, and other conditions peculiar to the place for transmission to the Surgeon-General of the Navy.

At summary court-martials where confinement is necessary, he must advise if the wayward Jackies' health will be impaired by restriction in diet.

Landing parties on foreign and savage shores are frequent. The surgeon's resources, packed in a small box, are all that is essential for emergency. Such are a few of the multifarious duties of a doctor in the navy.

The smallest cork, bottle, and piece of gauze being the property of his government, he is responsible for and must account for the same or stand the consequences.

When the order "clear ship for action" is trumpet-brayed and drum-vibrated through the ship, and the steam syren screams in weird vehemence "close water-tight compartments," and the rush of 500 to 600 men—the roar of the engines and of a sudden silence pervades all parts of the great ship, whose funnels are vomiting clouds of black smoke as she cleaves old ocean ready to fight—we find the surgeon calmly awaiting the gallant fellows from the decks above, that will be brought to him, screaming, mangled, and spattering blood as they come. While combating hemorrhages and binding up his patient, a shell may rip through the bulkhead carrying him and his man into eternity.

[2]Surgeon-General Rixey, U. S. Navy, observes "the first aid will have to be given on the battleships by medical officers in different portions of the ship. Most of the operative work will have to be done after the battle is over, which, in most cases between large ships, would be of short duration." The naval surgeon in a sea battle operates on a constantly heaving table. His decks, platform, or floor, whatever name it may be called, is not still a minute.

The recoil of the great guns is transmitted to all parts of the ship, severe trembling ensues, hence a steady hand, quick ratiocination, perfect instrumentality, commensurate to the incessant heaving and throbbing, are essential.

[3]Mr. Richard Harding Davis, in his excellent little work, mentions the surgeons so handsomely in his inimitable style that the profession owes him a debt of gratitude. He says: "Taylor, a young gunner's mate, was shot on April 26 (1898) by a revolver. It was an accident, but it is possible he was more seriously hurt than was any of the six wounded men who went through the seven hours' battle at Manila. Junior-Surgeon Spear said that if he had tried to dodge the vital parts in Taylor's body with a surgical instrument, he could not have done it as skilfully as did the bullet, which was neither aimed nor guided by human hand. It was Junior-Surgeon Spear who performed the operation, while the fleet surgeon, Dr. Gravatt, watched him and

advised. It was a wonderful operation. It lasted nearly two hours, and it left the layman uncertain as to whether he should the more admire the human body or the way a surgeon masters it. What they did to Taylor I cannot tell in technical language, but I know they cut him open and lifted out his stomach and put it back again, and sewed him up twice . . . that these parts of himself had been picked over and handled as a man runs his fingers over the keys of a piano and had then been pushed and wedged back into place and covered over as one would sew a patch on an old sail, to lie hidden away again for many, many years more."

The operation herein described was a success. The boy recovered.

Abdominal surgery under the most favorable conditions is delicate work.

[4]"The slightest deviation means unnecessary damage, perhaps death to your patient."

[5]Rear Admiral R. D. Evans, U. S. N., gives unstinted praise to the surgeon who attended him. He observes: "My shoulder was badly smashed and dislocated, but the excellent medical men soon wiped the blood off and reduced the dislocation."

[6]During the chase of the *Colon* by the *Brooklyn* on July 3, 1898, we find Dr. DeValin, U. S. N., was so near Yoeman Ellis that when the latter was killed he was spattered with his blood. The medical officer is not always out of harm's way as some have asserted.

The surgeon in our large cities does his work on a steady foundation. No extraneous uproar will blight the fair prospect of his success.

Nurses, assistants, good lights, and solutions abound—in fact, every appliance known to the curative art are at his command, and when his work is done he is aware that perfect rest will be obtained for his patient.

If one imagines when observing the great white ships of our navy gliding majestically through the ocean, that all is quiet aboard, let him change his mind. A warship of to-day seems almost a sentient being, mechanical devices are its nerves and arteries, its mentality, electric forces. Here, surrounded by dangers that a reckless "laying on of hands" may start into activity, dwell our officers and men. The surgeon, a silent, thoughtful entity, is quietly watching his portion of this little world, the living part of the machine.

On shore stations, navy yards, there may be found extensive machine shops and a well-equipped naval hospital. Injuries incident to machinery abound. The families of the officers give ample variety for medical work—particularly the women and children. So, ashore, his duties are not lightened but multiplied. In Washington a naval medical officer is always stationed to attend to the families of the officers. The present incumbent, being one of the most distinguished in the corps, Medical Inspector William S. Dixon, U. S. N. At all official receptions, whether ashore, shipboard, foreign service or at Washington, the medical officer must carry out his part of the program with his brother officers, the gentlemen of the line.

As he "ships" with line officers, he makes many friends that are life-long.

If he is taken away, the brothers of his corps and these same line officers, stand by his widow and children—an impenetrable, honorable, and sturdy wall of loyal friendship that is never tarnished by the ravages of time.

If he gains the age limit, his rank is commensurate, and when Uncle Sam politely, gently, and gratefully tells him he is sixty-two years old, he finds himself honored and respected, a retired officer and a gentleman of the navy of the United States.

REFERENCES.

1. Duties of Naval Surgeon. Digest from Regulations for the Government of the U. S. Navy. Relation to Medical Officer.
2. Extract from personal letter of the Surgeon-General, U. S. N., to the author.
3. The Cuban and Porto Rican Campaigns—Richard Harding Davis. Pages 41-42-44.
4. Notes of Lectures on Surgery of Hon. W. W. Kean, M.D., L.L.D., F.R.C.S., Professor of Surgery, Jefferson Medical College, Philadelphia.
5. A Sailor's Log. R. D. Evans, Rear Admiral, U. S. N. Page 425. D. Appleton & Co., New York.
6. Schley and Santiago, page 314. Graham

Deaths from Typhoid Fever in Cleveland.—A study of this subject made by Geo. W. Moore reveals the following statistics: (1) Typhoid fever in Cleveland furnished during the thirteen years under consideration, three per cent. of the total deaths (excluding deaths of non-residents and still-births). The number of deaths reported by the Health Department in the same period was 2.5 per cent. of the same total. The mortality was 56 to each 100,000 of the average estimated population. (2) Nineteen per cent. of all tuberculous deaths occur between the years twenty and twenty-five, 36 per cent. between twenty and thirty, and 50 per cent. between 18.5 and 35.4 years. (3) One and eight-tenths per cent. of all deaths were male deaths from typhoid fever. Fifty-eight and one-tenth per cent. of all deaths from typhoid fever were male deaths. (4) One and two-tenths per cent. of all deaths were female deaths from typhoid fever. Forty-one and nine-tenths of all deaths from typhoid fever were female deaths. (5) In proportion to the total, the greatest number of deaths, both for males and females, is found in the five-year period between the ages of twenty and twenty-five years. (6) In proportion to the living population by age the greatest number of deaths occur between twenty and twenty-five years. In this respect the mortality of typhoid fever differs essentially from that of tuberculosis, in which the highest mortality is found well past middle life. (7) On the basis of this study, there is, presumably, no relation between the conjugal condition and death from typhoid fever, unless it be in a moderate increase in liability to infection on the part of the unmarried, and this, if it exists, is thought to bear equally on the two sexes.—*Cleveland Medical Journal*, May, 1903.

Ruptured Traumatic Aneurysm of the Subclavian Artery.—H. C. Hinder relates the history of the case, the patient being a man, aged twenty-two years, who had been stabbed with a knife just above the outer end of the left clavicle. He was intoxicated at the time and did not know what had been done, but was told that a handkerchief had been stuffed into the wound. The cut healed and he returned to work, but a lump soon formed about the site of the wound and rapidly increased in size, causing extreme pain and giving evidences of pressure and circulatory impairment in various directions. A harsh bruit could be heard over the swelling, but there was no pulsation therein. Under incision no distinct vessel could be isolated, so the operator decided to open directly into the sac. This was broken through with the finger, the blood-clot scooped out, and then the fingers thrust down on the site of the hemorrhage. All this occupied but three or four seconds but the patient became blanched through loss of blood. Forceps, and, later, ligatures were applied on each side over what proved to be a slit two-thirds of an inch long in the third part of the subclavian artery. The wound was kept as clean as possible. Secondary bleeding occurred one month later but was stopped by plugging. Six months after the operation the patient was doing very well, though there was a complete loss of motion and sensation in the whole of the hand, sensation ceasing just above the wrist. The operator believes that either the forceps or the subsequent ligatures included some branches of the brachial plexus.—*Indian Medical Record.*

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THE ETIOLOGY OF VARIOLA.

THE latest issue of the *Journal of Medical Research* gives an account of the recent studies of Councilman and his assistants upon this topic. Reference is made to the work of Guarnieri in 1892 who described in the lesions of both vaccinia and variola, certain peculiar inclusions in the epithelial cells. These have been variously regarded as organisms, leucocytes, or fragments thereof, and as degenerative products peculiar to the disease. Wasielewski, whose work is of primary importance, considered them to be organisms.

The views of Councilman are embodied in the following statements: "In the lower layers of skin epithelia, before there is present any anatomical evidence of vesicle formation there are found small, structureless bodies from one to four microns in diameter. The cells present, at this time, little or no evidence of degeneration. The bodies, one or more in number, lie in vacuoles in the cells. The vacuoles are, at first, but little larger than the inclosed bodies. The bodies increase in size and evidence of structure, consisting of granules more distinctly stained, and lying in definite spaces, begin to appear. With the increase in size of the body, the vacuole of the cell enlarges until a large central space around the nucleus is formed. At this time there is but little evidence of degeneration of the nucleus. The body continues to increase and becomes granular, the granules lying in a reticular structure. The form of the larger bodies is irregular and suggest an amœboid character. They may become as large as or larger than the nucleus of an epithelial cell. A definite nucleus has not been made out in them, unless the reticular structure which stains more intensely than the rest of the body be so considered. At this time segmentation takes place, leading to the formation of small, round bodies about one micron in diameter. All this is best seen in the acute hemorrhagic cases. It may also be seen in the advancing edge of a young vesicle, the bodies becoming larger and more definite in structure as the formation of the vesicle advances. The bodies in the cells we regard as living organisms, and the gradual growth and final segmentation as a cycle in its life history. Up to this time the nuclei, although showing such evidences of degeneration as the massing of chromatin in the periphery, are not greatly altered."

"At the period of segmentation, and when most of the intracellular bodies have disappeared, small round or oval ring-like bodies appear in the nucleus. These increase in size and acquire a definite structure, consisting of a series of vacuoles around a large central vacuole. The rim of the central vacuole stains more distinctly than do other parts of the body. One or more of these bodies may appear in a single nucleus. When several are present they are smaller, but have the same structure. The bodies become larger, the nuclear rim grows less distinct, and finally disappears,and the body lies in a completely degenerated cell, or this breaks down, setting free the body. With the growth and development of the intranuclear body, the vacuolar structure becomes less evident, and finally a structure is formed which contains numerous fine vacuoles. At this time small circular bodies begin to appear in it, and groups of these are surrounded by a faint ring, which probably represents the remains of the body in which they were formed."

Councilman regards this intranuclear body as a further stage of development of the intracellular body, and as representing a second complete cycle of development. It develops from the spore-like bodies produced by the segmentation of the intracellular body which pass into the nucleus. In a case of hemorrhagic smallpox, he has found bodies similar to these spores in a blood vessel of the skin. He also regards it as extremely probable that in smallpox the complete development of the parasite through two cycles occurs, and that in vaccinia only the primary cycle. Certain forms of the intranuclear bodies would seem to show that the intranuclear cycle is sexual in character.

While all these statements are made with the caution of the careful observer, they mark a distinct advance in our knowledge of the etiology of a disease which has always been a source of dread to the laity, and which has always presented to the profession many baffling problems. If the modest prophesies of the Boston investigators shall prove true, they will have conferred upon themselves a well-earned renown and shed lasting glory on American medicine.

IS GENERAL PARALYSIS OF BACTERIAL ORIGIN?

GENERAL paralysis is probably better known to the non-alienist than any other form of insanity. This fact, together with its great frequency in the community, and the hopeless prognosis which attaches to a correct diagnosis, renders the subject one of general interest. Its causation is by no means settled, though the theory that it is a post-syphilitic affection, has many advocates. The line of evidence generally relied upon is the greater frequency of the disease in communities, and among classes in which syphilis is common, and *vice versa*, the occurrence of the disease in both husband and wife, etc. And certainly the evidence thus afforded is sufficient to make out a plausible case. On the other hand, there are alienists who believe that syphilis has nothing to do with general paralysis. The paper of Drs. W. Ford Robertson, McRae, and Jeffrey, in the *Review of Neurology and Psychiatry* for April, 1903, therefore has considerable importance, as the authors believe that they have found a bacillus which may well stand in causal relation to the disease. Their former investigations seemed to show that the toxæmia of general paraly-

sis is of gastrointestinal and bacterial origin, and that the rôle played by syphilis, alcohol, lead, etc., in the pathogenesis of the disease, is an indirect one, those agents operating in the direction of an alteration of the natural immunity. In the present series of experiments they sought to determine whether the bacterial flora of the intestinal tract possessed any distinctive features, and whether microorganisms were present in the blood and internal organs. A number of cultures from the blood were uniformly sterile, and this line of work was abandoned. Preliminarily, and pending fuller publication, they are, however, able to record two outstanding facts: First, there is evidence that not only the alimentary canal, but also the respiratory tract, is the seat of origin of a severe toxic infection. Secondly, there is one microorganism which appears to have a special significance by reason of the constancy of its presence, its enormous numbers, the frequency with which it takes part in a terminal general invasion, the known pathogenic character of the group to which it belongs, and the comparative rarity with which, with the same technique, a similar organism can be isolated from other cases. The organism in question resembles the Klebs-Loeffler bacillus, but is not Hoffman's bacillus. It is most readily obtained from the mucous surfaces of the stomach, tonsils, and bronchi. Rats fed for several weeks upon pure cultures, showed no symptoms during the first three or four weeks, but after this they exhibit especially slowness and uncertainty of gait, and drowsiness after feeding. Later they show distinct motor weakness, marked incoördination of movement, dyspnœa, great drowsiness, looseness of the stools, and death. The pathological changes observed are gastrointestinal catarrh (especiallymarked in the upper portion of the small intestine), proliferative and degenerative changes in the liver, and evidence of inflammatory changes in the lung. In the nervous system, severe degeneration of a large proportion of the cells of the cortex, early acute periarteritis, proliferation of the neuroglia and mesoglia, and infiltration of the pia-arachnoid are found. The cord shows similar changes, the degeneration of the cells being more pronounced. Many nerve fibers show distinct alterations by both the Marchi and Weigert-Pal methods. Thus when introduced by the alimentary canal, the bacillus in question is capable of producing changes especially affecting the nervous system, and changes which, once set up, can go on to death, even though the feeding be stopped. The changes in the nervous system have a distinct resemblance to those seen in general paralysis. The authors themselves say that their work in its present phase does not amount to demonstration, but their results are, nevertheless, interesting as a first approximation to the solution of a much-vexed question.

CHLOROFORM VERSUS ETHER.

Of all the international medical questions of the nineteenth century, none was waged with more pertinacity, not to say acrimony, than that over the respective merits of the two principal anæsthetics. It is, therefore, somewhat interesting to read the results of the observations of four of our English confrères in the *Journal of Physiology* for March 21, 1903. Tunnicliffe and Rosenheim operated by the method of perfusion—that is, by passing through the excised heart a suitable nutrient fluid which was oxygenated in bulk before the beginning of each experiment. The anæsthetic was accurately weighed and dissolved in the nutrient fluid. The latter was freshly made up before each experiment, and all necessary precautions were taken to prevent evaporation. Under these conditions, perfused through the heart in very small quantities, pure chloroform in the proportion of from 1:100,000 to 1:25,000, caused slowing, and slight increase in the amplitude of the pulsations. The heart so affected could always be brought back to the normal by re-perfusion with nutrient fluid to which no chloroform had been added. Stronger solutions (1:10,000) caused slowing, sometimes irregularity, and always marked diminution in the amplitude of the pulsation. Solutions of from 1:5,000 to 1:2,500 affected the heart seriously. Pohl determined the amount of chloroform in the blood of narcotized animals as from 0.018 to 0.040 per cent. If this limit be exceeded cardiac arrest quickly results. Pohl further showed that in cases of cardiac arrest by chloroform, the latter is present in the proportion of 0.06 per cent., which leads Tunnicliffe and Rosenheim to point out the very close agreements of their results with his (the proportion of 1:5,000 to 1:2,500, corresponding to 0.02 to 0.04 per cent.), and further how small is the difference in the amount of chloroform required for the production of narcosis, and that which will involve cardiac arrest, that is how small is the margin of safety. On the other hand, both Franz's experiments and their own, showed that the amount of ether present in the blood during narcosis is not sufficient to affect the heart. Franz found the amount to be 0.5 per cent., and the authors found that ether in the proportion of 1:500 did not produce any serious effect. The effect of strong and weak solutions alike was to produce at first irregularity and slowing, but the effect was quite transient. Parenthetically, solutions of alcohol produced similar results; transient slowing and very slight irregularity, much less marked than with ether, and the heart could be perfused a relatively long time without further alteration in its action.

Schafer and Scharlier investigated the action of chloroform, inhaled and injected into the blood vessels in normal salt-solution, upon the heart of dogs. They insist upon the specific nature of the action of the drug upon the mammalian cardiac muscle, pointing out that after the heart has been brought to a standstill (and this condition may occur almost instantly, but is more common after the lapse of a minute or two) the condition of the muscle is such that no kind of stimulant action, direct or indirect, will elicit any response. The heart is in diastole, with the cavities more or less full ("paralytic dilatation"). The authors think, however, that it is more than a condition of mere paralysis, for a paralyzed muscle will still respond to direct stimulation. But here the irritability of the muscle itself has disappeared, and the muscle is in a permanently refractory state, associated not with systole, as in the ordinary refractory phase, but with diastole. This condition, which renders the drug especially dangerous in inexperienced hands, is, in their opinion, one of ex-

citatory inhibition. It is, however, not of vagal origin (either central or peripheral), as it persists after section of the vagi, and after the administration of atropine. That the action of the drug is specific on the heart is shown by the persistence of excitability in the other muscles of the body.

Medical Representation in Hospital Management.

The question as to whether medical men should be represented on the board in hospital management, has been for long a much disputed point, a point concerning which, members of the medical profession are not agreed. For so many years doctors have been persistently told they are not business men, that a large number of them now regard the statement as true, and for this reason do not, as a rule, proffer their services to aid in the management of hospitals. Whatever may be, however, the medical man's ability in the transaction of the ordinary affairs of this world, and even granting that he is not generally a shining example as an exponent of modern materialism, yet one would be led to think that he should at least be a success in the management of a hospital. This matter was referred to in the Medical Record of June 6, in commenting on the eloquent address delivered at Washington on May 12, by Dr. Keen as President of the Sixth Congress of American Physicians and Surgeons.

Dr. Augustus A. Eshner of Philadelphia read before the American Academy of Medicine, on June 9, 1902, a paper treating of the same subject. Dr. Eshner says "to such proportions has the fallacy with regard to the inability of medical men to participate successfully in business affairs grown, that certain lay boards of hospital management have permitted the opinion to go forth that hospital management is a matter of pure business, and that the medical officers are to be looked upon as mere subordinates, to receive and to carry out the directions of their superiors, the lay managers. "There has, it seems to me," the writer goes on to say, "occasionally been too ready assent to this proposition on the part of medical men and others, to the detriment, I am sure, of the institutions in which the ideas under consideration have prevailed."

Coöperation between the hospital managers and the medical staff is absolutely essential to the usefulness and prosperity of the institution. Business matters, generally, may be left in the hands of the lay managers, while professional matters may surely be left with confidence to the discretion of the medical staff. According to Dr. Eshner, there are several ways in which satisfactory representation can be given the medical staff on the board of management of a hospital: (1) By electing one or more members of the staff to membership in the board; (2) by periodic conferences between the staff and the board; (3) by conferences between a committee of the staff and the board or a committee of the board. It seems absurd that medical men should have no voice in the management of the institutions to which they are attached. This view is based quite as much on the interests of patients as on those of doctors.

Alien Immigration.

This is not the only country in which the problem of immigration presents itself in perplexing forms. Of course, more persons emigrate to the United States than to any other land, and the class of those who come now is not nearly so desirable as was once the case, but at the same time a certain amount of restriction is placed upon the entrance of these would-be American citizens, and regulations are enforced which keep out the diseased and absolutely worthless. In Great Britain, on the contrary, the time-honored policy is still carried out of allowing immigrants from other nations, of every class and condition, to settle without let or hindrance upon her hospitable shores. This policy is now beginning to give rise to a good deal of grave doubt and misgiving, and the authorities are asking themselves if it really be the wisest course, to allow the scum of Europe to make their home in England, and eventually probably to become a burden to the rate-payers. The *Sanitary Record*, writing on the subject, and with special reference to a report recently issued by the Alien Immigration Committee, on the condition of foreigners in the East-end of London, says: "There is no doubt that these immigrants who are largely Russian and Polish Jews, come to this country not only destitute of sanitary notions, according to our English standard, but in a condition that is a serious menace to our countrymen." Here is a description of them by a writer who has been making a special study of the matter: "They may be decrepit wastrels; they may have infectious disorders; their frames may be rotten with horrible diseases; but so long as they have not yellow fever, the plague or cholera. they are allowed to land and to go whither they will, . . . These incomers to England probably never had a bath in their lives. They leave Russia dirty, with no disinfection of their clothing, and no inspection as to their physical condition. When the vessel arrives in the Thames, the Health Officer goes out in a launch to meet it. but if there has been no epidemic, he may accept the report without going aboard, so that immigrants suffering from many disorders come to England without hindrance. There is no law to turn back cases of smallpox, scarlet fever, measles, diphtheria, or indeed, anything but plague, yellow fever, and cholera. The outbreak of smallpox a year ago originated abroad. When the unwashed, verminous alien lands, he goes off to his friends in the over-crowded East-end. Even when en route to America, he is without inspection as to physical condition; allowed to travel from Hull, Grimsby, and London in English railway carriages, which are afterward subjected to nothing but the ordinary sweeping out."

This is a severe arraignment of the methods of the British health authorities, and, if literally true, would seem to bear evidence of a carelessness regarding the public health inconsistent with national reputation in such matters. It may be, however, that England will find it to her advantage to take a leaf from America's book, and to frame more stringent laws with regard to alien immigration.

Smallpox in England.

The recrudescence of smallpox in England, and especially in London, on a somewhat large scale, has naturally given rise to a considerable amount of literature on the subject in that country. As smallpox has been now for some time present in the United States to a greater or lesser degree, any information treating of the matter cannot fail to be of interest. The report of the Metropolitan Asylums Board for 1901, on the London smallpox epidemic, given in the *British Medical Journal*, December 6, 1902, is a document of some import. It states that errors in diagnosis were remarkably frequent. These are due, it is said, to the fact that medical men now certify cases which are only suspected, such as contacts, who show some febrile disturbance, and who are notified before the eruption appears. Out of

1,845 cases certified by London medical men as smallpox, no fewer than 237, or 12.7 per cent., were found by the experts to have some other complaint. Chickenpox is, of course, the affection most often mistaken for the graver disease. Of the 237 cases of mistaken diagnosis mentioned above, 77 were chickenpox; acne numbered 25 cases; dermatitis, 18; syphilis, 17; urticaria, 14; eczema, 11; furunculus, 10; 9 each of vaccinia, and acute non-eruptive infectious diseases; 6 each of drug rashes and febricula; 5 each of impetigo and lichen; 4 each of scabies, scarlet fever, and measles; herpes, 3, and pemphigus, 2. The statistical tables show that of 1,282 vaccinated cases of all ages and degrees of vaccination, 127 died, or barely 10 per cent. Of 307 unvaccinated cases, 119 died, or over 38 per cent. The earliest age at which an unvaccinated child was attacked was between 3 and 4 years. It had unfoveated scars, less than one-third of a square inch in total area. The total number of vaccinated cases under 10 years of age was 20, and all recovered. The earliest age at which a death of a vaccinated patient occurred was between 10 and 11 years. The next most fatal cases among the vaccinated were between 15 and 20 years of age. The fatality rate of the vaccinated advances at later age-periods. Of 225 cases between 20 and 45 years, there were 15 deaths, or 6.6 per cent.; 226 cases between 25 and 30 years, 17 deaths, or 7.5 per cent.; 170 cases between 30 and 35 years, 20 deaths, or 11.8 per cent.; 142 cases between 35 and 40 years, 26 deaths, or 18.3 per cent.; 147 cases between 40 and 50 years, 34 deaths, or 20.3 per cent. After the age of 50 the death rate decreases. Among the unvaccinated, however, the earlier years of life had many cases and many deaths. Under 1 year, 24 cases and 17 deaths; in the second year of life, 31 cases and 10 deaths; in the fifth year, 20 cases and 6 deaths. Out of a total of 372 unvaccinated cases no less than 192, or over 51 per cent., were under 10 years of age, while in a total of 1,282 vaccinated cases only 20, or less than 2 per cent., were under 10 years of age. Among the unvaccinated in a total of 119 deaths, 65, or over 54 per cent., were in patients under 10 years of age; whilst of the 127 deaths at all ages among vaccinated, not a single death occurred in children under 10 years of age. The statistics here quoted afford yet further proofs—if proofs were needed—of the efficacy of vaccination. They also emphasize a fact to which attention has often been called in the MEDICAL RECORD, that the ordinary medical practitioner is extremely apt to make errors in diagnosing smallpox.

ÆLUROPHOBIA.

The announcement made recently by Dr. Weir Mitchell that he is studying what is known as "cat fear" has impelled a writer in the *Bookman*—probably the editor, Prof. Thurston Peck, himself—to make some very apposite remarks on the subject, as well as to suggest a name, strictly technical, for this peculiar idiosyncracy. The name proposed, ælurophobia, is declared to be a good Greek compound, and one over whose construction those responsible are modestly complacent. "Cat fear" is a curious nervous state into which some persons are thrown at the sight or even unseen presence of a cat. This sensation has no connection with physical fear, for some of the bravest of men are subject to it—witness Lord Roberts. The feeling is one of repulsion or loathing. The theory held by the writer in the *Bookman* is that "cat fear" is only a secondary manifestation of serpent fear, and he writes on the matter thus: "The peculiar loathing which the white man feels for the snake extends, in highly sensitive natures, to creatures or even inanimate objects which resemble or suggest the snake. Thus most persons shudder and shrink back when a large eel is thrown writhing at their feet. They know perfectly well that it is not only a harmless creature, but that it is not a snake at all; yet they would not touch it and few care to eat it. As to inanimate objects there are many which are sufficiently condemned when they have the adjective snaky applied to them. Snaky locks, snaky ringlets, snaky movements—all these, and a score of other expressions, connote something repulsive. Now the cat is essentially a snaky creature. Most of us do not realize this because we lack the observing eye and the instinct of comparison, and, moreover, we are not troubled with hyperæsthesia. But to watch a cat as it moves about at ease, as it lies in the sun, or as it curves itself into its usual position when about to sleep; its stealthiness, its sinuous movements, the undulations of its lithe body—these are closely comparable with what we notice in the serpent, and if the cat have glossy fur, and if it be barred with stripes, there are moments when the resemblance is so striking as almost to make us shiver. Many persons feel this at times, but only in a momentary way. Other persons, however, are conscious of it all the while, or at least are conscious of a feeling of repulsion which they cannot explain, but which, in reality, represents the serpent dread. the loathing of the snake and all that suggests the snake, even when the mind is not aware of the underlying reason. This dread is, we believe, the dread to which Dr. Mitchell has given the name "cat fear." It may be called "cat fear, but in the last analysis it is a secondary manifestation of snake fear." This theory is at any rate plausible, but whether it will commend itself to Dr. Mitchell as a satisfactory explanation of that nervous condition which renders certain persons peculiarly susceptible to "cat fear" is another matter. There can, however, be no objection to the name ælurophobia; it is no doubt much more fitting than are most of the hybrid terms given to diseases. Professor Peck is a distinguished classical scholar, and vouches for the fact that the word is a good Greek compound.

THE METHODS OF QUACKS.

The manner in which quacks attempt to throw dust in the eyes of the public would be amusing, were it not so often attended by painful results. There is no deception that an unscrupulous member of this fraternity will not undertake in order to make money. No trick is too heartless for an individual of this character to put into effect so as to gain his object.

Dr. Knopf, speaking of the methods of such charlatans, a short time ago, mentioned a glaring instance which came under his immediate notice. A poor woman in the last stages of consumption came to him seeking advice. When asked for the name of her former medical attendant, she confessed that she had been treated for a number of weeks by a quack concern, and now that her means were exhausted, she was given to understand that they would not continue to treat her unless she would give them a certified testimonial that she had been thoroughly cured of her disease. Some of these men will resort to fraudulent measures to enable them to gull the public. A notorious example of this barefaced practice has been carried on in New York City for a considerable time. A firm of quacks advertise Dr. Robert Koch as if he were associated with them in business, and were exploiting his treatment. The Committee on the Prevention of Tuberculosis of the

Charity Organization Society, in order to be able to give an official denial to these statements, wrote to Dr. Robert Koch on the matter and, of course, received from him a most emphatic and indignant repudiation of having any dealing with the concern. The Committee on Tuberculosis of the New York Charity Organization Society has been used by some of these firms as a stalking-horse to delude the public with, and the misuse of the committee's name and of some of its members became so intolerable that, a short time ago, resolutions were adopted by the committee, couched in vigorous terms, in which the fact was pointed out that there is no specific remedy for consumption, and that such statements are made merely with the view of deceiving poor and frequently ignorant consumptives. It is to be hoped that the outspoken declarations of the committee may have the effect of at least deterring some from wasting time and money in the vain hope of receiving benefit from quack medicines.

The Use of Acid Phosphate of Sodium in Alkalinity of the Urine.

Dr. Robert Hutchison, assistant physician to the London Hospital, writes on this subject in the *British Medical Journal* of June 6. For some years he has been making investigations on the behavior of acids and alkalies in the body, and has also made experiments on the influence of different drugs on the reaction of the urine. He tried in particular to determine what agents are best adapted to increase the acidity of the renal secretion. The method adopted was to estimate the acidity of the urine secreted during the night by an individual on a fairly fixed diet, on several successive occasions, so as to obtain a standard of normal acidity. The substance, the effect of which was to be tested, was then administered at bedtime, again on several successive occasions, and the average urinary acidity obtained compared with the standard already observed under normal conditions. The acidity of the urine in these experiments was estimated in two ways: (1) By the method of Freund, which consists in throwing down the alkaline phosphates by barium chloride and subsequently estimating the acid phosphates by titration with uranium nitrate solution. (2) By direct titration with standard alkali solution; phenolphthalein being taken as the indicator. Observations were then made with mineral acids—hydrochloric, sulphuric, and phosphoric—and it was found that the influence of these, even in the largest doses that could be conveniently administered, was extremely slight. Next, organic acids were used, of which were tested, tartaric, acetic, citric, and lactic, these had a slight but distinct tendency to increase the acidity of the urine. Thirdly, benzoic and boric acids were found to exert no influence on the reaction of the urine, and, lastly, acid salts were tried, especially phosphate of sodium. This salt had a more direct and marked influence on the reaction of the urine than any other substance tested. The result compiled from the averages of many observations, showed that by no means all the acid phosphate is excreted in that form, but that a considerable portion is neutralized in the body, while the ammonia output is decidedly raised after the administration of the acid phosphate. Dr. Hutchison then tried the effect of acid sodium phosphate in alkaline urine, with the result that the power of the drug to increase the acidity of the urine was made quite manifest. The writer says that the drug has been used during the past two years in cases of alkalinity of the urine, from cystitis and other causes, with satisfactory results. The acid has the advantage of being very soluble in water and easily administered, and may be given in doses of from 30 to 60 gr., every 3 hours, although smaller doses administered more frequently have a better effect in securing continuous elimination.

Malignant Endocarditis Giving Widal's Reaction.

Dr. W. Hale White records a case of this nature, which was under his care in Guy's Hospital, London. The patient was a girl of seventeen years, who was in the hospital for three months suffering from malignant endocarditis, at the end of which time she died. Dr. White gives a brief history of the case on account of the unusual bacteriological findings, and because of their clinical interest. Streptococci were easily found in the blood, and about a month before death the agglutination test was tried with five strains of the B. typhi abdominalis, and in a strength of 1 in 20 four out of these strains were agglutinated by the serum of the patient.

At the necropsy which followed the death of the girl, examinations were made of the blood from the right and left ventricles and of the spleen. From the blood collected from the ventricles the streptococcus longus was obtained in pure culture. From the spleen the same streptococcus was isolated, and the B. coli communis. All attempts to isolate the B. typhi abdominalis, however, failed. Thus the only evidence that the case was one of enteric fever was that the patient's serum reacted with four different strains of B. typhi abdominalis during one period of the disease. There were never at any time intestinal ulceration nor spots, and the negative examination of both blood from the spleen and urine gives, thinks Dr. White, conclusive proof that this patient had not had typhoid fever. She likewise had not suffered from typhoid fever previous to her coming to Guy's Hospital, for she did not give the reaction when first admitted.

"Thus," sums up Dr. White, "we have an undoubted case of a patient suffering solely from malignant endocarditis of streptococcal origin, and yet during the progress of the disease, she developed in her blood-serum certain substances which had the power of—in a strength of 1 in 20—agglutinating the B. typhi abdominalis." "This," says Dr. White, "is of considerable importance, not only in considering in any case the diagnosis between malignant endocarditis and typhoid fever, but also because one of us has examined many cases of ulcerative endocarditis, and, like many authors who have published their results, has hitherto failed to obtain a Widal reaction in this disease."

The Use of Phosphorus in Matches Condemned.—The International Chemical Congress, in session last week in Berlin, adopted a resolution favoring an international agreement prohibiting the use of phosphorus in making matches, and requesting the international committee appointed at Paris in 1900 to communicate the resolution to the various governments

Another Consumption Cure.—At a recent meeting of the Berlin Medical Society, a paper was read on the treatment of pulmonary tuberculosis by the inhalation of the fumes of a mixture of eucalyptus leaves, sulphur, and charcoal. The mixture is made according to a special formula and bears a proprietary name. The usual report was made that the appetite improved, fever subsided, and bacilli disappeared from the sputum.

News of the Week.

Livingston County (N. Y.) Medical Society.—At the annual meeting of this society held at Geneseo June 9, the following officers for the coming year were elected: *President*, Dr. W. P. Spratling of Sonyea; *Vice-President*, Dr. J. H. Strassenberg of Avon; *Secretary*, Dr. H. G. Squires of Avon; *Treasurer*, Dr. G. C. Jones of Geneseo.

Inspection of Milk and Meat in Philadelphia.—Rules adopted by the Philadelphia Department of Health have been approved by the Mayor after conference with Dr. Edward Martin, Director of the Department, Dr. A. C. Abbott, President of the Bureau of Health, and representatives of the Milk Commission of the Philadelphia Pediatric Society and of the Keystone Veterinary Medical Association. These rules require that all dealers in milk must be licensed, all dairies inspected monthly, all milk and cream tested chemically and bacteriologically, and that milk dealers should sterilize all bottles before these are used for the delivery of milk. All meat-producing animals must be inspected by a veterinarian of the Department of Health before being killed, and all meat exposed for sale must bear the stamp of the Department.

Philadelphia County Medical Society.—At a stated meeting, held June 10, Dr. Mordecai Price exhibited a specimen of carcinoma of the bowel removed by surgical operation. Dr. Augustus A. Eshner read a paper entitled "The Management of Fever in General." Dr. J. Madison Taylor presented a communication entitled "Some Remarks on the Treatment of Paralysis Agitans." Dr. Robert N. Willson read a paper on "The Significance of Urinalysis in Pregnancy, with Special Reference to Eclampsia."

The Philadelphia Medical Journal, one of the periodicals founded by Dr. G. M. Gould, has been sold to the publisher of the *New York Medical Journal* and will be consolidated with that paper. The publication office will be in this city, but it is stated that a business and editorial office will be maintained in Philadelphia. In his valedictory, appearing in the issue of June 13, the editor announces that with that issue the management of the paper passes out of the hands of the staff which has conducted it for two and a half years. During that time, he says, the editors have been actuated solely by the desire of conducting the journal entirely in the interests of the medical profession and for the advancement of scientific medicine. We had supposed such were the motives of all honorable medical editors, but possibly the writer had his eye turned toward a universal critic in his vicinity who has always claimed a monopoly of this guiding principle. "The members of the editorial staff," he continues, "in resigning their functions would simply call attention to the fact that they have been responsible for the editorial control alone of this journal, and they relinquish their trust with the consciousness that they have discharged their duty with every effort to meet their literary and professional obligations. We think it is not inappropriate or unconventional that we should make this statement as a brief valedictory announcement." The editorial staff was composed of Drs. James Hendrie Lloyd, editor in chief; Julius L. Salinger, associate editor; and Joseph Sailer, F. J. Kalteyer, D. L. Edsall, T. L. Coley, John M. Swan, W. A. N. Dorland, J. H. Gibbon, T. M. Tyson, M. Ostheimer, A. Robin, F. T. Stewart, P. B. Bland, and R. L. Fielding, assistant editors.

The Eye, Ear, and Throat Society of Washington.—At a meeting of this society, held May 22, the following officers were elected to serve during the coming year: *President*, Dr. Walter A. Wells; *Vice-President*, Dr. W. N. Suter; *Secretary* and *Treasurer*, Dr. H. O. Polkinhorn.

Dr. J. Elliott Colburn has been elected professor of ophthalmology in the Chicago Eye, Ear, Nose and Throat College.

A Report on Malaria.—A parliamentary paper issued in London last week, and summarized in a cable despatch to *The Sun*, reviews the progress of the investigation into malaria and other tropical diseases which has been carried on in connection with the School of Tropical Medicines, opened in 1899, largely on the initiative of Colonial Secretary Chamberlain. The several investigations were carried on by Dr. Daniels of British Guinea, Dr. Stephens of Cambridge, and Dr. Christopher of Liverpool. Dr. Daniels, who went to India in 1895, confirmed Ross's theory in every particular. Drs. Stephens and Christopher, in Central Africa and on the west coast made the important discovery that while a native adult in such regions was in a great measure immune from malaria, the disease was exceedingly prevalent among native children, and proved that in these regions the native is the prime agent in the infection of Europeans. The segregation of whites and natives and the avoidance of native huts are potent means of the prevention of the disease. In 1901 they went to India, and there they found, as in West Africa, that the native children have the parasites in their blood, and they must therefore be regarded as a source of infection. They maintain that in any district the percentage of native children infected with the parasite may be taken as an index of the prevalence of malaria, or of malarial endemicity.

Physicians Arrested.—A number of physicians in this city have been arrested on complaint of the Health Commissioner, charged with taking money from patients in pay for diphtheria antitoxin obtained free from the Board of Health. The technical charge was petit larceny. The accused doctors claim that they made no charge for the antitoxin used, but that the money received was the legitimate fee for the professional visit, and the operation of injecting the serum.

The National Bureau of Medicines and Foods.—The joint committee of the American Medical Association and the American Pharmaceutical Association, appointed to consider the desirability of establishing this bureau, has prepared a plan which is published in full in *The Druggists' Circular* for July. It is proposed to establish an incorporated society with control in a board of ten directors, five appointed by each of the associations above mentioned.

Any manufacturer desirous of having one or more of his products placed under the supervision of and certified by the bureau, must first apply to the secretary for associate membership, which application will carry with it a contract to abide by the rules of the bureau. The application will then be submitted to the board of directors, and on the written approval of a majority of them, such manufacturer will be accepted in associate membership. An associate member desiring to have a given product certified by the bureau, must transmit to the secretary a proper application for that purpose, together with two samples of the product in question. One of these samples will be sealed and deposited in the custody of the secretary; the other will be transmitted to the scientific department of the bureau, together with instructions to investigate fully the article, and to compare it with at least two samples bought in open market without the knowledge of the manufacturer. If found satisfactory, the board, in conjunction with

the manufacturer, will determine standard of identity, purity, quality, and strength, to which this product must thereafter comply, and will formulate rules acceptable alike to the board and to the manufacturer, for the guidance of the chemists of the manufacturer on the one hand, and of the scientific department on the other. These formalities having been complied with to the satisfaction of the board of directors, the manufacturer will then be authorized to print upon the label of each package of each batch of the product that has been approved by the expert or experts in charge or to attach to each such package a separate paster, setting forth the fact that the contents of that unbroken original package have been certified by the bureau under certain rules; and the manufacturer may also print thereon the text of these rules. Each and every such label or paster must bear a number which would indicate, through records to be kept by the bureau, the date of the particular batch and the experts responsible for having approved the standard. At least three times each year two samples of every product bearing the certificate of the bureau will be purchased in open market, in different localities, and submitted to careful examination, in order to determine whether the standard established is being maintained by the manufacturer. If the standard established is not being maintained, the certificate of the bureau will be withdrawn.

Any pharmacist who so desires may become an associate member of the bureau on application, contracting to obey and abide by the rules of the bureau. Rules governing him in the preparation of pharmaceuticals will be, as far as possible, similar to the rules governing the manufacturer, and a system consisting of careful and frequent inspection and check control will be established, as in the case of the manufacturer, in order to protect the bureau certificate. Such associate pharmacists will agree to supply products certified by the bureau, when not otherwise called for, and the physicians will be advised of all associate pharmacists in their immediate vicinity. The bureau will also endeavor to have physicians call for products certified by the bureau, and whenever not absolutely necessary, refrain from specifying particular brands or makes, requiring only that the materials used by the pharmacist shall be of the standards established by the bureau and certified by it.

The members of the joint committee are: American Medical Association—E. Eliot Harris, New York; N. S. Davis, Jr., Chicago; Solomon Solis Cohen, Philadelphia; H. Bert. Ellis, Los Angeles; Philip Mills Jones, San Francisco. American Pharmaceutical Association—H. H. Rusby, New York; Jas. M. Good, St. Louis; C. S. N. Hallberg, Chicago; A. B. Lyons, Detroit; S. A. D. Sheppard, Boston. *Chairman*, joint committee, H. H. Rusby, M.D., New York; *Secretary*, Philip Mills Jones, M.D.

Dr. George M. Edebohls Honored.—At the fifty-eighth commencement of St. John's College, Fordham, held on Wednesday, June 17, the honorary degree of L.L.D. was conferred upon Dr. George M. Edebohls of this city in recognition of his services to medical science.

The Index Medicus.—The first number of this resuscitated publication, that for January, has recently been issued, and it is provided that succeeding numbers will be issued rapidly up to the even date. The subscriptions have not yet reached a sum sufficient, when added to the $10,000 per annum appropriated by the Carnegie Institute, to pay for the cost of publication, and an appeal is made to the profession throughout the world to support the enterprise. The Philadelphia College of Physicians recently adopted a resolution calling upon each of its Fellows to subscribe, if within his power, for at least one copy.

The War on Spitters.—The Board of Health has recently made public an ordinance against spitting on the sidewalks in this city, and tin signs have been placed in certain places, calling attention to the prohibition.

Homœopathy Debarred from the Philadelphia Hospital.—The Mayor of Philadelphia has vetoed the ordinance of councils granting the use of certain wards in the Philadelphia Hospital to graduates in homœopathy.

Smallpox and Typhoid Fever Prevalent in Philadelphia.—For the week ending June 13 there were reported to the Philadelphia Bureau of Health 48 cases of smallpox with 4 deaths, and 238 cases of typhoid fever with 21 deaths. There were also 72 cases of scarlet fever with 2 deaths, and 62 cases of diphtheria with 11 deaths. The total number of deaths for the week was 430, as compared with 427 for the preceding week and 412 for the corresponding week of the previous year.

Dr. William L. Ballenger has been elected professor of otology, rhinology, and laryngology in the College of Physicians and Surgeons, Chicago, to fill the vacancy made by the resignation of Dr. M. R. Brown.

Obituary Notes.—Dr. George P. Andrews, whose death in Honolulu on May 9 was announced recently, was a native of Hawaii, where he was born at Kailua on April 9, 1838. He was educated in arts at the University of Michigan, and graduated in medicine from the College of Physicians in this city. He practised for some time in Detroit, but was obliged, by ill health, to return to Hawaii about fifteen years ago.

Dr. William L. Bradley of New Haven, Conn., died suddenly on June 13, at the age of sixty-six years. He was born in New York City, and was graduated in medicine from the Yale Medical School in 1864.

Dr. Augustin Thompson died in Boston on June 8, from carbuncle. He was born in Union, Me., in 1835, and at the close of the war studied medicine and settled in Lowell, where for thirty years he enjoyed a large practice. He was the inventor of a popular, non-alcoholic beverage, the sale of which brought him in a large income.

Dr. Edward P. Luce died at his home in Bayonne, N. J., on June 5, at the age of seventy-five years. He was a graduate of the Cincinnati College of Medicine and Surgery in 1862, and during the Civil War served as surgeon in the Northern Army.

Dr. John F. Golding of Brooklyn, N. Y., died on June 7, at the age of forty-nine years. He was a graduate of the College of Physicians and Surgeons, New York, in 1875, and had practised medicine in Brooklyn continuously from that date. He was one of a faculty of the Brooklyn College of Pharmacy, and was a member of the Kings County Medical Society and the Kings County Pharmaceutical Society.

Dr. Albert Ferrari was killed recently at Puerto Cortez, Honduras. He had lived for six years in Philadelphia, where he received his medical education, and returned to Honduras only a short time before his death.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

NEW UNIVERSITIES—GENERAL MEDICAL COUNCIL—MULTIPLE SPLENIC ANEURYSMS—SARCOMA OF THE HEART—LEUKÆMIAS—COUNTING THE CORPUSCLES—INFECTED BLANKETS SCANDAL—MORE ANTIVIVISECTIONISTS.

LONDON, May 29, 1903.

YESTERDAY the Privy Council issued draft charters constituting Owens College, Manchester, and University College, Liverpool, separate universities.

Owens College will henceforth bear the title of the Victoria University of Manchester. The sister college will be known as the University of Liverpool, from October, 1903. The Yorkshire College will continue affiliated to the newly organized Manchester University until October, 1904, or until another charter is granted for Yorkshire, whichever event may first occur. Graduates of old Victoria may, for a limited period, select the university to which they will belong.

At the General Medical Council the Pharmacy Bill, now before Parliament, came up for discussion on Saturday. It proposes to prevent any person other than a pharmaceutical chemist from dispensing prescriptions in a "shop," and there is no clause exempting medical practitioners from its provisions. As such a clause is usual, and as pharmacy has always been admitted to be a part of medicine, it would seem as if an attack on the recognized rights of the profession were intended. The act of 1869 had a clause exempting qualified practitioners from its restrictions. The president admitted that this was a very serious interference with the rights of practitioners, though he seemed to think it was a question which the Society of Apothecaries should take up, as it chiefly threatened their licentiates.

Sir V. Horsley held that the whole profession was interested, and pointed out that the British Medical Association had been moving in the matter for the last two months. After some further discussion the president proposed that the Privy Council should be asked to insert in the Pharmacy Bill a clause safeguarding the rights of the profession. This motion was unanimously carried.

The council then considered how the disruption of the Victoria University would affect the constitutions of the council. If new universities should be founded, each might demand to send a representative to the council, which is already too numerous. As to this both a charter and an act of Parliament would be concerned. Birmingham had obtained by act the right to send a representative. Should a petition on the subject be addressed to Parliament? Dr. Mac Vail considered it inexpedient to discuss possible acts of Parliament when so many urgent questions remained before them. In this he was supported by Sir John Tuke, as no bill was at present filed.

Drs. Pye Smith and Paine wished a reduction in the number of members to be urged on the government at the first opportunity, and suggested linking two or three bodies as a mode of effecting the object. Sir C. Nixon opposed and said each body had ideas on medical education and other characteristics. Dr. Windle, representing the new Birmingham University objected to any disfranchisement of the younger bodies. Dr. Norman Moore went further and held that increase of universities would do great good by increasing the public respect for learning. Besides, he thought it a waste of time to discuss the abstract question of the proper size of the council.

Ultimately a vote was taken to decide for or against a reduction of their numbers, when nine voted for, fifteen against, and six did not vote, on which many sarcastically remarked that no one could expect otherwise from the history of the council. Yet the financial difficulties of the body are notorious, and a reduction in its numbers would be one way of increasing its expenditure which probably increasing its efficiency. A memorandum has been submitted to the council on its financial position, which shows that nearly £15.00 per annum is incurred in dealing with penal cases, and suggesting that this amount should be refunded by the government.

These penal cases are not very interesting and a smaller body could deal with them—in fact, it has constantly been remarked that the constitution of the council is scarcely adapted to qualify it for its judicial functions.

Among the cases this year was a rather unusual one. Mr. Henry Varley, a lecturer and writer on "purity," had recommended his doctor to young men whom he desired to rescue from the hands of unqualified quacks. This resulted in the doctor's name and address being lithographed for Mr. Varley to use instead of writing letters, and the publisher of one of Mr. Varley's pamphlets seems to have incorporated this circular without the doctor's permission. The consequence was the doctor had to appear before the council, and after a long defence to find that the facts alleged against him had been proved to the satisfaction of the council, but on his promise to abstain from any such conduct for the future, the council determined not to proceed further. Mr. Varley's pamphlet has been on sale above twenty years, but the doctor's name was not used until a few years ago.

In consequence of the illness of Sir G. Duffey, the council's inspector of final examinations, it was agreed to postpone until next year the inspection of the examinations of the Scottish universities.

Sir Wm. Gairdner has resigned his membership of the council and is succeeded by Prof. N. McCall Anderson. Sir Hector Cameron (also resigned) is succeeded by Dr. Lindsay Steven.

Dr. Trevor showed, at the Pathological Society, a specimen of mutiple aneurysms of the splenic artery associated with calcification and dilatation of the portal, splenic, and mesenteric veins, taken from the body of a man who died of hemorrhage from ulceration of bowel. The aneurysms seemed due to syphilitic degeneration, but other changes suggested Banti's disease, which seemed to have been implanted on the syphilitic soil.

Dr. J. H. Drysdale read an account of a case of primary sarcoma of the heart. The patient was a woman of forty-three years, who died of collapse three days after admission to hospital. It could not be positively said where the growth originated, but, Dr. Drysdale thought, most likely in a large mass in the wall of the right ventricle and septum.

Dr. Parkes Weber read a paper on leukæmias and pseudoleukæmias. He related a case of acute leukæmia which he regarded as a more primitive or a less differentiated type of the chronic forms, but no very distinct line could be drawn between them. Microbic inspection complicated many cases. Splenomedullary leukæmia he considered to be the most highly differentiated form.

A new method of counting the corpuscles, which has been in use for some time at St. Thomas's Hospital, giving results not differing from previous methods, was communicated by Drs. W. M. Strong and C. C. Seligmann. Permanent preparations are made from which both red and white corpuscles can be counted at any period afterward by dilution with appropriate stains and examinations with a one-sixth-inch objective.

No doubt you have heard of the inspected blanket scandal. The newspapers have had enough to say about it. Somebody blundered? Not at all. Routine prevailed. When a regiment returns in peace time, the bedding, etc., is sorted, and that which is becoming worn sold out. So returning from the war, the blankets were sold by routine and after distribution inquisitive officers of health find them infected with typhoid bacilli. Great is the god routine, and the war office is his faithful worshipper. Another sacrifice to him is £150,000 worth of unused army rations burnt in South Africa—while other free rations were being distributed to poor boers. Some one called this wicked waste, but the war office replied the rations were not good. Yet hundreds of people spent days in rescuing from the flames, eating all they could and selling the remainder!

The antivivisectionists have had another field day. Not the society which Stephen Coleridge runs but its rival. They stated that the society for preventing cruelty to animals is about to prosecute the Senate of the London University on account of its administration of the Brown Institute. This will delight the lawyers and the hysterical antis. In seconding a resolution for total suppression, one Dr. Blenkinsopp said: "They would doubtless find ere long that many of the experiments now being performed on animals would most assuredly be repeated on human beings of the poorest class as also on hospital patients, unless some check were placed on the dreadful curse which had found its way here from continental centers."

Mr. Coleridge must look to his laurels.

THE NEW ANGLO-AMERICAN HOSPITAL AT AT CAIRO, EGYPT.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: The new Anglo-American Hospital at Cairo is an institution that should be of interest to the profession in America for more reasons than one. It owes its origin equally to English and Americans; it will supply a distinct want to the large class of Americans who spend the winter in Egypt, and it will be so superior in its arrangements that it will merit attention as a model in constructing similar institutions. The number of English and Americans particularly the latter, who spend the winter, or a part of it,

in Egypt, has increased so greatly in the last few years that means for their receiving their proper attention when they have become ill has grown to be a pressing necessity. Everyone knows that a hotel is the last place where a sick person can receive the proper care. During each of the past two seasons there have been over five thousand American visitors to Egypt, and in the natural course of events there must be a certain percentage of illness among such a number of people. There is also a considerable class of British and American permanent residents in Egypt, and of these many are in moderate circumstances. A hospital where one can receive the best care at a reasonable charge is a great boon to people of moderate means in all communities, but especially so in Cairo where, outside such a hospital, proper care and nursing is entirely beyond their reach. Particularly will this hospital come as a blessing to families of small means in event of confinement. The institution, furthermore, is intended to care for the sick of British and American birth who are entirely destitute, so that all cases of all classes will be provided for.

The scheme for such a hospital is not a new one. The necessity for it has been apparent for years, but it was not until two years ago that Sir Ernest Cassell, who financed the Assouan dam and has helped Egypt in so many other ways, made the hospital possible by offering to give five thousand pounds toward its erection. This gave the scheme a great impetus, and under the active patronage of Lord Cromer, the British representative, and Judge Long, the American representative, its consummation was made a certainty. Not only the British and American residents, but many British and Americans who were only visitors in Egypt, subscribed freely toward the scheme. One of the best friends and most valued councillors of the hospital was the late Laurence Turnure of New York. It was through his interest and influence and that of his American colleague on the Executive Committee, Judge Somerville Pinckney Tuck of the International Tribunal, that many American visitors became interested and subscribed liberally, and it was largely due to his wise advocacy that the present site was selected, a site which was undoubtedly the best in Cairo for the purpose. The hospital not only has had wise councillors, but what has been even more fortunate and, what does not always happen, the lay members and the medical members of the Executive Committee, Doctors Keatinge, Sandwith, and Madden of the Kasr-el-Any medical school, have coöperated cordially. The building committee, the architect, the lay and medical members have all worked together, and the results have been highly satisfactory.

The General Committee were particularly fortunate in having for their architect, Colonel Price, Senior Sanitary Engineer of the Egyptian Government, who had built a large number of small hospitals in various parts of Egypt for a government to whom economy was a very important consideration. It is due to this fact that they have been able to build for about thirty-five thousand dollars, two completely fireproof buildings, containing upward of fifty rooms. The main building has about two hundred feet frontage and will accommodate twenty-two patients, twelve of them in private rooms, each private room with a fireplace and veranda, also the administrative and nursing staff, lavatories, store-rooms, operating-room, dispensary, etc. The other building is for kitchen, laundry, and service staff; and in addition to these, there is a small detached mortuary. For less than ten thousand dollars another story can be added on to the wings of the main building, the central part having two stories, and thus double the capacity for patients whenever this should be required. This is truly a surprising result for the amount expended. The building, furthermore, has a handsome appearance and is in a pleasing situation. The present site, which was finally chosen after considerable deliberation, is on the Ghezireh, the island in the Nile facing Cairo. It is on this island that the Khedive Ismail built the beautiful palace which is now a hotel. The hospital occupies a fine open situation, and the surrounding atmosphere is sweet and pure, an assertion that cannot be truthfully made of all quarters of Cairo. Through the further munificence of Sir Ernest Cassell, the site originally purchased has been added to in such a way that the hospital can never be shut in by building operations. The Ghezireh is not much built upon at present, and future building will probably consist of detached villas, so that the situation of the hospital should always be an agreeable one to the most particular patients.

As before said, the hospital provides for patients who cannot pay, for those who can pay a small sum, and for those who can pay liberally, and it is arranged to give this latter class all the comfort and attention they can obtain in the best hospitals in America or Europe, where such patients are received.

The hospital is under the patronage of the King and Queen of England and the President of the United States. The General Committee is under the joint chairmanship of the Earl of Cromer and the Hon. John G. Long. The treasurer is the Hon. Arthur Davy. The General Committee consists of twenty-five members, from whom seven are chosen to constitute an Executive Committee, three of these seven being medical men. The medical staff will consist of English and American physicians, resident and practising in Cairo and the nursing staff will consist of nurses who have been trained in English and American hospitals. The hospital is now finished and will be opened in the early autumn of 1903 to receive patients.

As before said, the building has cost something over thirty-five thousand dollars, the land has cost about sixteen thousand dollars, making a total expenditure of over fifty thousand dollars, all of which has come from private donations. About five thousand dollars is still needed for installation of electric light, furnishings, instruments, etc. As the fees from patients cannot be expected to meet the running expenses, the hospital will require to depend upon the proceeds from the annual "Anglo-American" ball and upon private subscriptions, which the Committee are confident will be forthcoming in sufficient amounts. American visitors to Egypt will be able to take pride in the fact that Americans have done so much to make this worthy institution a success.

C. G. Campbell, M.D.

LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

THE PLAGUE IN MANILA—CHOLERA AND TYPHOID BACILLI IN OYSTERS—CAPT. E. L. MUNSON, ASSISTANT-SURGEON U. S. A., ASSISTANT TO COMMISSIONER OF HEALTH—HEALTH OFFICER FOUND GUILTY OF MISAPPROPRIATION OF FUNDS, AND TWENTY-TWO YEARS' IMPRISONMENT—PRIVATE HERTER OF HOSPITAL CORPS RECEIVES MEDAL OF HONOR.

Manila, April 4, 1903.

There were eighteen cases of bubonic plague, with thirteen deaths, in Manila during the month of February. During the first half of March there were eighteen cases, with a total of forty-three for the month. The disease does not appear to be epidemic, yet it seems to resist every effort to stamp it out and to have secured a foothold in even the best residence districts of the city. To have the disease become epidemic and the port quarantined against it would be a severe blow to the islands, the revenues of which are just beginning to rise again after the wholesale quarantines and interference with trade during the cholera epidemic.

Examination at the government laboratories of oysters taken from the Malabon river has revealed the presence of cholera and typhoid bacilli in these oysters in several instances. Oysters taken from this source have therefore been declared by the Board of Health of Manila to be unfit for food, and their sale in the city has been prohibited. The quality of the Malabon oysters has long been under suspicion, and during the cholera epidemic they have been excluded from the Manila markets.

A large increase of malarial fevers among the troops has led to the publication of a precautionary order looking to the better protection of the soldiers against mosquitos, and the destruction of the latter wherever practicable. Although mosquito bars are furnished to the troops, their proper use has not heretofore been enjoined in orders. An interesting feature of the disease is the statement of an army surgeon who made a microscopical examination of the blood of every man in a native scout company some eighty strong, serving at a post where the white soldiers of the garrison presented a large amount of malarial fevers in hospital. The report says that 19 per cent. of the apparently healthy native Filipino scouts showed malarial parasites in their blood, although presenting no clinical symptoms of the disease. From this it is deduced that the native possesses a certain racial immunity to malaria paroxysms, but may serve as a potent and hitherto unsuspected agent in the transmission of virulent malarial infection to whites, even when the native serving as host shows no outward manifestations of the disease.

There has lately been quite a sharp outbreak of cholera in the Visayan islands of this archipelago, the disease having reappeared in a number of places in which no cases had occurred for some months and which were regarded as no longer infected. In some of the affected towns the deaths from cholera have amounted to from six to ten a day. Several soldiers have been attacked at different garrisons, and sporadic cases occur in Manila from time to time. In several of the provinces of the island of Luzon there seems to be no doubt but that the existence of the disease has been concealed. At present, the cholera mortality, outside of the Moro country, is small, but a considerable number of widely scattered points of infection

still exist, and there is no question but that the beginning of the rains will mark a great increase in the disease throughout the islands. As severe an epidemic as that of last year is not, however, anticipated.

A number of the smaller and more isolated islands, off the usual lines of communication, are now having their first experience with the cholera, which up to now had not gained entrance. The type of disease is severe and the mortality in the villages attacked is very high. As communication between the unimportant villages of the small islands is difficult, the disease has spread but slowly. As regards the sanitary situation of the islands, as a whole, this slowness of spread is unfortunate, as it means that at the onset of the rains, when cholera will find more favorable conditions for its propagation, there will be a large number of small isolated villages in the throes of an acute cholera epidemic—and as the cholera infection has been able to work its way into these little towns, so it will be able to work its way out in the future and reinfect more important cities and islands.

Medical officers in the Moro country report that the great severity of cholera among the Mohammedan natives has been largely due to religious ideas prevailing among them which require that the dejecta be passed into a body of water. In compliance with these ideas, the Moros will frequently go long distances to evacuate the bowels into running water, thus widely disseminating any infectious matter. As a result, all water supplies must be regarded as contaminated, and as drinking water is never boiled by the natives, they are especially prone to acquire diseases of a gastrointestinal nature. As already stated in previous letters, the Moros have largely regarded the cholera epidemic as a wholesale poisoning of them by the Americans, and the feeling of enmity thus aroused has become so acute that a special visit of the Governor and Commanding General to the Sultan of Jolo is planned, with the idea of averting any active hostilities against the Americans.

With the slackening up of cholera, the health officials are seizing the opportunity to perfect their sanitary organization throughout the islands, and have lately divided the archipelago into seven provincial sanitary districts, each in charge of an American medical inspector. The latter are to at once make thorough inspection trips through their districts and study local conditions, so as to render thorough and comprehensive reports to the Board of Health, for use in connection with general health work, and particularly for handling future epidemics. Four of these districts are in the island of Luzon, two in the Visayas islands, and one in Mindanao and the Moro group. Especial attention is to be given by the medical inspectors to general hygienic and sanitary conditions as found; the diseases prevalent in each locality; the average death rate and the principal causes of the mortality; the history of the cholera epidemic; the customs and habits of the people as they have an influence upon health and sanitation; the diseases of live stock, particularly those affecting cattle and carabao. Much attention will be given to the reorganization of health boards and the instruction of local health officials in the proper performance of their duties The carrying out of the above plan will mean much to the future welfare of the islands. The officials of the Civil Government, as a result of the epidemics of plague, cholera, smallpox, surra, and rinderpest, are thoroughly impressed with the fact that industry, commerce, and revenues depend upon health conditions, and have at last come to realize that sanitation is at the foundation of the prosperity of the Archipelago. There is no question but that they have been much worried by the increase in bubonic plague and non-disappearance of cholera, and are willing to do anything the health authorities ask in order to prevent further epidemics. If Manila should be quarantined against, as an unclean port, it would seriously impair the revenues of the insular treasury, already hampered for funds, and would largely prevent the carrying out of the general plan of much needed improvements projected. The importance of sanitation here is fully realized by the members of the commission, who will not be slow to grant the men and money required to secure proper results.

An assistant to the commissioner of health has just been appointed in the person of Capt. E. L. Munson, Assistant Surgeon U. S. Army, who has been relieved from military duty for that purpose. Dr. Munson brings to his new work special qualifications as a sanitarian which will prove of much value in his duties. He is the author of a large work on military hygiene, was for some time assistant professor in that subject in the Army Medical School at Washington, and served several years in the sanitary division of the Surgeon-General's office. At the time of his appointment Dr. Munson was assistant in the office of the Chief Surgeon, where he was acting as sanitary inspector and in charge of sanitary matters. It is understood that in his new position he will act as health officer for Manila.

To further facilitate the sanitary improvements planned to be carried out in Manila in the near future an additional sanitary engineer, at a salary of $3,000, has been appointed to have charge of the work. Heretofore the sanitary engineer for the islands has supervised the municipal sanitary engineering work in Manila.

The trial of the late disbursing officer for the Board of Health, on charges of misappropriation of public funds and the falsification of public documents, has just been concluded. He was found guilty of both charges, and has been sentenced to imprisonment in Bilibid prison for the term of twenty-two years. Such sentences as this have an important sanitary aspect in relation to the expectation of life of white criminals confined for long periods in the tropics. There is no question but that life is much shortened thereby, and that a sentence calling for many years' confinement here places life as well as liberty in jeopardy.

England, France, and Holland all return European prisoners from the tropics to home prisons when they are sentenced to periods of long confinement, the experience of these nations showing that prison life undermines the constitution of white men much more rapidly in the tropics than in the temperate zone, and that but few survive a confinement of as long as fifteen years. It is a serious question whether, in grave cases, receiving less than the death penalty, the courts have a moral right to practically deprive criminals of years of life by condemning them to long imprisonment in the Philippine Islands. There is no doubt but that a twenty-year sentence to be served in Bilibid is a much more severe punishment than the same period to be served in a penitentiary in the United States. It is to be hoped that the authorities will give this matter their serious attention, and take the question of the repatriation to the United States of long-service American criminals under serious consideration. Outside the punishment prescribed in the limits of the sentence, the criminal has as much right to the maintenance of existence as any other man. Such a sentence as has just been given the embezzling board of health employee, to be served out in Manila, is practically a life sentence, even for the young and vigorous, and for this reason is more severe than the crime warranted, and is probably more severe than the judge intended In our occupation of the islands we are gradually learning the fact that our American ideas and customs must be modified to meet local and climatic conditions.

The Manila government has just completed a well-constructed tenement for twenty families on the Tondo waterfront, which is about to be opened to tenants. The rules of the building provide that no chickens or animals can be kept on the premises, cleanliness must be maintained, no stores can be conducted in the building, and the maximum number of occupants allowed for each room cannot be exceeded. The opening of this building, the first of its kind here, marks an interesting experiment in sociology and sanitation. It is doubtful whether good accommodations and low rent will appeal to the Filipino, if to secure them he must sacrifice his game cock, his time-honored filthy habits of living, and his racial desire to herd together in overcrowded quarters.

Private Otto Herter, Hospital Corps, U. S. Army, has just been recommended for a medal of honor for conspicuous gallantry displayed by him in a fight during the past week between a detachment of native scouts with whom he was serving and a large body of entrenched and well-armed ladrones. In this fight over sixty were killed on both sides. The scouts charged an old stone fortification in which the ladrones had taken refuge, and a hand-to-hand fight ensued inside the walls. During the struggle, as it was impossible to attend to the wounded, Private Herter seized a rifle and took part in the engagement. His commanding officers report that he displayed remarkable marksmanship, they bearing witness to the fact that he killed at least six ladrones before having his right arm broken by a rifle ball. After being wounded he drew his revolver with his left hand and continued in the fight, and after the action superintended the first treatment of the wounded, and then walked six miles to receive his own medical attention. His arm is so badly shattered that amputation will be necessary.

Dr. Frederick A. Hesler, U. S. Navy, recently died of liver trouble while on his way to the naval hospital at Yokohama for treatment. Dr. Hesler has been in the Philippines about three years. He was on duty at the naval station at Cavite during the cholera epidemic there, and won much praise for his excellent work among the stricken. Dr. Hesler was a native of Illinois, and was appointed to the navy in 1884, reaching the grade of surgeon in 1898.

HEAVY MODERN MEDICAL BOOKS.

To the Editor of the Medical Record:

Sir: During the past decade the actual weight of the paper used in medical books has so increased that a well illustrated book of to-day weighs any where from one-third more to double the weight of a book of a corresponding number of pages published ten or fifteen years ago. The reason for this is the introduction of the half-tone picture in place of the old-fashioned wood-cut, the half-tone engraving requiring a heavy clay-coated paper for satisfactory reproduction, whereas the wood-cut, like type, may be printed satisfactorily on ordinary unglazed paper. There can be no question but that the modern book illustrated with these half-tone cuts is much more satisfactory and realistic than the old-time book with its crude wood blocks; and the cost of the half-tone engravings in themselves is much less than even very crude wood engravings. But the aggregate cost of producing an edition of medical books to-day is really not much less, if any, than formerly, and if the edition is very large the cost may be even greater, due to the fact that the extra price of the clay-coated paper more than counterbalances the difference in the initial cost of the engravings. But the disadvantage of such books is that they are too heavy to hold comfortably, and the reflected light on the glazed surface of the paper makes the letter press hard to read, particularly by artificial light. If a compromise could be made so that most of the illustrations were printed on glazed paper and most of the letter press on unglazed paper, the finished volume would be far more satisfactory both to hold and to read. That such a compromise is possible and practical is proved every day by such publications as popular books and magazines.

The standard monthly magazines are at present the criterions of excellence in illustrations and letter-press work. If any one will take the trouble to run through almost any one of these he will find that it is made up of two kinds of paper—a glazed paper on which the half-tone and colored pictures are printed, and a "rough" paper on which nothing is printed but the letter press, or at most the so-called "line blocks" made from pen drawings. In a current number of one of these magazines containing 157 pages of printed matter and pictures, I find that 86 pages have clay-coated surfaces, while 71 pages are smooth, non-coated paper. This is so arranged that the coated paper alternates with the non-coated paper so as to give the impression to any one turning through the pages that the pictures printed on coated paper are distributed uniformly throughout the book; but a careful count shows the following arrangement: The 86 glazed pages are distributed in lots of 16, 24, 8, 10, 20, and 8 pages, while sandwiched in between them is the non-coated paper in lots of 7, 18, 7, 14, and 15 pages. By this arrangement nothing is lost in the quality of the reproductions, while the resulting magazine is of a much more convenient weight, cheaper, and much less trying to the eyes of the reader. This difference in weight may not be so apparent in a single magazine, but when the entire twelve issues of the year are bound into one volume the weight is very appreciably lessened.

If the standard magazines, and other standard publications, are justified in resorting to this expedient in the matter of paper there is surely no reason why the same thing may not be done in medical publications. I have before me a medical book of about 1,000 pages, containing about 400 illustrations. Practically all of these illustrations are half-tone reproductions. The paper used throughout the book has the coated clay surface, and the book is too heavy to hold in the hand for any length of time. Of the 400 illustrations I find that 200 are reproduced directly from photographs, which require the coated paper for satisfactory reproduction. Of the remaining 200 about 75 are wash drawings, which, like the photographs, require the coated paper, but the remaining 125 are pen drawings, diagrammatic in character, that could be printed on non-coated paper with equally satisfactory results—in fact, in many instances they would come out better if they had been reproduced direct as line blocks rather than through the half-tone screen. As is the case with almost any book, even when the illustrations, are distributed with great uniformity, as they are in this particular book, I find that the illustrations are grouped closer together on certain consecutive pages with a number of unillustrated printed pages intervening. Even without changing any of the half-tone cuts in this particular book, I find that the printed pages are so arranged that about 350 of light-paper pages could have been substituted for the coated pages without any considerable rearrangement of the cuts. This would have reduced the weight of the book materially reduced the cost, and made the letter press less trying to the readers' eyes. Had the diagrammatic pen drawings been reproduced by the direct, instead of the half-tone, process, the number of coated pages might have been reduced to 500.

It is obvious that in technical medical books it would not be advisable to sacrifice the position of the illustration in its relation to the text to such an extent as may be done consistently in popular books, but nevertheless if the medical writers and medical publishers would have in mind the possibilities of the use of two kinds of paper in the make-up of the book, as magazine editors do, they could save themselves considerable expense and at the same time produce more satisfactory publications. There has been a tendency for the past ten years to reproduce everything photographically, both in popular and in scientific works, and to reject, as far as possible, the diagrammatic pen drawing or wood-cut. This has been overdone, and a reaction has begun in favor of the pen drawing, so long in disrepute, and such drawings are becoming more and more in evidence in the pages of current periodicals. A large number of medical illustrations now reproduced as photographs could be redrawn with the pen to advantage and reproduced as line cuts, just as such illustrations are reproduced in popular publications, The physical discomfort of holding some of the lead-like modern medical books is unpleasant, to say the least, and medical writers and publishers would certainly do well to follow in the footsteps of the publishers of popular books and adopt every measure possible to lighten the weight of their volumes.

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Progress of Medical Science.

The Boston Medical and Surgical Journal, June 11, 1903.

Dermatomyositis.—F. Forchheimer reports a case of this rare disease. The cardinal symptoms are the following: on the part of the skin, an eruption and sweating; an inflammatory œdema, swollen muscles, painful to the touch and upon motion. The general symptoms are fever and enlarged spleen. The onset of the disease may be very gradual or very sudden, the course may be acute, subacute, or chronic. The skin symptoms in the case reported were erythema, pustules and urticaria, and began about the face, involving the eyelids. The œdema extended over the affected parts and over the abdomen and lower thoracic region. The origin of this affection is not yet fully determined, and if anything at all has been shown as to etiology it is that apparently the disease may be produced by a number of causes. Until these are worked out we can only rely upon symptomatology for diagnosis.

Congenital Inspiratory Stridor.—D. Crosby Greene says that during the past three years five infants have been brought to the Boston Children's Hospital on account of an apparent difficulty in breathing, accompanied by a crowing sound. The diagnosis is based on the following distinctive features: The appearance of the affection at birth; the limitation of the sound to inspiration; the absence of continuous cyanosis; the constancy of the sound independent of the position of the child; the laryngoscopic appearance of the epiglottis and aryepiglottic folds. The prognosis is good. The condition itself is not a direct menace to health, but its presence adds to the danger of any disease of the respiratory tract. One death from laryngeal obstruction due simply to this affection is reported. The treatment is purely prophylactic. It is of great importance that these infants should be properly nourished in order to combat the respiratory diseases to which they are susceptible. Intubation or tracheotomy may be required in very rare cases but in the great majority there is no danger of asphyxiation, and operative interference is hardly to be thought of.

Journal of the American Medical Association, June 13, 1903.

Mercurial Treatment of Syphilis.—M. L. Heidingsfeld advises the injection into the buttocks, or interscapular region, twice weekly, of one to three minims of an ointment made by rubbing together thoroughly equal parts of lanolin and bi-distilled mercury. The latter is the substance employed by dentists for making amalgams. He uses a special syringe (figured in the original article), and the general technique of the injections is that of the modern paraffin injections for the relief of deformities. He claims that the question of mercury in syphilis is merely one of the assimilation of the remedy, and that in the injection method the drug is placed where it will do the greatest amount of good with the least deleterious effect, and that the other natural advantages, in the way of cleanliness, control of patient, accurate dosage, should justly render it the ideal and popular method of treatment.

The Modern Conception of Eczema.—J. A. Fordyce denies that because eczemas follow or are associated with

some general condition, therefore they are directly due to such a state, yet in our search for a local cause of the disease we should by no means minimize the importance of all conditions, both local and general, which favor skin infection. Infectious forms are the more often found in hospital patients in whom cleanliness is not carefully observed, while in the well-to-do, metabolic disturbances may be the major factor. Idiosyncrasy may determine the type of eruption from a given irritant. It is, therefore, impossible with our present knowledge to frame a single hypothesis which will explain in a satisfactory way the clinical group of inflammations commonly classed as eczema. Only a few dermatologists admit the primary influence of pyogenetic and other bacteria in exciting vesicular eczema. It has been shown, however, by several observers that as a result of numerous experiments with the filtered products of bouillon cultures of staphylococcus aureus and albus typical eruptions of vesicular eczema were produced by these investigators, the early lesions of which were found to be sterile. Staphylococci alone gave rise to miliary pustules or other purulent skin affections, but in combination with the filtered chemical products in bouillon cultures eczematous lesions resulted. Eczema is not, then, due to the direct action of these germs, but to the toxin which they secrete. It is this toxin which is slowly generated from the staphylococci usually present in the skin follicles and which, under favorable conditions, permeates the perifollicular tissues that produces the phenomena which are called eczema. The constitutional causes of the disease are the contributing factors which favor the reaction of the skin; the real cause is probably the chemical products of the staphylococci.

The Pathology of Summer Diarrhœas of Children.—G. W. Root makes the following classification of the summer diarrhœas of children: (1) Mucous disease (no pathological change). (2) Diarrhœas of indigestion (catarrhal changes only). (3) Diarrhœas due to food infection (lesions of irritant poisoning, or in slower cases intestinal congestion with punctate hemorrhages in the mucosa; the longest cases present ulcers analogous to those found in typhoid). The lesion varies according to whether the disease results directly from (*a*) preformed poisoning, or (*b*) from the elaboration of poisons within the body. Under the latter class fall the cases of diarrhœas resulting from (*a*) tuberculosis of the bowel, (*b*) typhoid fever, (*c*) amœbic dysentery, (*d*) cholera, (*e*) enterocolitis due to the Shiga bacillus, (*f*) miscellaneous infections. In the class of cases under consideration, the stomach is, as a rule, free from change. The upper part of the small intestine is also usually free from change, but as we pass toward the ileocæcal valve the changes appear. In the mildest cases there is but a moderate congestion. In more severe cases there are points of hemorrhage into the intestinal wall. In cases still a little more severe there are found localized areas of necrosis of the mucosa and submucosa, and if the patient has lived long enough there is ulceration. The mucosa is infiltrated with round cells. Bacilli are found in the tissues of the mucosa and submucosa, rarely deeper. In some cases there is a necrosis of the mucous membrane, as a whole, and a transformation of it into a whitish leather-like substance, which shows no sign of nuclear staining. This layer is sharply differentiated from the inflammatory zone underneath. In cases of less severity the intestinal glands may be found in a state of cystic dilatation. Small hemorrhages are characteristic of this form of infection. In the more chronic cases there is a marked infiltration of the intestinal walls, so that they are thickened and stiffer than normal, while at the same time their lumen is narrowed. The mesenteric lymph glands are usually enlarged.

The Weight Wave of Menstruation.—From a series of observations reaching over twenty-three menstrual periods in four single women between twenty-two and twenty-nine years of age, the following deductions are drawn by W. T. Belfield: (1) During several days, especially the first, preceding the menstrual flow, there occurs a progressive increase in the weight of a healthy young woman, often comprising—especially in winter—from two and one-half to five pounds, which may be from 1½ to 5 per cent. of her usual weight. The climax of this gain is immediately followed by the rapid loss of a large part, perhaps half, of this increase in weight (often within eight to sixteen hours), and then a more gradual loss of the remainder, extending over several days. (2) The menstrual flow begins during the rapid loss of weight mentioned, the appearance of the blood often, though not always, following immediately on the crest of the wave. The flow continues with the less rapid loss of weight during the next few days, terminating about when the woman's weight regains its premenstrual level. (3) The premenstrual gain in weight is due, not to increased ingestion of food, but to diminished excretion, especially of water. The rapid loss of weight following the crest of the wave is due, not to abstinence from food or loss of menstrual blood, but to rapid excretion notably of Co_2 and H_2O. (4) The appearance of the menstrual blood does not always coincide with the beginning of loss in weight; the flow may begin before or, more often, after the loss of weight becomes distinct. (5) After the weight has sunk to its premenstrual level, there may occur another crescendo and diminuendo movement, lasting several days, but less pronounced and typical than the menstrual wave. Hereafter the weight shows no constant variation until there occurs a sudden transient loss, which is the frequent forerunner of the next menstrual wave. (6) A girl of fourteen and a woman of twenty-three, both of irregular menstrual habit, exhibited the menstrual weight wave on several occasions when the flow was nearly or quite lacking. (7) A woman of fifty-nine, who had not menstruated for twelve years, showed no weight wave characteristic of the menstrual period in young women. (8) For two days preceding the climax in weight there is often marked torpidity of the bowels and scantiness of urine; while, with the decline in weight, excretion by bowels and kidneys, as well as by skin and lungs, is notably increased (9) The temperature curve is not constant; there is usually a rise of about 1 F. during the increase in weight and a sudden fall after the crest of the weight wave is passed.

Medical News, June 13, 1903.

Colchicum in the Treatment of Gout.—Charles C. Ransom believes that the varying results in the use of this drug by different observers are due to the different methods employed, and in the want of care exercised in the control of conditions which would materially influence results. The effect of colchicum upon the urinary secretion is at least not to augment it, and in fact, if anything, is rather to diminish it, while the excretion of uric acid and urea under its influence remains practically the same. The writer invariably uses the alkaloid colchicine, which he thinks is the most reliable form, and certainly far pleasanter to take. Various theories have been advanced as to how colchicum acts to relieve and cure gout. As long as we are ignorant of the true nature of gout, we can only speculate as to the *modus operandi* of the drug, and must be content to use it empirically, with such modifications in its administration as a more careful study of its action and a wider clinical experience with its effects may suggest.

Leucoplasia in Secondary Syphilis.—Douglass W. Montgomery says that leucoplasia rarely occurs in the secondary stages of syphilis, but that it does sometimes occur is well known. He reports a case of this kind that came under his observation. The patient was a man of thirty-seven years. He contracted syphilis in August, 1900. About February, 1901, he had a universal rash and sores in the mouth, presumably the first symptoms of constitutional syphilis. The first appearance of the leucoplasia was very insidious, and the date hard to fix, but it was approximately about the middle of the year 1902, or about one year and eight months after the appearance of the chancre. Leucoplasia in general is more frequent in men than in women. But three out of the four cases hitherto reported as arising in secondary syphilis have occurred in women. For the past five months the patient has received 1 or 2 centigrams of bichloride of mercury hypodermically three times a week. The tongue has been swabbed with a ten-per-cent. solution of chromic acid. The persistent mucous patches were scrubbed with a five-per-cent. solution of bichloride of mercury in alcohol. The sublimate was employed only as a necessity, and no further than to secure a healing of the ulcer, because severe mercurial treatment has been taxed, and probably justly, as among the causes of leucoplasia.

New York Medical Journal, June 13, 1903.

Spermaturia.—A. R. Elliott discusses the various pathological conditions under which the seminal fluid may enter the urinary passages and appear as a deposit in the urine. His contention is that this addition of semen will cause the urine to react to several of the ordinary tests for albumin, and will consequently convey a wrong impression unless the control test of the microscope is employed. These seminal compounds show the following test peculiarities: with heat, heat and nitric acid, heat and acetic acid, and heat and acetic acid after previous treatment of the urine with saturated sodium-chloride solution, a distinct, although not heavy albuminous cloud results. Heller's nitric acid contact method yields a faint reaction, much less distinct than that produced by any of the foregoing methods. The potassium ferrocyanide test gives a distinct reaction which is not affected by heat. This reaction does not develop so quickly as with ordinary urinary albumin, but only after a momentary interval, and becomes more pronounced after the test has stood for a few minutes. Moreover, the albuminous cloud does not precipitate in the test-tube on standing, and only

with the greatest difficulty is it thrown down by centrifugal precipitation. The potassio-mercuric-iodide and picric acid tests give plain reactions, which are partially dissolved by heat, to reappear again when the solution becomes cold. The addition of strong acetic acid to the diluted urine yields the mucin reaction, as does also Almén's tannin test used in conjunction with saturated salt-solution.

Do Our Present Ways of Living Tend to the Increase of Certain Forms of Nervous and Mental Disorder?—C. E. Atwood answers this question in the affirmative. Much of the neurasthenia of the present time results from autoinfection caused by incomplete oxidation of the exhausted tissue cells, leucocytes, etc. These semioxidized materials are extremely toxic, and anything allowing of their accumulation in the system becomes a menace, especially to those who are by heredity of a nervous disposition. In addition to modern hurry the increased consumption of alcohol is a cause of nervous disease. Acting in a similar way are over-eating and over-drinking of non-alcoholic beverages, habits which tend to develop arteriosclerosis and to cause apoplexies at an earlier age than formerly. Still another factor is the effect of the immigration of inferior foreign types into this country. Upon an investigation of the facts in the case regarding the insane in the New York State hospitals in a recent year who were of foreign birth and foreign parentage, the author found that outside New York City 50 per cent. had parents of foreign birth, and 30 per cent. were themselves foreign born. In New York City 78.32 per cent. of all cases admitted to the City Asylum had parents of foreign birth, and 67 per cent. were themselves foreign born. At the Vanderbilt Clinic, in the year 1902, 80 per cent. of the cases of neurasthenia belonged to our foreign population, Russian Jews predominating. The causes of insanity and neurasthenia in these immigrants were chiefly faulty heredity, poverty and attendant evils, physical stresses, emotional excitement, intemperance and sexual excesses.

American Medicine, June 13, 1903.

The Effect of Altitude upon Pneumonia.—F. Gregory Connell gives statistics of the mortality of this disease at an altitude of 10,200 feet. The total death rate was 26.4 per cent. in 261 cases. Comparison with statistics of regions at or near sea-level would suggest that altitude has but little, if any, influence or significance in the mortality rate of pneumonia. Nor would it seem that altitude has any influence upon the etiology, the prognosis, or the treatment of this disease. Exposure and alcoholism seem to be the usual causes at a high elevation and at a low one, when a cause can be discovered or suspected. Newcomers to the altitude mentioned above do not seem to be more prone than are the older inhabitants to contract pneumonia. As to prognosis, it is just as uncertain at the elevation of 10,000 feet as at sea-level. The writer hopes to help to remove the idea, an erroneous one, he believes, which is not confined to the laity, that pneumonia is a more dangerous disease at high elevations than it is at sea-level.

Fourth-of-July Tetanus.—H. Gideon Wells declares that every case of blank-cartridge wound should be considered from the start as a dangerous emergency, and should be treated with the same thoroughness that would be indicated if it were known positively that tetanus bacilli were in the bottom of the wound. If possible, the patient should be anæsthetized, and this is almost necessary in injuries of the palm. The wound should be thoroughly cleansed on general surgical principles, especial care being taken to remove all contused tissue, not to mention foreign bodies. The entire surface of the wound should be cauterized, best with the actual cautery, and then packed in such a manner as to ensure that no dead pockets can possibly exist, and that healing will take place from the bottom. After the tetanus has once developed, its treatment is much the same whatever the original cause. Radical cleansing of the wound, with removal of the adjacent tissues, best supplemented by the actual cautery, is essential. The use of antitoxin is to be urged in every case of tetanus. Prohibition of the sale and use of explosives, at least those that produce solely the effect of noise, is the proper solution of the troubles of the Fourth, and making their sale illegal would have a decided effect on the day's events, even if complete prohibition could not be accomplished.

Philadelphia Medical Journal, June 13, 1903.

The Present Status of the Treatment of Superficial Carcinoma and Tuberculosis by Means of the X-Rays.—William L. Rodman and G. E. Pfahler conclude that: The length of time required for the cure of epitheliomata is longer than by surgical or caustic treatment, while the cosmetic results are better. The dangers are proportionate to the urgency of the treatment, as indicated by the degree of malignancy. It should only be recommended in cases that are inoperable either because of the extent of the growth or its location. It is absolutely the best means at our command for the treatment of superficial tuberculosis, and it gives better cosmetic results. It should follow all operations for malignant disease or tuberculosis, with the twofold object of stimulating the healing process and of preventing a recurrence. In some cases it may be of advantage to give a course of treatment before operation, to destroy the outlying portions of the growth and make such operation of a less formidable nature.

The Value of Widal's and Ehrlich's Tests in Typhoid Fever.—Orville A. Kennedy declares that the Widal agglutination test furnishes the earliest and most positive evidence of typhoid fever. The diazo-reaction, although not pathognomonic nor as conclusive as the agglutination test, is a valuable aid in making an early diagnosis of typhoid fever. Its presence differentiates between malaria and typhoid, and practically eliminates all but measles, acute miliary tuberculosis, and probably certain septic fevers. Measles may be easily excluded. Acute miliary tuberculosis produces the reaction only in severe cases and late in the disease, when other symptoms clear up the diagnosis. Possibly septic fevers may cause some uncertainty if the focal point of the septic process is not clearly manifest. The reaction may be present on the fourth day, and may be continuously or intermittently present throughout the disease, or disappear early. Its disappearance is favorable. To obtain its full value, tri-daily tests should be made throughout the disease. This will be of value both in confirming the diagnosis and as an index of the progress of the disease.

Immunization against Tuberculosis.—D. E. Salmon reviews the work on this subject and refers to a paragraph in a recent article by Flexner of Philadelphia, beginning as follows: "To whom belongs the credit of protective inoculation against tuberculosis?" He proceeds to speak of the work of Theobald Smith and of Trudeau. Salmon calls attention to the work of Behring, and Pearson, and Gilliland. They have produced immunity in cattle by inoculating them with varieties of tubercle bacilli of human origin, the virulence of which was not sufficient to produce appreciable pathological lesions in bovine animals. Again, de Schweinitz, in the laboratory of the Bureau of Animal Industry, demonstrated that he had obtained an attenuated bacillus, produced immunity in guinea-pigs and proved its harmlessness for cattle two years before Smith pointed out the differences between bacilli from the nasua and those of bovine origin. Trudeau freely conceded that de Schweinitz was the first to call attention to de Schweinitz's results in protecting guinea-pigs by means of living attenuated cultures, and that his own (Trudeau's) results were not as good as those of de Schweinitz. Daremberg, in 1889, made experiments looking to the production of immunity by inoculating guinea-pigs and rabbits with sterilized cultures of the tubercle bacillus. Grancher and Martin in the same year presented a paper showing that they had discovered a reliable method of attenuating the tubercle bacillus. The writer then reviews the work of Trudeau, de Schweinitz, and Theobald Smith. The writer concludes by calling attention to the work of de Schweinitz, saying that he had discovered that certain human tubercle bacilli might be administered to cattle subcutaneously, intravenously, and intra-abdominally without producing disease, and had so administered them with the view of producing immunity in cattle before Smith's papers were published. How can it be said, therefore, that these later papers were an "essential prerequisite" to such studies? Possibly there are more American investigators who have accomplished results in the field of medical research than is realized even by some of our own writers on the subject.

The Lancet, June 6, 1903.

Soil Nitrification as Affecting Malaria and Other Mosquito-borne Diseases.—A. R. Waddell was led to the studies on which his paper is based by noting the deadly effect of attenuated ammonia solution on mosquito larvæ. He believes that the nitrogen of the soil (increased by certain agricultural methods), plays an important rôle in this respect. He attributes the decrease of malaria in England during recent years, not merely to improved drainage, but to an increased nitrogenization of the soil by the increased use of phosphate manures, its extended growth of clovers which add to the nitrogen in the soil and the enormously increased use of nitrogenous fertilizers. The same principle applies to and explains the diminution of certain parasitic diseases in cattle.

A Case of Typhoid Pancreatitis.—The patient of B. G. A. Moynihan was a boy of thirteen years who had recovered

from typhoid fever but complained of severe epigastric pain coming on in attacks with nausea, rarely vomiting and later, jaundice. No febrile reaction was present. Emaciation was considerable. A diagnosis was made of typhoid infection of the gall-bladder, with the probable formation of gallstones and the impaction of one in the common duct. Abdominal section revealed the cause of the jaundice to lie in the pancreas. The head and much of the body of the pancreas were found to be at least twice as large as the normal and almost as hard as stone. The common duct was buried in a mass of densely hard inflammatory material in the head of the pancreas. The gall-bladder was aspirated and about half an ounce of bile was withdrawn into a sterilized vessel. A drainage-tube was sutured into the gall-bladder and the abdominal wound was closed in the usual way. Recovery was uninterrupted.

A Form of Removable Deep Suture.—The method is described in full by F. R. S. Milton, and must be read in the original by those interested, and is based on the application of the familiar "lock" stitch of the modern sewing machine, in which the efficiency and neatness of the stitching depend upon preserving the ratio between the tensions of the two threads employed. If the tension is properly regulated the interlocking of the threads will take place in the substance of the material under suture, whereas if the tension of one of the threads be greater than that of the other the interlocking of the threads will take place on the surface of the material and on the side of the thread with the highest tension. By using two threads with different pliability in surgical suturing the same effect can be produced as would be caused by extreme difference in the tension in machining; thus, if one thread be of silk and the other of, say, stiff steel wire, it is obvious that instead of the threads interlocking in the substance of the material they will hardly interlock at all, but the more pliable silk will simply pass round the stiff wire and the turns will be all on the side of the material to which the wire is applied, and, further, it will be found that on pulling the wire this can be easily withdrawn, and in consequence the silk, having lost its support, can also be withdrawn with the slightest pull.

The Relation Existing between Uric-acid Excretion and the Breaking Down of the White Corpuscles.—Elaborate tables based on a study of eleven cases are given by O. K. Williamson. Commenting on the statement of Kühnan that, with the increased excretion of uric acid there is a fall in the leucocyte curve, he shows that the result may be referable, not to an increased destruction of leucocytes, but simply to a diminished production of them. From an examination of his tables it will be seen that in seventeen out of twenty instances in which an increased excretion of phosphoric acid follows a fall in the white blood-corpuscles curve, pointing to an increased destruction of white corpuscles, there is associated with this increase a corresponding increase in the amount of uric-acid excreted. In thirteen instances there is confirmatory evidence of increased destruction of the white cells obtained from the differential counts, whilst in three instances this confirmation, owing to the absence of differential counts, could not be obtained. In five instances the examination of the differential counts gave a directly opposite interpretation to the study of the white corpuscle and phosphoric-acid curves, the one pointing to increased destruction and the other not. Most of the observations were on cases of advanced pulmonary tuberculosis. If the curves are carefully examined it is seen that in those cases in which there are great and sudden variations in the number of white cells, there are also great and sudden variations in the amounts of uric acid and phosphoric acid excreted. This tends to confirm the theory that uric acid is derived from the white corpuscles. It will also be observed that in the case of three children, whose histories are given, there is, relatively to the body-weight, more uric acid and phosphoric acid excreted than in the case of adults. This may be explained by assuming a more rapid destruction of the white cells in the former case than in the latter.

British Medical Journal, June 6, 1903.

Tuberculosis of the Conjunctiva Cured by X-Rays.—Sydney Stephenson reports the case of a child of four years who came for treatment of tuberculosis of the conjunctiva. The affected part was treated by exposure to the *x*-rays at a distance of 6 to 10 inches from the focus tube for an average period of ten minutes at each sitting. The only other treatment consisted in bathing the eye three times with 1 in 5,000 sublimate lotion, and cod-liver oil and steel wine internally. The diagnosis of the case could not be questioned, as the bacilli were proved to be present. There is no visible cicatrization from the treatment, and the cure is complete. The treatment by *x*-rays is simple, painless, and free from danger, and it is likely in the future to displace the other methods of treating tuberculosis of the conjunctiva.

Further Work on Amœbic Dysentery in India.—Leonard Rogers concludes that (1) Amœbic dysentary is most frequently found in patients dying from large, tropical liver abscess, in the walls of which amœbæ can always be found, unless they have been opened for some time. The disease is chronic, and often latent, and not very often fatal by itself, but usually through complications. (2) Amœbic dysentery has naked-eye and microscopical characters which enable it to be easily distinguished from the more common bacillary type of the disease. (3) Its most important complications are large abscess of the liver, chronic or acute peritonitis, and post-peritoneal abscess. (4) Amœbic abscess of the liver secondary to this form of dysentery may be produced by infection across the peritoneum, with or without previous adhesions; or, through infection by the portal vein, producing sufficient clotting in its branches to cause a focal necrosis in one or more part so the liver, concentric extension taking place by means of a similar process. (5) If staphylococci reach the liver with the amœbæ, as especially occurs when gangrenous sloughing of the bowel wall complicates amœbic dysentery, then multiple small abscesses in the interlobular staphylococci result. (6) The bacillary form of dysentery is much commoner in Calcutta than the amœbic one, and is due to Shiga's bacillus, which is clumped by the blood of cases of ordinary dysentery, although not by that of the amœbic form, this furnishing a method of differentiation between them clinically.

Remarks on the Red-Light Treatment of Smallpox; Is the Treatment of Smallpox Patients in Broad Daylight Warrantable?—Neils R. Finsen states as an irrefutable fact that daylight, and especially the chemical rays, have a most injurious effect on the course of smallpox, as the suppuration of the vesicles is due to the effect of the light. It is possible to avoid suppuration, and its consequences, by protecting the patients from the action of light. The greatest number of deaths are due to suppuration. The action of light on the course of smallpox is astonishing, and the effect of the red-light treatment is one of the most striking results known in medicine. Even in cases of confluent smallpox, or in unvaccinated persons, the method very rarely fails, if the treatment is begun early enough. If suppuration has begun, or is on the point of beginning, the red-light treatment will not stop it It is now ten years since the writer proposed this treatment. This is not, properly speaking, medical treatment; it is more a preventative measure against the injurious effect of light. When a disease in question is one in which the public health authorities oblige the patient to go into a particular hospital, he has a right to ask that he shall not there be unnecessarily exposed to dangers that may be fatal, or, at least, are liable to disfigure him for life. It is absolutely unwarrantable on the part of the public health authorities to treat serious cases of smallpox, in which suppuration might be expected, in hospitals where patients are exposed to daylight. The incompetency shown by the physician who allows the patient to lie in daylight is no less stupendous than if he neglected the ordinary aseptic measures in performing a capital operation. The disease has proved to be of much shorter duration when the redlight treatment has been carefully adopted. Some authors think even the danger of infection is lessened when suppuration is prevented.

Deutsche medicinische Wochenschrift, May 21, 1903.

Tuberculosis of the Lymphatic System.—Eduard Hitschmann and Oskar Stross report a case of pseudoleukæmia which presented all the typical symptoms and which terminated fatally after about one and a quarter years' duration. Upon autopsy the enlarged lymphatic glands, liver and spleen, as also the kidneys, were found to contain numerous histological tuberculous lesions, together with a fair number of tubercle bacilli. Clinically, the case was one of febrile pseudoleukæmia, such as have been described by Sternberg and others, who have held that the condition was tuberculous in origin. The present case confirms these views.

Berliner klinische Wochenschrift, May 25, 1903.

Anti-morphine Serum.—J. Morgenroth has been unable to produce an anti-morphine scrum by the inoculation of ascending doses of morphine hydrochlorate into rabbits, goats, or dogs. It is true that at times mice which have been treated with such a serum do not succumb to the usual fatal dose of morphine, but the same holds true when the mice have been previously inoculated with merely *normal* rabbit serum. It is therefore extremely probable that Hirchlaff's results were deceptive, and that the apparent protection of his mice was merely an accidental occurrence. It is at least certain that his maximum fatal dose (.01) of morphine for mice is too small, and that the amount should be at the lowest .0165 gm.

Bodily Exercise and Alcohol.—Ferdinand Hueppe says that with the proper regulation of bodily exercise in the gymnasium and the various branches of athletics the use of alcohol is entirely superfluous, and that entire abstinence from alcoholic beverages is to be recommended during the continuation of "training" and in conjunction with all forms of bodily exercise and physical culture.

Münchener medicinische Wochenschrift, May 26, 1903.

Obstetric Rarities.—Hildebrandt reports two cases. The first was a laceration of the symphysis pubis during a forceps delivery. The case pursued a favorable course and entirely recovered in six or seven weeks. The second was a case of vagitus intrauterinus. There was a prolapsed cord. This was replaced and forceps applied. During the latter procedure the child gave a pronounced cry. Delivery was accelerated and a highly asphyxiated child extracted. The latter, however, responded well to the usual treatment.

Prolonged Lactation.—Nussbaum reports two cases in which lactation was prolonged for from one and a half to two years after weaning, although repeated attempts had been made to suppress the flow of milk. The patients were suffering from severe anæmia. When the cases came under the care of the author they were at once placed upon .5 gr. of antipyrin four times a day, together with mild cathartics. A breast binder was also applied. This treatment was soon followed by a complete cessation of lactation.

Immediate Delivery Is the Best Treatment of Eclampsia.—E. Bumm, from an experience with twenty-five cases of eclampsia during the last two years, advises the immediate evacuation of the uterus in all cases of eclampsia. By this course the mortality may be greatly reduced in all cases in which after the first attack the pulse is good and the lungs are intact. Of the twenty-five cases here reported three died. Delivery was accomplished in the following manner: 1 by Cæsarean section, 7 by hysterectomy, 7 by forceps, 6 by podalic version, 1 by podalic extraction, and 3 by craniotomy.

The American Journal of the Medical Sciences, June, 1903.

A Case of Gangrene of the Lung Cured by Operation.—David Riesman, A. C. Wood, and G. E. Pfahler report a case of this nature. The patient was a negro of sixty-three years. The *x*-ray was used as an aid in locating the pulmonary lesion. The skiagraph confirmed the physical signs. At the operation the fifth rib was exposed by a slightly curved incision, an inch and a half or two inches being restricted by the subperiosteal method. The gangrenous part of the lung was just beneath the pleura. The walls of the cavity were gently cleansed by gauze sponges, and the cavity was then packed with sterile gauze, and the usual dressings applied. The second radiograph of the case showed a restored lung. Whether there was a true hyperplasia of air besides, or merely an enlargement of existing ones, it is not possible to say without other, especially experimental, data.

The Dermatoses Occurring in Exophthalmic Goiter.—James Nevins Hyde and Ernest L. McEwen declare that it is clear that important lesions of the skin, some involving serious structural change in the corium and subcutaneous tissue, may coexist with exophthalmic goiter. About one hundred and eleven reports have been made of cases of this character. The list including, first, about forty-nine cases of hyperidrosis; next, each in equal frequency, fifteen of pigmentary changes and myxœdema; about fourteen cases of simple œdema of the skin; five cases of scleroderma, most of them generalized, a small portion representing the circumscribed form; then alopecia, often generalized, and vitiligo; lastly, one or two instances each of telangiectasis, purpura, urticaria, erythema, and one only of hidrocystoma, reported in this paper by the authors. Among the accidents of the same morbid process, most of them evidently rare, are hemorrhage from the skin, bronzing of the integument, eczematous and erysipelatous accidents and localized anæsthesia.

Zomotherapy in Tuberculosis.—Lawrason Brown concludes: (1) That raw meat has no perceptible effect on the duration of experimental tuberculosis in dogs, if the bacilli are virulent, and a sufficient number injected intravenously. (2) That raw meat has no effect on the prolongation of the duration of experimental tuberculosis in dogs, even if the bacilli are attenuated, provided a reasonable quantity be injected intravenously. (3) That under the same conditions, dogs fed on a mixed diet with no raw meat may live a much longer time. As to the use of meat in pulmonary tuberculosis, it may be said: (1) That meat is highly essential in the dietetic treatment. (2) That much meat with a judicious admixture of carbohydrates, fats, etc., is essential to the treatment. (3) That rare meat is better than meat well cooked. (4) That meat-juice is of great value in suralimentation, as myosin albumin is easily digested by most patients—even the dyspeptic, and it affords a "maximum of nutrient for a minimum of effort." (5) That meat-juice can be taken when patients can take no other form of meat. (6) That the juice from raw meat seems slightly, if at all, more beneficial than the juice from meat slightly browned. (7) That the disadvantages of preserving and preparing raw meat-juice more than offset its advantages. (8) That meat-juice is of value, as it can be administered in the form of jellies, ices, etc.

The Blood-pressure Reaction of Acute Cerebral Compression, Illustrated by Cases of Intracranial Hemorrhage.—Harvey Cushing, in summarizing his paper, draws attention to the following points: Varying degrees of rapid increase in intracranial tension produce corresponding disturbances in the intracranial circulation. To these circulatory disturbances the symptoms of compression are solely due. The condition known as acute cerebral compression may be conveniently subdivided into four stages, dependent upon the degree of circulatory alteration which has been reached. Each of the stages has its own more or less characteristic symptom-complex. The major or underlying symptoms originate in the centers situated in the medulla, and are only called out when the degree of intracranial tension begins to approach the arterial tension, so that anæmia is threatened. A circulatory condition in the medulla which borders upon anæmia has the effect of stimulating the vasomotor center. Thus, a rise in blood-pressure is occasioned, which restores the local circulation. The extent of this rise may be taken as an indication of the degree of advancement of the compression. Beyond a certain point, however, this reaction cannot take place. The vasomotor center under these circumstances fails, and the respiratory efforts cease entirely. In conjunction with other symptoms, a progressive increase in arterial pressure or a high degree of the same, which has been already reached, or a pressure which exhibits from moment to moment great alterations in level may be taken as a certain indication of the advisability of early operative intervention. In case there are localizable symptoms the site of trepanation is plainly indicated. In case of generalized compression from widespread hemorrhage there are no localizing indications, the intracranial tension should be relieved by the elevation of a large osteoplastic flap from one hemisphere or the other, with a corresponding opening in the dura.

A Case of Myelogenous Leukæmia with Several Unusual Features (Absence of Eosinophilic Leucocytes).—Charles E. Simon reports a case of this kind. The patient was a man aged forty-two years. He became markedly anæmic while under general observation without apparent cause, and, barring a brief interval during which he seemed to have gained some ground, steadily declined in health, and died at the expiration of seventeen months from the time at which the anæmia was first noted. Subjectively the patient presented no symptoms until well along in the course of the disease, and then he merely complained of shortness of breath on exertion, and a gradually increasing, though not very pronounced, general weakness. Objectively there was a very moderate enlargement of the spleen, which only appeared after several months and then slowly increased, but which became quite extensive toward the end. There was very little glandular enlargement, if any, until quite late in the course of the disease. The oligochromæmia was quite intense from the beginning and out of proportion to the diminution of the red cells. At first there was no hyperleucocytosis. Later a moderate increase beyond the physiological maximum occurred, but toward the end, this increase reached very extensive proportions, the ratio of whites to reds falling to 1 to 16.6. Neutrophilic myelocytes were present from the beginning in notable numbers. They steadily increased until shortly before the end, when they diminished again, but even then did not fall below 25 per cent. There was a corresponding diminution in the number of polymorphonuclear neutrophiles and at the same time of the small mononuclear elements. Large monocular elements, which were not present in notable numbers during the greater course of the disease, became more numerous and finally constituted 54.8 per cent. of all leucocytes. Mast cells were at first absent, later they appeared, and with some fluctuations they steadily increased until the end. Of eosinophiles only two cells were found in the course of all the examinations, one of which was an eosinophilic myelocyte. Neucleated red cells, both of the normoblastic and megaloblastic variety, were present throughout the course of the disease, but notably much more numerous in the early stages. Toward the end but few were seen.

Society Reports.

NEW YORK PSYCHIATRICAL SOCIETY.

Stated Meeting, Held April 1, 1903.

ALLAN MCLANE HAMILTON, M.D., IN THE CHAIR.

The paper of the evening was read by Dr. ALLAN MCLANE HAMILTON (see page 965.)

Dr. WILLIAM HIRSCH said that all cases of juvenile insanity, which gave rise to manifestations of crime, would offer little difficulty as to diagnosis if they belonged to one of the well-known categories of mental disease, such as paranoiac, epileptic, etc. If, on the other hand, they had to deal with cases without any delusions or other psychopathic symptoms except the morbid impulses leading to the commitment of crimes, as in the case related by the President in his paper, in which a boy became a murderer as the result of a morbid propensity to murder, without any direct delusions, then it might become extremely difficult to prove insanity, and to distinguish such a case from ordinary viciousness by establishing a mental disease, such as was necessary for legal purposes.

He stated that there had been one pertinent question raised in connection with these cases, and he thought it would be well for this society to take a direct standpoint regarding it; that was, whether these cases of so-called moral insanity were merely characterized by morbid impulses leading to crimes of various kinds, or whether they must always have a defect in the intellectual capacity in order to prove insanity. This question had repeatedly been made the subject of discussion. A great many authors held that moral insanity did not exist, except as a symptomatic feature of general imbecility, or a morbid development of the entire psychical organ. On the other hand, there were men who claimed that it was not necessary for moral insanity to be associated with intellectual weakness. He said that a boy might be well developed intellectually, and still possess morbid impulses to steal or kill. In other words, manias like kleptomania, or mania to murder, could occur in individuals who, intellectually, were normally developed. Both these views had their representatives among psychiatrists. He said that if he understood the President correctly, those causes which he reported showed intellectual weakness at the same time.

Dr. Hamilton answered in the affirmative. He did not believe they would be considered by psychiatrists as ordinary cases of imbecility. That was a post-natal defect due to gross disease. He said he did not believe in an inherent moral weakness without mental power, and that there should be enough mentality developed for selection or comparison. He did not believe in pure imbeciles without ideas; there must be some mind.

Dr. Hirsch said that these two views, one claiming a co-existing intellectual weakness, the other not, had followers who carried their beliefs to the extreme. There were undoubtedly a great many cases which stood on the border line, and where it was difficult to decide whether the morbid propensities were accompanied by a marked under-development of the intellectual capacity. Those cases which had come under his personal observation were always of such a nature that he could not consider them normal apart from their morbid impulses to steal or kill. There were always a large number of psychopathic conditions besides, and especially a marked defect in their ability to form logical deductions and conclusions. He said that it was true that some of these boys showed quite well developed intellectual abilities, and even manifested special talent, such as writing or speech-making, talent for art or music, etc. But they all lacked the ability to draw logical deductions and conclusions. Their intellectual brilliancy was only a seeming one, their defect manifesting itself in any attempt of logical discussion. He related the instance of one boy who had an irresistible impulse to steal, which would surely have led him into state's prison had he not been taken care of; this boy had a decided talent for mathematics. He was, in fact, an excellent mathematician. His intellectual capacity had developed in this one direction only. When the doctor examined the boy he was struck regarding his inability to draw logical conclusions or deductions regarding any other subject, even of very simple kinds. It was impossible to have any logical discussion with him. He would argue in somewhat the same way as did the boy mentioned in the President's paper, who wanted to kill his mother: "I want to kill her because I do not like her." This question as to the presence of other psychopathic symptoms outside of morbid impulses, and especially as to intellectual weakness as a necessary element of moral insanity, seemed to him of special importance regarding expert testimony. A symptom which was present in nearly every case of moral insanity was that of lying. Here they had to distinguish between various forms: First, there was the ordinary lying with a motive, either to hide his crime and escape punishment, or to brag about his accomplishments. As a rule, these lies bore the stamp of weak-mindedness. A little girl, for instance, who possessed a number of morbid propensities, was not promoted in school. She came home and lied to her mother, saying that she had been promoted, in spite of the fact that her mother was bound to find out the untruth within a short time. Another form of lying was that without any motive. Children with moral defects often seem to lie merely for the sake of lying without any advantage to themselves. Finally, he said, they had the symptom of "pseudologia phantastica," when children relate whole stories for which there was no foundation, but in which they themselves firmly believed. Such children were unable to distinguish between real events and the products of their morbid imagination. A striking example for this symptom was furnished by a recent case. "Hooper Young" constantly told such stories without any advantage to himself, firmly believing in their reality. Once he told a friend that his mother had died and related her death with all its details.

Dr. H. E. ALLISON, Medical Superintendent Matteawan State Hospital, said that they had not had much experience with infantile forms of insanity, because the youngest cases that usually came under their observation were not less than from sixteen to twenty years of age. Undoubtedly, however, a great many children of the class referred to in the paper were mentally deranged.

Dr. Hamilton asked what was the history of those people he came in contact with.

Dr. Allison answered that some must have been insane in childhood because when they came to them in future life they presented histories showing that in early youth they had been a continual source of trouble and care. They showed evidences of a lack of mental development. Unavailing efforts had been made to provide for them by placing them in special institutions or with special attendants, or by sending them to sea. The history of such young individuals often showed criminal tendencies and a lack of moral and mental development. The parents of such boys often expressed themselves as being well pleased when they were placed in their care, because the parents felt that such youths would be held in safe custody without having the stigma of conviction attached to them. Experience showed that when these boys were committed to institutions for the care of children they will run away and become truants. They cannot be kept among the other children by means of ordinary restraint. If they do remain, they are inclined to demoralize the school. Their natural proclivities are to injure or to torment others and appropriate or destroy property. At the Matteawan State Hospital the majority of these inmates presented physical abnormalities or mental deficiencies. Many were imbeciles but not idiots. The latter might be found at

Syracuse or Rome. Such imbeciles, upon admission, usually presented physical defects, the result of pre-natal influences, or indications that in infancy they must have suffered from encephalitis, cerebral hemorrhages, or affections of the nervous system, resulting in paralysis and atrophic conditions of the body. These cases might show defects in the formation of the teeth or palate, or present other stigmata of degeneracy. Such patients offered no hope of cure and but little encouragement for improvement. They also had some cases of apparent intelligence who were, nevertheless, governed by obsessions, impulses to do wrong, ungoverned desire to make assaults, to kindle fires, or to destroy property. These cases could be taught to exercise a great deal of self-restraint. Unless they cultivated such an exercise, they were classified as *disturbers* and placed in violent wards where attempts to annoy or assault were at once forcibly resented by other patients. Nothing so quickly taught self-control as such an experience. A habit of disciplining their impulses was soon self-imposed.

They had received some youthful pyromaniacs. One youth in particular was very intelligent. Physically and mentally he seemed well constituted. He could not, however, control the desire of starting fires until he was placed under the restraint of an institution. The ringing of a fire bell would set him in a tremor; a moving picture exhibition in which one of the photographs represented a fire engine in action greatly excited him and rendered him sleepless, and disturbed for days. A colored puzzle picture, published in a newspaper, showing some sulphur matches, came to his notice, which illustration he cut out and carried in his vest pocket, deriving a kind of morbid pleasure from viewing it occasionally. It was such a source of temptation, however, that he finally gave it up, asking that it be destroyed, as he feared that he might yield to the temptation and burn the institution. Such pyromaniacs usually presented evidence of some mental affection; but this case did not offer many active symptoms beyond mental depression, produced apparently by feelings of repentance and remorse at the enormity of the crime which he felt continually impelled to commit.

There was a certain other class of juvenile cases that came to them. They might find, for instance, that the discipline of an institution had been upset by one person and a state of terrorism might have been thus produced by one or two inmates. These cases were not always insane, but the love of excitement and notoriety, or some other vain impulse, might have inspired the acts which they had committed and in which they took pride as leaders. Occasionally such a person was committed to their custody and discharged as not insane.

Other commitments were made to the hospital of persons who were kleptomaniacs. Their parents or friends did not think they were fit subjects for prison, and really they were not. They simply could not resist the impulse to steal, usually appropriating useless articles, and had only been kept from prison through the influence of friends. Such young persons often make good recoveries. He recalled the case of one boy who followed this propensity to steal for years, and even continued the practice while in their custody. During the five years spent with them, he gradually gained self-control enough to relinquish the habit, and was discharged. For two or three years he had followed the occupation of stenographer, and had apparently recovered.

The question of insanity in many of these cases was difficult to decide. Some were really on the border-line. They did not believe that the prison was the place for all such juvenile offenders. Some of them with benefit could be placed in a good school with strict disciplinary features or placed in charge of persons who would have a proper corrective influence over them. Others, older in years, if not insane, might be so incorrigible as to require the less hopeful but more stringent remedy of a commitment to a penal or corrective institution. If mentally deranged, however, they should be committed to an asylum, there to remain until they were no longer dangerous to be at large.

Whenever these degenerates had been sentenced to a term of imprisonment and thereafter found to be insane while undergoing sentence, they were committed to their custody. After the expiration of their terms of imprisonment, if they were reasonably safe to be at large, the law permitted their parents, guardians, or friends to assume their custody, if they were able to provide for them. In such cases they were often asked to release them on trial. Their after-history frequently proved that such boys were likely to return to their former habits and again become the cause of anxiety to their friends and a nuisance in the community. They had been asked in such cases to receive them again into their care; but in the absence of any criminal act committed by them there was no legal way by which such re-commitments could be effected. Undoubtedly, the only solution for these defective juveniles was a long period of sequestration and, in many cases, permanent confinement.

Dr. Emmet Cooper Dent, Superintendent Manhattan State Hospital, West, in answer to the question about admissions to the State hospitals, said that the reports of the State Commissioners in Lunacy showed that since 1888 to 1902 there was admitted to the State hospitals: 5 to 10 years old, 7; 10 to 15 years old, 187; 15 to 20 years old, 2,618. In the Manhattan State Hospital, West, for this period: 5 to 10 years old, 0; 10 to 15 years old, 31; 15 to 20 years old, 573. He said that this would tend to show that very young persons were seldom sent to these institutions for treatment. Insanity which developed in such young persons would have a tendency to show an inherited predisposition or an unstable psychopathic state, either of which might place such a person in the class of degenerate. A degenerate properly belonged under the classification of constitutional psychopathic disorder; this classification was further subdivided by authors into (1) congenital neurasthenia; (2) compulsive insanity; (3) impulsive insanity, and (4) contrary sexual instincts. He thought this covered quite well the field of a degenerate. Under the head of compulsive insanity or obsessions this might further be divided into: (1) obsessions characterized by indecision, doubting insanity, etc.; (2) obsessions characterized by fear, agoraphobia, mysophobia, etc.; (3) obsessions characterized by propensities, dipsomania, kleptomania, pyromania, etc. He said that an obsession bore the same relation to ideas that impulses did to acts.

Respecting paranoia and degeneracy there was a difference, and they in no way resembled each other, save that both were abnormal brain development from infancy. The former was marked by a stable progressive system of delusions, whereas the latter might be called the reverse as to mental symptoms. The late lamented Dr. Godding remarked about the criminal class that there were but three things to be done with them, lock them up, kill them, or turn them loose. Before they reached the pale of criminality they were the most unsatisfactory and discouraging of all patients, due to their obstreperous and rebellious nature and not finding sufficient evidence to warrant their committal to institutions. He once was consulted in reference to a young man who ill-treated and abused his parents, spent their money lavishly, drank, gambled, etc. He had been married several times and endeavored to marry many more. He was completely void of morals or conscience, and when remonstrated with by his parents would express much surprise and assert that they were too strait-laced and he was being persecuted by them, etc. They were advised to change his environments and endeavor to employ him at some simple labor in some country place. He could not be sent to an asylum, if so he would undoubtedly have

been released on a *habeas corpus*. A house of correction was the only place left for such persons.

Dr. L. Pierce Clark said that infantile psychoses might occur in children who were abnormally precocious. Under these circumstances a child of ten or twelve years might attain the mental development of a girl or youth of sixteen or seventeen years, at which stage of mental growth various forms of degenerative insanities often occurred. He said that, however, we would expect to find, coincident with the insanity, certain definite signs of mental deficiency of the imbecile; especially defects in the faculties of perception, attention, and judgment. The signs of imbecility in such cases would take precedence over any fixed or systematized delusions, for the reason that the imbecility was congenital while the delusions were acquired.

In the early epilepsies with a strong congenital predisposition non-systematized and fleeting delusions frequently accompanied imbecile acts. Systematized delusions were rare in epileptics, either young or old. Epilepsy and paranoia were infrequently associated, possibly because the former so frequently induced dementia or marked mental enfeeblement. He had never seen paranoia, even in an imperfect form, in more than a half dozen epileptics. One associated case in a man whom he once observed was rather interesting because of his pyromania. His epilepsy began at four years of age; at six he showed an irresistible tendency to set fire to things, fortunately for the most part to things of no more account than fences. He had continued this practice for sixty years; his hands, face, and other parts of the body were almost scarred beyond recognition from frequent falls into the bonfires while in epileptic fits. Nothing but deprivation of liberty under lock and key could prevent this man from building fires. Undoubtedly if his epilepsy had not induced an early dementia he would have developed into a pyromaniac of an exceedingly dangerous sort. From his twelfth year he manifested more or less fixed delusions of a religious mystical character, which fully matured at eighteen or twenty years into a persecutory and religious paranoia. Marked dementia set in early, however, and put a stop to the further evolution of his paranoia. He was now confused and demented and quite harmless, aside from the latent possibility of his pyromania. He believed pyromania was much less frequent in the epileptic child than was often held; it seemed to require a keenness of imagination often quickly dulled by the mental degeneration of the comitial disease. He had known of but three cases in a data of some 1,500 epileptics.

The so-called psychical equivalent occasionally occurred in the epileptic child in the form of a fury, imbecilic and destructive in character, but more commonly it was an automatic state following a fit, the essential motor and sensory symptoms of which had passed unrecognized. Sexual perversions of some sort, ranging all the way from simple masturbation to that of homicidal assault for sexual gratification occurred fairly frequently in a large class of epileptic boys. But herein, again, mental enfeeblement often stepped in and prevented the further elaboration of sexual perversion.

Children who showed obsessions were usually neuropathic and manifested mental peculiarties of the imbecile. A boy he saw recently was thought to be otherwise normal, aside from his harmless obsessions of repeating certain acts, but further inquiry proved the presence of multiple stigmata of imbecility. Although he had had obsessions for four years, he had not lost control of his acts entirely. There was still some hope for improvement in such cases if the will could be strengthened.

Periodic dipsomania in the neuropathic child might show itself very early. He saw a woman of this type recently who had an uncontrollable desire for alcoholics at ten years of age. She had delirium tremens twice before she was twelve years old; from twelve to twenty-two she remained free from alcoholic excesses, but then, at the birth of her first child, she had been given whiskey, and periodically for five years following she indulged in alcohol to great excess. Alcoholic epilepsy developed six months ago.

He firmly believed that moral perversion in children as such never existed alone; careful search always showed considerable imbecility. The correction and education of the degenerative child with moral perversions was a difficult problem. It should not be undertaken while the child remained in the family. Children of this class were physically lazy, and their mental work was almost nil, and they remained for the most part idle. As they grew older they became more indifferent and shiftless and took naturally to a life of vagabondage; they lived by their wits in lying, stealing, and gambling. He agreed with Dr. Hamilton that they should be isolated early from the family and society at large; in the marked cases of moral perverts they should be permanently isolated; cared for humanely, studied scientifically, and given that degree of liberty and responsibility which they show themselves able to enjoy and not abuse. He was also in full sympathy with the President's suggestion that some curb should be placed on the circulation of bad literature among these children susceptible to moral perversion lest they be led still further into the hopeless class. It was to be deplored that vicious literature was so much without the bonds of control and ran riot in the imagination of the morally defective child.

Dr. Hamilton said his paper was intended to be only a suggestive one; he wished to see if some method could not be devised for the protection of a large number of psychopathic and unruly children who to-day were entirely misunderstood. Dr. Clark had referred to this matter, and he believed that he was strongly in accord with him. He thought all were agreed that punishment for this class of cases was to be deplored. He believed the time had come for this society to make some suggestions in the way of a report that would start the people at large to take some better protective measures. To-day children were arrested and sent to the Children's Society. They were tried, but no systematic psychiatrical examination was made. They were often convicted upon the bare facts of the case and then sent to some institution where there were no facilities for taking proper care of them. The criminal type were sent to Elmira or to the House of Refuge on Randall's Island, and he did not think that the care of these subjects in either of these places was altogether satisfactory. Of course, if any of these were epileptics they were sent to the Craig Colony where they received mental as well as other aids. He wished to lay before them the advisability of some scheme by which children who were unmanageable or ungovernable at home or elsewhere could have the advantages of some correctional school which aimed in a legal way to discipline them and in a way in accord with advanced medical science. If they were not improved in such a place, a thing he could not conceive of, they could be turned out and then managed as incorrigible. He said that they should be kept there at the pleasure of the State, but, at the same time, they should receive humane and scientific treatment.

He believed that something should be done to discourage the reading of sensational newspapers by children at large. The ordinary father pointed his finger with pride at the young boy who read the papers of the hour and absorbed their vicious contents. He said the child of to-day did not seem to be contented with the story books of more conservative and less strenuous times. Now there were, as we all know, cheap, flashy journals taken into the tenement houses; in these were found scandalous pictures, details of murders, sickly chronicles of "society," the doings of clever rascals, and the children's minds were developed along these lines. He did not think any harm could come if the society expressed itself as disapproving the present methods and attempted to try some reform

movement. He said that if it met with the approval of the society he would appoint a committee to make some practical suggestions and report in regard to some system of care, or system of training, or the establishment of special schools, or schools for manual training, or something that would make these children *think*. He believed it devolved upon them, who recognized the evil, to make some attempt to care for them and to protect society before they became criminals.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Annual Meeting, Held April 20, 1903.

ALEXANDER LAMBERT, M.D., PRESIDENT.

Aseptic Labor.—Dr. A. ERNEST GALLANT presented a paper with this title. He said that at the present time the mortality from septic infection in many of our maternity hospitals was only a small fraction of one per cent. As harmful bacteria were destroyed by the normal vaginal secretions in forty-eight hours one could no longer lay the blame for puerperal infection upon auto-infection. The dimensions of the modern obstetric bag should not be less than eight by sixteen inches, although it might be of any desired shape. The things requiring sterilization at the physician's office were the operating gown, half a dozen towels, the tape for ligating the umbilical cord, the cotton for sponges and a can of gauze. All the things likely to be needed should be spread out upon a table conveniently located for the obstetrician. In one package should be wrapped the articles which would be injured by boiling in soda and water, viz., the silkworm gut, the rubber gloves, the soft rubber catheter, and the scrub brushes. The gauze could be purchased in cans already sterilized. Similarly, cotton pads could be kept sterile in cans. When an obstetrical operation was contemplated one could not be too thorough about the sterilization of the external genitals, clipping the hair short with scissors and scrubbing the parts well with soap. The patient experienced much less discomfort if the scissors were used instead of the razor. At least five minutes should always be consumed n cleansing the hands.

New Operation for the Repair of the Perineum.—Dr. ALFRED B. TUCKER read this paper, confining it strictly to a description of the operation, which was briefly as follows: Starting at the caruncle on the left side the mucous membrane was split with blunt scissors from the skin at their junction, and this flap was dissected with the point of the scissors closed until it was possible to grasp it with a pair of artery forceps midway between the two caruncles. The scissors were then pushed up to the highest point of the rectocele, and then opened to the full extent. The dissection was then completed from without inward with the finger, holding the flap between the forefinger and the thumb. The flap was next cut out from the caruncles, completely removing it. This left a somewhat triangular denuded surface, the base of which was formed by the skin from caruncle to caruncle and the apex, the highest point of the rectocele, with a sulcus midway between the caruncle and apex. A Hagedorn needle, threaded with silkworm gut, was passed through the vaginal mucous membrane midway between the sulcus and the apex on the left side, and as soon as the needle was through the mucous membrane it was passed well beneath the mucous membrane outward and downward around the sulcus, then downward and outward through the denuded tissue and down through the sphincter muscle. The needle was then turned upward and inward, and was brought out in the median line through the denuded tissue. The suture was pulled well through and, catching the distal end of the suture with a pair of artery forceps to prevent its being drawn entirely through, the needle was passed in at the point of exit and was carried well outward and downward, and then upward, and was brought out through the mucous membrane at a point corresponding to its entrance on the other side. The second and last deep suture was carried through the mucous membrane midway between the other suture and the apex and carried downward and inward until it came out in the median line, one-eighth of an inch above the skin. The needle was then introduced at the point of exit until it came upward and outward at a point corresponding to its entrance. On drawing these sutures together the tissues were brought inward and toward each other in the median line. With a cervix needle and catgut a superficial continuous suture down to the second suture was introduced near to the apex, and tied, and then a superficial line of sutures was carried on until all of the edges of the mucous membrane were brought together and all denuded surfaces covered. After the operation the patient was allowed to urinate without catheterization, if possible, and the bowels were moved after the first twenty-four hours. The stitches were removed at the end of a week and the patient then allowed to sit up.

Dr. GEORGE TUCKER HARRISON said that the methods of performing perineorrhaphy in the past had largely ignored the true anatomical relations. This applied certainly to the operations of Hegar and Semon. Dr. Emmet's operation did have some regard to the true anatomical relations, and was the best up to that time. The operation just described seemed to him decidedly the best of all yet suggested for the repair of the perineum. The operation was attended by a very slight loss of blood, the patient suffered very little during convalescence and the results seemed to be exceedingly satisfactory.

Dr. RALPH WALDO said that he had been very much interested in this operation because it contained the elements of success in such a procedure, viz.: (1) It went well up to the posterior vaginal wall; (2) it denuded through the thickness of the vaginal mucosa, and (3) it exposed the fascia and underlying muscle. He did not like silkworm gut, however, for the suture of the perineum, because it was so liable to cut through. The best way to infect the perineum was to include the anus and the perineum in the same dressing, and hence he strongly objected to the use of the ordinary pad dressing. It was much better to leave the parts free and irrigate them when necessary with some antiseptic solution.

Dr. JOSEPH B. COOKE said that Dr. Gallant's paper was, in his opinion, one of the most practical on the subject of the conduct of labor that he had heard in the last ten years, for, in it the technique was simple and effective, and the articles to be sterilized at the physician's office had been reduced to four only—gown, towels, tape and cotton sponges. He believed that all of the so-called aseptic obstetric outfits, which necessitated preliminary sterilization of their contents, did much to prevent rather than promote the practise of true aseptis. The obstetric outfit should be, as Dr. Gallant suggested, so arranged that the greater part of the sterilization could be done at the patient's home, for it not infrequently happened that the physician was called from one case directly to another, and unless he had with him the means of effective sterilization he could not do good work. Rubber gloves he did not use except in infected cases because, confining himself to obstetrics exclusively, he seldom came into contact with pus or with any of the infectious diseases; but for the general practitioner, or even for the specialist in obstetrics and gynecology who, in the latter branch of his practice was often dealing with septic conditions, he believed the use of rubber gloves to be a *sine quâ non*. He used the permanganate method of hand disinfection in the majority of his cases, but agreed with the author of the paper that the essential feature lay in thorough and prolonged scrubbing. In the matter of internal examinations he never hesitated to make all that he considered necessary, for he felt that if the patient's vulva and the operator's hands were surgically clean no harm would result from this cause; nevertheless, he wished to emphasize most strongly the value of abdominal palpation, by means of

which, in very many cases, all but one or two vaginal examinations might be avoided.

Dr. George Tucker Harrison said he heartily agreed with the principles laid down by Dr. Gallant, but differed with him somewhat in their application. No matter how carefully the hands were cleansed it was well known that they were not sterile, and hence, he would be afraid to resort too freely to vaginal examinations. In his opinion the best method of sterilization of the hands was that recommended by Purbringer, viz., washing with 80 or 95 per cent. alcohol followed by a 1-to-1,000 solution of bichloride.

Dr. Robert Abrahams said that he did not think the outfit recommended by Dr. Gallant was altogether suitable for obstetric practice among the very poor. Those practitioners, who like himself had an extensive obstetric practice among people living in two small rooms, would probably bear him out in the statement that among them there was no mortality from puerperal sepsis and only a very trifling percentage of morbidity. Sepsis would rarely arise if the placenta were wholly expelled and all wounds of the birth-canal were promptly and skilfully sewed up. He saw no reason for condemning bichloride; in his opinion, it was exceedingly useful, although, perhaps, lysol was still better adapted for obstetric work.

Dr. James Moran said that most of his practice was among tenement-house people, and he was in the habit of giving his patients cards with printed directions and a list of things needed for confinement. This list included most of the things mentioned by Dr. Gallant. Even among the poor there was no need of having dirty sheets or dirty bedding. Physicians in general practice could not always carry around so many things, yet with a little forethought and care these could be at hand at the house.

Dr. Eden V. Delphey said that the absolute necessity for aseptic and antiseptic precautions by the obstetrician, in the conduct of labor cases, depended largely upon the habits and vital resistance of the patient. It was a noteworthy fact that the women living in the tenement districts of the east and west sides of the city had greater vitality than those living on the backbone of the island, near Fifth avenue. The lower in the social scale, the greater the resistance; the higher the social position, the less the resistance. The poor woman who was obliged to work hard every day acquired a certain immunity against physical depression and infection of all kinds, and this immunity was partly due to the fact that the healthy physiological secretions, which were always antiseptic, were more apt to be normal and free than they were in persons accustomed to ease and indolence. For these reasons some physicians, doing a large tenement-house practice in obstetrics, have very few cases of puerperal septicæmia, although their aseptic and antiseptic precautions were almost or entirely wanting.

Perineal Lacerations.—Nearly everyone who proposed or discussed operations for lacerations of the perineum seemed to think that all such lacerations were in the median line, and their operative procedures were directed accordingly. It was very seldom that such was the case; usually the lacerations were at one side or the other, and frequently they were further complicated by lateral tears into the borders of the levator ani muscle—that great diaphragm of the pelvis. These latter lacerations could be determined by hooking the bent finger toward the ischium on either side, and retracting downward. If it met resistance, the borders of the muscle were either partially or entirely intact; if it met no resistance the muscle was lacerated, and unless its edges and the accompanying fascia were brought carefully together each to each by sutures, operative repair of the perineum would be a dismal failure. It was true we might have a good apparent result; the skin and mucous membrane might be perfectly intact, but there would be no support to the pelvic contents, and the condition would be identical with that in which there was a complete laceration of the subcutaneous tissues of the perineum while the skin was intact. Nearly all of us had seen such cases. From the external surface of the perineum to the rectovesical fascia, which was superimposed upon the levator ani, there were seven different and distinct layers (five of fascia and two of muscle), and no pucker-string suture would bring them into anatomical contact, each to each; but instead would make a bunch or irregular mass of cicatricial tissue, which would give some support, but which would not be analogous to the natural perineum, nor to the repaired perineum in which the cicatricial tissue had been dissected off and the homologous parts brought carefully together with buried sutures, fascia to fascia and muscle to muscle.

Dr. Tucker, in closing the discussion on his paper, said that he had been working on his perineal operation for nine years, and had spent much time in dissections of the cadaver. He used the same operation, as far as possible, in the recent as in the secondary operation. He preferred the perineal pad to frequent douching. The urine should not cause infection if it were promptly wiped off unless cystitis was present. Last spring Dr. Studdiford, by careful dissection, found that the perineal muscles were largely made up of the levator ani muscles, the fibers of which ran in every direction and interlaced.

Dr. Gallant also made some closing remarks.

A Dog-muzzling Ordinance Desired.—At the suggestion of Dr. Alexander Lambert, the association unanimously adopted the following resolution:

Whereas, Rabies among dogs has been prevalent in this city during the past year; and

Whereas, Statistics show conclusively that the muzzling of dogs will eradicate the disease, as has been proven in Prussia, Sweden, Great Britain, Holland, and Vienna; Be it

Resolved, That the New York County Medical Association petition the Honorable Board of Aldermen of this city to pass a law requiring all dogs to be muzzled while abroad in public in this city.

Officers Elected.—The annual election resulted as follows: *President*, Dr. Alexander Lambert; *First Vice-President*, Dr. Francis J. Quinlan; *Second Vice-President*, Dr. S. Busby Allen; *Secretary*, Dr. Ogden C. Ludlow; *Corresponding Secretary*, Dr. John J. Nutt; *Treasurer*, Dr. Charles E. Denison.

A Case of Bromoform Poisoning.—Henry K. Dillard reports the case of a child of eighteen months suffering from the effects of bromoform, administered for the relief of a cough. A first dose of four drops failing to give relief a second dose of four drops was given two hours later. The child was unconscious when first seen, with pin-point pupils, which did not react to light. The face was cyanosed, lips partly open, skin cold and clammy, breathing irregular and shallow, pulse 80, weak and irregular. Strychnine and atropine were administered hypodermically, brandy and aromatic spirits of ammonia were dropped into the mouth. Lavage of the stomach was performed, and a soap-and-water enema given. A cold bath was followed by the thorough rubbing of the body and limbs. Artificial respiration was resorted to. The condition of unconsciousness continued for four hours, when the child suddenly came out of it, moved her arms and legs, cried lustily, and appeared to be fully recovered. She slept at intervals during the night, but the following morning again went into a condition of unconsciousness from which she was, however, easily aroused. She was discharged fifteen hours after admission to the hospital, apparently in good health. It is to be noted that the bromoform administered to the child was not the last in the bottle and therefore concentrated. About six fluid drachms remained in the ounce bottle after the second dose.—*Therapeutic Gazette.*

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK

Stated Meeting, Held April 27, 1903.

CHARLES N. DOWD, M.D., PRESIDENT.

The Method of Infection of Actinomycosis in Man, with a Report of Five Cases.—Dr. FRITZ MAAS presented this paper He said that, as a rule, man did not contract actinomycosis from the domestic animals, but from grain. Some of the reported cases indicated that the disease had arisen from chewing raw grain. Two cases were mentioned in which the disease was probably primary in the intestine. In one case the actinomycosis made its appearance during recovery from what the attending physician maintained was a typical attack of typhoid fever. One case has been diagnosticated as primary pulmonary actinomycosis, but this diagnosis could not be maintained in the absence of post-mortem examination. In all probability the fungus could not enter the body without a wounded surface.

The Reduction in the Infantile Mortality in New York, and the Means by Which It Has Been Accomplished.—Dr. ROWLAND G. FREEMAN presented this paper. He said that, according to the last census, the general mortality for infants under one year was 159 per thousand, and in the cities, 184, whereas in the census for 1890 this mortality in the cities was 303. Last year the infantile mortality here was only half what it was in 1892. In European countries infant mortality during the first year varied from 106 in Norway, where most of the babies were breast-fed, to 329 in Wurtemburg, where bottle feeding was very common. In the United States it was 159, and in New York city, 158. The great factors in the production of infant mortality were: (1) Heat and humidity; (2) defective feeding, and (3) bad surroundings. Heat and humidity apparently did more harm indirectly by spoiling their food than by their direct action upon infants, as was shown by the difference in its influence upon breast-fed and artificially fed infants. Statistics showed that the years marked by an unusually high infantile mortality were those in which the summers were exceptionally hot. Statistics were then presented showing that since 1892, when the Board of Health took an active part in improving the milk supply of the city, the infant mortality had markedly decreased. Not only this, but during 1889, 1900, and 1901, when there were fewer prosecutions for violations of the sanitary code regarding the impurity of milk, there was a slight increase in the death rate among infants, whereas in 1902, when the Health Department became particularly aggressive in this matter there was a decided decrease in this mortality. Other factors of considerable importance were the supplying to the poor of sterilized milk by Mr. Nathan Strauss, the work of the Floating Hospital of St. John's Guild, and the better cleaning of the city streets, as inaugurated by the late Colonel Waring. The opening of small parks, playgrounds, and recreations piers had also been of great value to the infant population. A factor that should not be forgotten was the prevention of overcrowding in the tenement-houses through the labors of the Tenement-house Commission.

Work of the Health Department in Relation to Summer Diarrhœa.—Dr. HERMANN M. BIGGS spoke on this topic. About eight years ago, he said, the Health Department established a system of issuing permits to all milk dealers after the law, as prescribed by the department, had been complied with. The use of asphalt pavements for the streets in the poorer sections of the city had done a good deal toward securing greater cleanliness and healthfulness. He thought another factor was the very material improvement in the water supply which had been affected in the past ten years. In the last two or three years only had the department undertaken a special bacteriological study of milk. This study had taught several important lessons, not the least of which was the need for better methods of transportation, especially the use of refrigerator cars for milk. The chemical composition of milk had been found in the last few years to be far less important than its bacteriology. In 1902 an attempt had been made to determine why it was that the Borough of Brooklyn had a so much higher death rate from diarrhœal diseases than the Borough of Manhattan, although prior to 1885 the reverse obtained. It was found that a much larger proportion of the infants in Brooklyn were fed on condensed milk. The previous experience of the Rockefeller Institute had shown that the mortality was higher among infants fed on condensed milk. It was found that about 60 per cent. of those who died in Brooklyn of diarrhœal diseases had been fed in this way.

Management and Prophylaxis of Gastrointestinal Disease in Infants During the Summer.—Dr. CHARLES G. KERLEY presented this part of the subject. He insisted that the most important factor in the treatment of summer diarrhœa in infants was the immediate substitution of a carbohydrate, in the nature of a cereal gruel, for the milk. A preliminary dose of castor oil was also most efficient. Dilution of the milk food was not sufficient, and it mattered not whether the milk was the best quality obtainable, or was common grocer's milk, for both afforded an excellent culture medium for germs when placed in an infected gut. If the milk were persisted in until gross lesions had developed, the case became far more serious. It was equally important not to resume the milk diet too soon. There could be no hard and fast rule, and each case must be studied by itself, yet milk should not be resumed until the temperature was normal, the stools had become thick, and were reduced to only two or three in the twenty-four hours, and even then it should be resumed cautiously and in small quantities, the effect upon the stools being carefully watched. There were a few children who could not return to milk diet until cold weather. As a milk substitute egg albumen water was not considered by him desirable. The children fed on it were slower to recover and ran a higher temperature. Animal broths he had learned to use with extreme care, and even the wine peptone preparations increased peristalsis and were often undesirable. The most common and most efficient substitute for the milk was barley or rice water, and the quantity should be about the same in ounces as the milk that had been used. The ordinary strength was half an ounce of the cereal to a pint of water. Calomel in small and frequently repeated doses should be given if there is a tendency to vomiting. The subnitrate of bismuth was of considerable value, but only when given in doses of ten to twenty grains every hour. Opium was used when there were many large, watery stools and much straining and pain. The worst possible treatment of summer diarrhœa was by giving opium and persisting in the use of milk. When opium was indicated, Dover's powder was to be preferred, given in doses of one-fourth to one-half of a grain every two hours for an infant of six to eighteen months of age. Colonic irrigations with normal salt-solution should be employed only when it was evident there was something to wash out. Usually one such irrigation a day would suffice. The salt-solution was particularly effective when there was a rapid loss of flesh and strength. In every instance such irrigations should be given by means of a long, soft tube, and the precaution should be taken to make sure that this tube was not doubled upon itself in the bowel. The greatest prophylactic agent against summer diarrhœa was a well baby, properly fed all the year round. Children who suffered much from indigestion in the cool season were apt to suffer early and severely from summer diarrhœa. The speaker insisted that 75 per cent. of the deaths among children from summer diarrhœa were wholly unnecessary. It was within the power of the municipality to do much good by placing safe milk within the reach of the poor.

Dr. W. H. LUCKETT, in discussing the first paper, exhibited a series of photographs from cases of actino-

mycosis, two of them showing actinomycosis of the bone in cattle, and two being from human subjects living in New York city and not having ever lived in rural districts. He said that it had not yet been determined whether the specific agent in actinomycosis was a fungus or a bacterium. Actinomycosis did not apparently spread through the lymphatics, but by continuity. It was by no means a rare affection, being often overlooked. He had himself met with three cases during the past year in a clinic in which other physicians had not seen one case.

Dr. Maas said that actinomycosis was so readily confounded with tuberculosis that it would often be overlooked if the diagnostician was not on the alert for it.

Dr. W. P. Northrup said that he felt like summarizing the principles of the treatment of summer diarrhœa by saying that there must be clean milk, a clean gut, and proper instruction of the mother. While in France last summer, he had been deeply impressed by the systematic effort being made by the French government to save the infants and perpetuate the race by supplying proper food and proper advice regarding infants.

Dr. W. H. Park spoke of the effort that had been made to study milk bacteriologically. This showed that while undoubtedly children fed on very bad milk were quite sick many children fed on moderately bad milk, which had been heated, did just as well as children fed on pure, unheated milk. It was found, therefore, that while the bacteriological quality of the milk was important, it sunk into insignificance as compared with proper instruction of mothers.

Tuberculosis Hospitals and Vicious Legislation.—On motion of Dr. Frank Van Fleet, the following resolution was unanimoulsy adopted:

Resolved, That the Medical Society of the County of New York believes the measure, known as the Bedell Bill, Assembly Bill No. 1, 659, is not in the best interests of the people of the State of New York, in that its enactment would practically prevent the erection of any hospital home or other institution for the treatment of pulmonary tuberculosis. The present laws are sufficient to give ample protection to outlying districts where such institutions are likely to be established and prevent their establishment for private gain. The Governor is respectfully requested to withhold his sanction of this bill. On motion of Dr. A. T. Weston, the President was requested to appoint a committee to wait on the Governor and present this action of the society.

Dr. Van Fleet also introduced the following resolution, which was adopted:

Resolved, That the Medical Society of the County of New York heartily indorses the action of the Legislature in voting an appropriation of $150,000 for the completion of the buildings of the State Hospital for Incipient Tuberculosis at Ray Brook, N. Y., and respectfully requests the Governor to indorse the appropriation in its full amount.

The Treatment of Acute Mastoiditis and Its Influence on Audition.—The conclusions of the study of J. F. McCaw on this subject are as follows: (1) Great reliance can be placed on abortive measures in the hemorrhagic variety of acute tympano-mastoiditis following influenza with a reasonably certain prognosis of normal hearing. In no other form of the disease can this be done. (2) The period of the disease at which appropriate treatment is applied influences the ultimate functional result. (3) In all cases requiring operation the earlier we attack them surgically, the greater will be the amount of hearing preserved. (4) The dry method of post-operative treatment seems to influence the function of audition, but to a less extent than early surgical interference.—*The Laryngoscope.*

Therapeutic Hints.

Bougie for Earache.—

℞	Ac. carbolici	♏ 1/2
	Fl. ext opii	♏ 2
	Cocainæ	gr. ¼
	Atropinæ sulphatis	gr. ¼

M. ft. in bougie No. 1.
Sig. Warm in water and insert into auditory canal.
—Geo. L. Richards.

Spasmodic Croup.—

℞	Hydrarg. chloridi mitis	gr. iii.
	Sacchari albi	ʒss.

M. ft. chart No. viii. Sig. One powder two hours.
To be alternated with the following:

℞	Apomorphinæ hydrochlor.	gr. ⅙
	Acidi hydrochlor. dil.	♏ij.
	Syrupi simplicis	ʒij.
	Aq. distil	ʒiiijs.

M. Sig. One teaspoonful to dessertspoonful every two hours. —L. Boyer.

Persistent Diarrhœa in Tuberculosis.—

℞	Icthoformi	ʒss.
	Tannalbin	
	Bismuth subgall	āā ʒi.
	Codeinæ	gr.iss.
	Olei menth pip.	♏iss.

M. et divide in chart No. vi. S. One powder every three to six hours, according to indications.
—*Internat. Clinics.*

Cancer of Stomach.—

To relieve pain, control vomiting, and prevent putrifaction:

℞	Bismuthi subnitratis	ʒiv.
	Ac. carbolici	♏xvi.
	Aq. chloroformi q.s. ad	ʒiii

M. S. Tablespoonful before meals.

Constipation.—

Artificial Carlsbad salt:

℞	Sodii chlorid.	ʒi.
	Sodii bicarbonat.	ʒii
	Sodii sulphat.	ʒiv.

M. S. Two tablespoonfuls in warm water before breakfast.

Epistaxis.—The latest approved method is to use a five-per-cent. solution of suprarenal extract directly upon the mucous membrane. This will at once blanch the mucous membrane and stop the hemorrhage. When the epistaxis is caused by a cardiopathic condition in old persons, the suprarenal extract should not be used.

Cardiac Debility.—

℞	Tinct. belladonnæ	gr.v.
	Tinct. nucis vom.	fl ʒxiv.
	Aquæ camphoræ	fl. ʒ

M. S. Take three times daily.

Narceine is said to be more mildly narcotic than codeine and even less likely to cause dyspepsia and constipation.

Pilocarpine is a specific for jaundice. It will relieve the pruritis concomitant to all forms, excepting when caused by hepatic carcinoma.

Nicotine is of value in tetanus. In doses of gr. 1/250 every ten minutes, full relaxant effects are sure to result.

Locomotor Ataxia and Tetanus are greatly improved by the bold administration of pilocarpine.

Erysipelas.—A piece of cotton saturated with alcohol and ignited, is held near the affected surface till a burn of the first degree appears. This is repeated three times daily until a cure is effected, which is in two or three days. The above method is said to be in use in Bulgaria.

Asthma of Hay Fever.—If blotting paper, which has been saturated with potassium nitrite is subsequently saturated with the following formula and dried, the fumes from it, when ignited, will afford great relief upon inhalation.

℞	Ext. bellad. fluidi	ʒxv.
	Tinct. benzoin	ʒxx.
	Ext. stromonii fluidi	ʒxv.

M.

Reducing Obesity.—M. C. Gerhardt finds that borax in doses of gr. 1.50 is well borne and reduces excessive corpulence.

For Pneumonia.—

℞	Ammon. carb.	gr. lxxx.
	Mucilag.	
	Aquæ	fl. ℥i.
	Spts. vini gallici	fl. ℥ji.

M. S. A tablespoonful t. i. d.

When indicated, this is alternated with the following:

℞	Syr. scillæ comp.	℥iii.
	Vini ipecac.	℥iss.
	Morphinæ sulph.	gr. ss.
	Aquæ	℥iss.
	Syrupi simplicis q.s. ad	℥iv.

M. S.: One tablespoonful three times daily.

Bronchitis.—

℞	Beechwood creosote	
	Terpine	
	Iodoform	āā gr. lxxv.
	Benzoic acid	
	Larch turpentine	āā gr. xxx.
	Powdered marshmallow	
	Calcined magnesia	āā ℥iss.

M. ft. pellulæ No. c.
S. From 4 to 10 pills per diem. —Legroux.

Surgical Suggestions.

Icthyol for Hæmorrhoids.—Ten to fifteen drops of pure icthyol in capsules, taken three times daily, will cure almost all cases of hæmorrhoids, through its action upon the intestines and liver.—D. L. Bulkley.

Salt added to corrosive sublimate solution in proportion of $\frac{1}{5}$ per cent. diminishes the pain set up in mucous and raw surfaces.

Irrigating Solutions should be slightly warmer than the bodily temperature.

Or: (1) The gut is tightly wound on sections of glass tube, and the ends are secured. This prevents contraction or thickening on boiling. (2) The fat and other soluble substances are removed by soaking for twelve hours in ether. (3) The gut is transferred to a five-per-cent. solution of formaldehyde, and soaked in it for twenty-four hours. (4) The tubes are kept under constantly running water for twenty-four hours, to wash out the excess of formaldehyde. (5) Final sterilization is secured by boiling twenty minutes in water. The formaldehyde renders the gut brittle, but its tensile strength is restored by the boiling, which may be repeated one or more times without material injury to the gut. After boiling, the gut may be preserved in absolute alcohol, or it may be boiled just before use. Gut prepared in this way will resist absorption for six weeks or longer.—E. C. Dudley, *The Canada Lancet*, December, 1902.

Removing Plaster-Paris Bandages.—Acetic acid brushed in a line over the bandage will render it soft, and in a few minutes it may be easily cut with an ordinary knife.—*Applied Medicine.*

The Place of Drugs in Cardiac Dilatation.—Henry Beates considers the action of cardiac depressants and stimulants, and states that by the application of physical and physiologic laws the place of drugs is recognized as essential to the control of the diverse symptoms expressive of the predominance of this or that factor, happening to play a more or less conspicuous rôle in cardiac dilatation. If properly applied, the restoration to comfort and usefulness, as well as the prolongation of life, is sure. Too much emphasis cannot be given to the necessity of administering "active principles" and the abandonment of the ever-varying and unreliable galenic preparations. That changes in time occur in the molecular and chemical formula of these drugs must ever be borne in mind, and care taken that these derivatives be supplied only as freshly-obtained products.—*International Medical Magazine.*

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Bacteriology. By Fred C. Zapffe, M.D. 12mo, 350 pages. Illustrated. Lea Brothers & Co., Philadelphia, Pa.

Transactions of the American Roentgen Rays Society. Third Annual Meeting, December 10, 1902 8vo, 188 pages. Illustrated.

The Roentgen Rays in Medicine and Surgery. By Francis H Williams, M.D. 8vo, Third Edition, 757 pages. Illustrated. The Macmillan Co., New York. Price, $6,00.

Pneumotherapy, Including Aerotherapy and Inhalation Methods and Therapy. By Paul Louis Tissier. A System of Physiciologic Therapeutics, Vol. X. Illustrated. 8vo, 479 pages. P. Blakiston's Son & Co., Philadelphia.

Practical Handbook of the Pathology of the Skin. By J. M. H. MacLeod, M.D. 8vo, 408 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia. Price, $5.00 net.

The Refraction and Motility of the Eye. By William Norwood Stuer, M.D. 12mo, 390 pages. Illustrated. Lea Brothers & Co., Philadelphia.

A Textbook of Minor Surgery, Including Bandaging. By Newman T. B. Nobles, M.D. 8vo, 325 pages. Illustrated. Boericke & Tafel, Philadelphia. Price, $2.50, cloth.

Travaux De Chirurgie Anatomo-Clinique. By Henri Hartmann. 4to, 360 pages. Illustrated. Georges Steinheil, Paris, France.

Precis D'Exploration Externe Du Tube Digestif. By A. Chaillou and Leon Mac-Auliffe. 12mo, A. Maloine, Paris. Price, 4 Fr.

Le Syndrome Urinaire Dans La Scarlatine et La Diphterie De L'Enfance. By Dr. Raoul Labbe. 4to, 239 pages.

Surgical Treatment of Gastric and Duodenal Ulcers. By B. G. A. Moynihan, M.S. 8vo, 83 pages. Illustrated. W. B. Saunders & Co. Price, $2.50 net.

Fourth Annual Report of the State Board of Insanity of Massachusetts, 1902. 8vo, 59 pages. Wright & Potter Printing Co., Boston.

The Psychoses of Typhoid Fever.—Arthur W. Rogers reports two cases of persons suffering from ambulatory typhoid fever, who developed symptoms of delusion and delirium. In both the mental symptoms appeared abruptly, and the same nature of confusion as to locality and those about them was manifest. The excitement was not continuous, but appeared in a sudden and explosive manner, and was of but short duration. Both were suspicious and fearful of personal harm. Both were able to relate every circumstance correctly up to the onset of the mental complication, but between this time and the disappearance of the fever most things were a blank. A third case is reported of a man who showed symptoms of mental confusion after he was up and about, after a severe attack of typhoid fever and pneumonia. Later he became violent and had to be sent to a sanitarium, where he rapidly recovered. Regarding the prognosis of insanity complicating typhoid the author says that in cases of initial delirium coming on in the earliest stages of the fever and gradually merging into a true psychosis, only about 50 per cent. of recoveries have been reported. When a mental disturbance develops later on during the infection and during convalescence, the number of recoveries is greatly increased, being about 75 per cent. In cases of apathetic melancholia exhibiting delusions of persecution, coming on some time after convalescence has been established, the prognosis is not very favorable, numbers of the patients retaining their delusions over many months and eventually becoming demented.—*The Wisconsin Medical Journal.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending June 13, 1903:

	Cases.	Deaths.
Measles	413	17
Diphtheria and croup	443	44
Scarlet fever	315	15
Smallpox	1	..
Varicella	102	..
Tuberculosis	343	145
Typhoid fever	59	6
Cerebrospinal meningitis	..	3

The Nature and Treatment of Sea-sickness.—C. Binz was induced to examine a proprietary "cure" for this affection which had been used with success by a colleague who was anxious to know the nature of the remedy which had relieved his symptoms. The analysis showed that the essential constituent of the preparation was chloral hydrate, and that when taken according to directions, each dose would contain about five grains of the drug. The conclusion that the action of the "cure" depended chiefly on the vasodilating effect of the chloral on the cerebral vessels led the author to a more extended consideration of the phenomena attending sea-sickness. It is well known that the earliest symptom of the disorder is extreme pallor, which often goes on to a degree comparable to the green hue of chlorosis, owing to the thinness of the film of blood in the skin which causes it to give its complementary color. Experiments of the author and others on rabbits have shown that variations of the cutaneous blood supply of the face afford an accurate criterion of the blood supply of the brain. It appears then, that the motion of the pitching vessel in some way induces a high grade of cerebral anæmia, which is attended by its usual concomitants of intense prostration and nausea. The vomiting act is nature's effort to replenish the impoverished cerebral circulation by the congestion of the entire head, which always accompanies this function, and the stomach is not at all concerned in its causation. The proof of this lies in the temporary sense of euphoria following each vomiting paroxysm, and which makes the sufferer fondly imagine for a moment or two that now all is well and the sickness has been mastered. While it is true that the ultimate cause, that is to say, just how the motion of the ship produces the effect on the vasomotor centers, is still unexplained, this is no more difficult to understand than similar changes produced through the emotions, as in blushing, and the pallor of anger, and helpful light is thrown on the therapy. This, naturally, comprises whatever induces cerebral congestion and includes, first, position, flat or with the head lower than the body; second, diet, as good nutrition of the brain as possible through a hearty meal shortly before embarking, and, third, chemical, the use of any agents that produce dilation of the cerebral vessels.—*Centralblatt für innere Medicin.*

Spontaneous Rupture of Skin Covering in Umbilical Hernia.—W. Bishop records the case of a man, aged thirty-five years whose hernia of four years' duration came from heavy lifting. After severe exertion, he felt something give way and severe abdominal pain immediately followed. Examination showed two coils of small intestine, one within the other, lying out on the skin of the abdomen in the umbilical region. The intestine was a dark bluish-black color, without lustre. The skin was slightly discolored with venous blood, which was then oozing from the intestine. He was at once removed to hospital and operation begun. The intestines were lifted toward the ensiform, and a short median incision made in the linea alba below the umbilicus until the operator had relieved the constriction which had resulted in the gangrenous condition of the bowel. Thirty-six inches of small intestine were excised, after ligature of the mesentery and an end-to-end anastomosis made by means of a Murphy button. In concluding this operation, the operator split the fibrous ring around the umbilicus, turned the peritoneal surface inward, and, after cutting off the excess of tissue, brought the edges together with a continuous catgut suture. Mattress sutures were introduced through the skin and well back from the edge in order to bring up the rectus muscle of each side to occupy a position between the two layers of tissue formed by splitting the fibrous ring. Mattress sutures approximated the outer layer of fibrous tissue and interrupted sutures united the skin.—*Detroit Medical Journal.*

Health Report.—The following cases of smallpox yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending June 23, 1903:

SMALLPOX—UNITED STATES

		Cases.	Deaths.
Alabama, Mobile	May 30–June 3	3	..
California, Fresno	May 1–31	13	..
Los Angeles	May 23–30	4	..
San Francisco	May 24–31	4	..
Connecticut, Stamford	May 1–31	1	..
Florida, Columbia County	May 23–30	1	..
Duval County	May 23–30	4	..
Escambia County, Pensacola	May 23–30	2	..
Leon County	May 23–30	5	..
Georgia, Atlanta	May 28–June 3	2	..
Illinois, Chicago	May 31–June 6	12	..
Danville	May 31–June 6	1	..
Indiana, Indianapolis	May 31–June 6	2	..
Iowa, Des Moines	May 31–June 6	1	..
Louisiana, New Orleans	May 31–June 6	4	..
Maine, Bucksport	June 3	1	..
Maryland, Baltimore	May 30–June 6	1	..
Massachusetts, Fall River	May 30–June 6	9	..
Michigan, Detroit	May 28–June 6	17	1
Flint	May 23–June 6	2	..
Grand Rapids	May 28–June 6	4	..
Port Huron	June 1–8	1	..
Nebraska, Omaha	May 29–June 6	3	..
New Hampshire, Nashua	May 29–June 6	9	..
New York, New York	May 29–June 6	1	..
Rochester	May 24–June 7	..	3
Ohio, Cincinnati	May 28–June 5	4	1
Cleveland	May 30–June 6	5	..
Hamilton	May 30–June 6	1	..
Toledo	May 16–30	8	..
Pennsylvania, Altoona	May 29–June 6	3	..
Erie	May 29–June 6	1	..
Johnstown	May 29–June 6	1	..
McKeesport	May 29–June 6	2	1
Philadelphia	May 29–June 6	31	4
Pittsburg	May 29–June 6	9	6
South Carolina, Charleston	May 28–June 6	4	..
Tennessee, Memphis	May 23–June 6	6	..
Texas, San Antonio	May 1–31	2	..
Wisconsin, Milwaukee	May 23–June 6	54	..

SMALLPOX—INSULAR.

Hawaii, Honolulu	May 7	1	..

SMALLPOX—FOREIGN.

Austria, Prague	May 16–23	4	..
Belgium, Antwerp	May 16–23	6	..
Brussels	May 16–23	..	8
China, Hongkong	Apr. 11–25	..	2
Shanghai	Apr. 24–May 2	..	3
Colombia, Barranquilla	May 17–24	..	1
Bocas del Toro	May 10–20	..	5
France, Paris	May 16–23	..	1
Great Britain, Dublin	May 16–23	12	4
Dundee	May 8–16	5	..
Liverpool	May 16–23	49	6
London	May 16–23	19	..
Manchester	May 16–23	14	..
Newcastle on Tyne	May 8–16	3	..
Sheffield	May 8–16	4	..
South Shields	May 8–16	1	..
West Hartlepool	May 16–23	2	..
India, Calcutta	Apr. 11–18	..	3
Russia, Moscow	May 8–16	4	2
St. Petersburg	Apr. 25–May 16	103	10
Warsaw	Apr. 18–May 2	..	5

YELLOW FEVER.

Colombia, Panama	May 18–June 1	10	6
Costa Rica, Limon	May 21–28	3	2
Mexico, Coatzacoalcos	May 23–30	1	1
Progreso	June 3	1	..
Tampico	May 23–30	8	5
Vera Cruz	May 23–30	10	4

CHOLERA—INSULAR.

Philippines, Manila	Apr. 11–May 2	52	47
Provinces	Apr. 11–May 2	1342	720
Not previously reported, 81 cases, 79 deaths.			

CHOLERA—FOREIGN.

India, Calcutta	Apr. 11–18	..	129
Turkey, Damascus	Mar. 29–Apr. 18	..	53

PLAGUE.

China, Hongkong	Apr. 11–25	130	109
India, Calcutta	Apr. 11–18	..	588
Peru, Callao	To May 12	10	4

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Original Articles.

ON SEPTIC THROMBOSIS OF THE ROOTS OF THE PORTAL VEIN IN APPENDICITIS AND ON PYLEPHLEBITIS, TOGETHER WITH SOME REMARKS ON "PERITONEAL SEPSIS."*

BY ARPAD G. GERSTER M.D.

NEW YORK.

NOSOLOGY.—Though septic phlebitis of the veins holding close relations to a focus of progressive bacterial infection is one of the regular stages of the process of tissue death and disintegration, the remarkable fact remains unchallenged that fortunately, in the vast majority of cases, natural provisions prevent the detachment of septic thrombi and their importation into the portal or systemic circulation. The minute detail of the manner in which the demarcation and limitation of an infectious process is accomplished *within the lumina* of those veins which contain septic thrombi is not sufficiently well known and needs further elucidation. Studies extended to this field may give us an adequate answer to the question: Why do certain thrombi become detached to be carried into the circulation as emboli, and why is this accident not more common?

Septic pylephlebitis is caused by the detachment of thrombi formed in the roots of the feeders of the portal vein which drain all the abdominal viscera, beginning from the cardia down to the anus, including also, either directly or by numerous anastomoses, the bladder and the female generative organs. Its most common cause is to be found in appendicitis.

Most authors consider the disease to be rare. Ralph Thompson[1], on the other hand, believes it to be comparatively frequent. The author's experience, based on the observation of 1,189 cases of appendicitis operated on at Mt. Sinai Hospital in the last ten years (beginning from 1892), bears out the former assumption. We have seen the disease nine times only.

Compared with the brilliant showing surgery can make in its success of coping with the various inflammatory disorders of the appendix and their grave consequences, notably with local or a more or less diffused peritonitis, this, the gravest of all possible complications of appendicitis, still remains a "partie honteuse" of modern practice.

The rarity and the utter hopelessness of the malady have, as it seems, prevented the development of a copious literature bearing on the subject which viewed from the therapeutic standpoint, seems to be one of the most inapproachable and uninviting.

Studied on the post-mortem table, the various forms of septic thrombosis of the portal vein and of its feeders can be grouped as follows:

1. *Continued Thrombosis.*—The primary thrombus is seen extending gradually and continuously or, in short intervals of space, upward toward the center, rarely involving the entire circumference of the lower course of the portal vein, but more commonly forming laterally adherent thrombi, alongside of which the blood-current may still pass with little interruption. Completely obturating thrombi are generally found near and about its entrance into the liver, either in the trunk of the portal vein, which is rare, or more commonly in one or the other, or in both of its branches. The process of infection is a slowly progressive one, *by continuity*, and results in the formation of a more or less extensive septic thrombus of unequal mass and thickness and of varying consistency.

2. *Detachment of Thrombus. Embolism and Septic Invasion of the Systemic Circulation.*—The detachment of a septic thrombus is determined by these several factors:

(*a*) Lack of firm adhesion of the thrombus to the walls of the vessel.

(*b*) Loss of consistency of the thrombus due to septic deliquescence.

(*c*) Mechanical forces acting from within or from without the body, which by lateral pressure loosen an adherent thrombus, break it up into fragments, and propel them toward the point of least resistance. Proportionately to the greater or lesser degree of solidity or deliquescence this propulsive effect of mechanical pressure will be more or less pronounced. Mechanical pressure may result from the contraction of the muscles—ileopsoas and abdominal walls—of the patient's body, or may be applied from without by a blow, by massage, or by the manipulations accompanying a surgical operation. A concussion of the body, as in a fall, may also effect the detachment of certain thrombi. Finally, the changing of the blood currents, caused by the intravenous change of the hydrostatic conditions in the affected area by incision and evacuation of an abscess, may also be sufficient to detach a broken-down thrombus. (See case of Miss Hannah A., page 1007.)

Examining the thrombi themselves on the post-mortem table, we have found great differences in their consistency and divisibility. Some had the elastic solidity pertaining to freshly coagulated blood, which is not easily broken up into fragments; others represented a shell of a more coherent, somewhat discolored material within which was contained a pasty, creamy, and viscid, or an almost fluid purulent emulsion, approaching the character of thin ichor.

It is evident that these varying physical peculiarities of the thrombi must in an important way exert their influence both upon the manner by which a detached thrombus becomes an embolus and also upon the subsequent history of the detached material.

Let us now consider in what manner the pathological processes due to septic embolism will be influenced by the consistency and corpuscular size of the detached thrombotic material.

In *continued thrombosis*, as we have seen, the extension of the thrombus is by accretion, mostly

*Read at the meeting of the American Surgical Association at Washington, May 12, 1903.

in a centripetal direction. Occasionally, however, this growth may extend centrifugally, when the thrombus of the main trunk occludes the orifice of an inosculating branch. Usually, the process is a comparatively slow one and the tendency to the grosser forms of embolic infection is not very pronounced. The thrombi being mostly lateral, the blood current is continuously washing over their surface, and in proportion as their breaking down and softening progresses, minute particles of septic material are carried off and into the branches of the portal vein, and either are arrested in, or pass through, the capillaries in which those branches terminate. Here, too, mechanical pressure may cause detachment of large emboli.

Embolism.—Larger emboli are generally arrested in the main branches of the portal vein, while, according to their size, the smaller ones will enter into the finer ramifications, the smallest detritus being stopped just this side of, or in the capillary netting of, the liver. Ichor of the very liquid kind will be best adapted to pass through this capillary barrier directly into the vena cava and systemic circulation.

Large emboli may pass directly through the substance of the liver by the way of the large venus anastomoses existing, according to Claude Bernard, between the portal vein and the vena cava.[2]

All these various occurrences may take place either singly and in succession, or may, and actually do, happen simultaneously in combination with each other.

If we consider the effects of each of these forms of transportation or invasion, we find that each calls forth phenomena characteristic of, and due to, the physical peculiarities of the transported material. It is very rare, however, that these causative conditions should not be complex; that is, that the detached material should be of uniform consistency and size; and hence the resulting phenomena must necessarily also present a mixed or combined character.

Very liquid and almost limpid ichor will, on account of its diffusibility, naturally be most apt to be displaced and be propelled on and, unimpeded even by the capillary system of the liver, readily to enter the vena cava and the systemic circulation. The effects produced will depend, first, on the quantity of the septic material thus introduced into the systemic circulation, and, secondly, on its virulence. If the quantity is large and the virulence great, the most intense forms of *intoxication*—to be well distinguished from *infection*—will result; that is, the toxins may, within a few hours, fatally poison the organism; that is, long before there is a chance for any further proliferation of the infectious bacteria contained in the injected ichor. In these cases no bacteria can be found in the blood.

It was and still is customary to attribute the end of a patient dying of heart-failure shortly after an unbloody and not exhausting abdominal operation to *surgical shock*, especially if the fatal prostration be not induced by an intense pyrexia. To the author this explanation always appeared to be inadequate, improbable, and contrary to known facts. The absence of a great traumatism and the insignificant loss of blood alone would negative the admissibility of shock. A more plausible solution of the puzzling problem, especially in cases of chronic (interval) appendicitis, will be found in the assumption of septic thrombosis and of the sudden introduction of an adequate quantity of ichor into the circulation to produce fatal toxæmia. The following history seems to offer a fair illustration of the subject:

Case I (Mt. Sinai Hospital Records, 1899, vol. iv, page 22).—Becky C., aged nineteen years, admitted June 27. Five weeks before admission she had an attack of sharp pain in the right iliac fossa with vomiting, which, however, subsided after a few days. She stated also that for six months she had had a continuous sensation of pain in the belly.

June 23. Return of severe pain in right iliac fossa with vomiting; bowels constipated. On admission the general condition was found to be good; internal organs normal, abdomen soft and relaxed. In the appendicular region no tumor was found, but there was exquisite tenderness on pressure at McBurney's point. Pulse 76 to 92; temperature 98° to 100.6° F.; urine normal.

30th. Operation under chloroform. The appendix, slightly congested, was found to be bound down by a few soft adhesions, from which it was easily liberated. The adjoining peritoneum appeared pale and glossy. Ligature and ablation of mesenteriolum and appendix, followed by thorough searing by Paquelin cautery of the stumps; complete closure of abdomen.

July 1. Vomited dark fluid five times; marked prostration; pulse weak, 130; temperature gradually rising to 101.4° F. Urine contained traces of albumin; quantity forty-three ounces. Absence of abdominal tenderness, rigidity or distension. An enema brought no stool.

2d. Vomiting more frequent, slightly tinged with blood; pulse wretched, 120 to 150 per minute; temperature 99° to 101.4° F.; urine, forty-two ounces. Local condition of abdomen unchanged, but prostration more marked.

3d. Vomiting continued; pulse 174, scarcely perceptible; patient comatose and collapsed. Temperature rose to 105.2° F. just before death. Post-mortem examination was not permitted.

The deep prostration, the feeble and rapid pulse, the cerebral intoxication, the moderate fever, all testify to an intense toxæmia, while there is no factor present to justify the assumption of shock in any form whatever. In the etiology we find the history of a prolonged, though not very intense, inflammation of the appendix, which, examined directly after the operation, exhibited a slight thickening and congestion of all its coats, notably of the mucosa, but no ulceration or any destructive process. Unfortunately no microscopic examination of the specimen was made. The presence of a deliquescent old thrombus, its displacement, and the passage of its elements into the circulation afforded the most natural explanation of the catastrophe.

If the quantity and virulence of this ichorous material be not too great, the immediate toxic effects exerted upon the circulation and the central nervous system may be overcome by the natural economy of the body. Thus a chance will arise for the proliferation of the septic microorganisms, resulting in the production of a typical case of acute and frequently fatal septicæmia. In these cases, as a rule, the blood is swarming with cocci.

The slow but more or less continuous washing off of deliquescent or liquid material by the blood current from the surfaces of lateral thrombi in continued thrombosis of the portal vein will also produce more or less intense forms of septicæmia.

The coarser material arrested in the ramifications of the portal vein will establish fixed microbic colonies in the liver, each colony surrounded by a zone of secondary thrombi and necrosis, the final result of which process is the establishment of more or less numerous liver abscesses. This form of invasion is characterized, especially in its beginning, by the symptoms of *pyæmia;* that is, by grea

oscillations of the body temperature accompanied by profuse sweats. As the fatal end of the process approaches, the pyæmic oscillations of the temperature become less typical, and the febrile phenomena assume the character of a remittent septic fever: septicopyæmia.

Symptoms and Diagnosis.—Chills accompanied by a rapid rise of the temperature, observed during the course of an appendicitis, however mild as to its local symptoms, may and usually do signify the entrance of septic material into the portal and general circulation. They must be looked upon as a sign of the gravest import. As slight a disorder as is considered to be a chronic obliterating appendicitis, may result in fatal pylephlebitis, as shown by the findings of an autopsy published by Ralph Thompson.[3]

Should the seizure pass into a continuous fever with dry tongue and skin, retching, a clouded sensorium, with a rapidly rising pulse of deteriorating volume and quality, the body temperature remaining above 103° F. with a tendency of mounting as high as 106° or higher, the diagnosis of acute septicæmia will be justified. This development may occur early or late in the course of the disease, and may be present with or without the presence and evidences of local peritonitis. When the necrosed appendix is enveloped in old and firm adhesions and is entirely walled off from the free peritoneal cavity, the surfaces of which appear to be normal, this course of events is just as often observed as where the surgeon finds a local, more or less extensive, peritonitis. Removal of the diseased appendix, evacuation and drainage of the existing abscess, or tamponade and drainage of the infected and inflamed peritoneal surface, one or all, either do not have the slightest influence upon the progress of the malady, or will cause a temporary subsidence of the symptoms only.

This intractability is due to the fact that septic phlebitis having led to thrombosis, septic material derived from a broken-down thrombus was carried into the general circulation. The morbid process thus generalized has passed beyond the line where measures undertaken against the primary focus could exert a curative influence.

Cases of this rapidly progressive and usually fatal form of acute septicæmia have been and are seen by every busy surgeon. They are readily understood when we have to deal with extensively gangrenous processes or with pronounced instances of abscess formation. The writer's first experience with this dreadful malady was made in 1895.

Case II. Miss Hannah A., aged twenty-six years, was admitted to Mt. Sinai Hospital August 17, where she had been sent by Dr. Manges from Brighton Beach. A large abscess occupied the right iliac fossa. She had been ill eleven days. The trouble had commenced with a good deal of local pain, with vomiting and fever during the first four or five days. Then the symptoms became less pronounced and a painful swelling developed in the right iliac fossa, showing deep fluctuation. There was still moderate fever (temperature 101° F.) evenings, but otherwise the patient felt pretty well, excepting as to pain caused by the abscess. Bowels had moved regularly, the belly was soft and flat, and the patient consumed and retained a considerable amount of liquid and semi-liquid nourishment. An incision of the abscess was decided upon and was done the evening of August 17. The abdominal parietes were divided layer by layer under the guidance of the eye, and the abscess was readily opened and emptied without any disturbance of existing firm adhesions which had walled it off from the free peritoneal cavity. The cavity was not flushed, but two strong drainage tubes were placed in it. Fifteen minutes after the finishing of the operation a severe and prolonged chill set in, the temperature rising to 103°F.

August 18. The fever continued, the tongue became dry, the belly remained soft and flat, was not painful to touch, and the bowels moved freely after an enema. The patient had flushed cheeks, was unusually talkative and hilarious, and assured us that she felt perfectly well, but, if let alone, would lapse into somnolence.

19th. Temperature rose to 105° F. and never descended below this figure until the end.

20th. Patient comatose and cyanosed; temperature 106.5° F.; pulse thready, 160; vomited the first time; belly soft; involuntary evacuations from the bladder and rectum.

21st. Evidences of septic nephritis and bronchitis.

22d. Died in deep coma with a temperature of 107° F. No post-mortem examination could be had.

As said before, cases of acute fatal septicæmia like this one, originating from a large appendicular abscess, are readily understood, their explanation being obvious.

But when the surgeon sees an exactly similar course taken by a case in which the local changes in and about the appendix seem trifling; when there is no gangrene, no traceable abscess; when the removal of the appendix is undertaken during the so-called "interval," to which the patient had given consent under the assurance of very small risk; when, finally, the simple and easy operation had been done under the scrupulous observance of the usual precautions by a skilful and conscientious surgeon; in short, when, in the presence of all these conditions, the patient succumbs to an acute toxæmia or septicæmia, the case is shocking and grievous indeed.

It has been customary erroneously to attribute such disasters to the importation into the peritoneal cavity of septic material by the surgeon's hands. Without denying the possibility of the fact, we shall endeavor to demonstrate that such an occurrence producing a rapidly fatal septicæmia without the previous development of peritonitis, must be exceedingly rare.

To explain these puzzling cases recourse was taken by many practitioners to the idea of a so-called peritoneal sepsis. Wagner[4], Grawitz[5], and, more recently, A. Fraenkel[6], have experimentally produced fatal septicæmia by injecting into the normal peritoneal cavity of rabbits a certain quantity of liquid septic material. It will well repay the trouble to summarize in a few sentences the findings of Fraenkel, who, repeating the experiments of Wagner and Grawitz, has rectified their conclusions in several important points.

On the injection into the peritoneal cavity of rabbits of an emulsion of septic material of known bacterial character and of an ascertained high virulence, the following facts were observed:

1. Certain animals became very sick, but in a few days recovered their health completely.

2. A certain number of the animals died in less than twenty-four hours of acute *toxæmia*. No visible changes were found in the peritoneum at the site of the injection. Smears gained from the surface of the peritoneum yielded no microbes either under the microscope or by culture, nor could, by these means, any be found in the blood.

3. If the animal did not at once succumb nor recover its normal health, the physical signs of true

infection set in. Within twenty-four to thirty-six hours after the injection reddening of the peritoneum, an exudate, and fibrinous deposits began to appear, and microbes were invariably found on and in the affected peritoneum as well as in the blood. The animals died within three to four days of acute purulent peritonitis.

4. Some of the animals survived for two or three weeks, all dying of multiple sacculated intraperitoneal abscesses.

Let us now examine whether bedside observation yields or not a parallel to the experimental facts just enumerated. The answer may be unhesitatingly affirmative as to headings Nos. 1, 3, and 4, and very reserved, if not positively negative, as to heading No. 2. Under the three headings grouped together above we readily identify conditions ordinarily met with and well known, as either the consequences of peritoneal infection due to ulcerative or traumatic perforation of a hollow viscus, or to accidental operative contamination. The complex of facts described under heading No. 2 corresponds to what has been dubbed "peritoneal sepsis."

Does a laparotomy, performed in a well-equipped hospital, by an experienced surgeon under modern canons, ever present conditions equivalent to the experimental introduction of large quantities of liquid and intensely septic matter into the peritoneal cavity?

In Fraenkel's experiments on rabbits from 1.6 to 5 c.c. of ichor were injected. To produce similar effects in the human body far larger doses would have to be incorporated, doses that would rise to the volume of one or more ounces. The accidental introduction of such quantities of septic material during an operation is simply inconceivable, and can never occur.

It may happen, however, that in the course of an operation a septic depot contained in a hollow viscus, a tube, or in the appendix, or in an encapsulated abscess, may be accidently broken into and soil the normal peritoneum without the knowledge of the surgeon. This accident is fortunately rare, but whenever it has occurred its consequence was simply an extension of the peritonitis over the soiled area. The author himself at least has never observed, nor does he know of a single case recorded in literature, in which an accidental soiling of the peritoneum by feces or pus has primarily produced anything else than peritonitis.

By these assertions an absolute negation of the possibility of a natural imitation in the human subject of events as depicted under heading No. 2 is not meant. It is only contended that their occurrence is very improbable and at best must be very rare, so rare, indeed, that it cannot be made use of to explain phenomena of sufficient frequency to be familiar to every busy surgeon.

Setting aside, therefore, both the unproven hypothesis of surgical shock and of peritoneal sepsis, the results of our observations at the bedside, the operating room, and especially at the post-mortem table irresistibly force upon our attention, as causative factors of paramount importance, *septic phlebitis and thrombosis of the roots of the portal vein and embolic processes dependent upon their disintegration.*

This theorem is in full accordance with what we know of septic pylephlebitis, and harmonizes with our knowledge of all the aspects of septic peritonitis. There is nothing fanciful or forced in it; on the contrary, it is capable of solving in a conclusive manner all doubts, dispelling the thickest of the darkness that has enveloped this important subject. The word "theorem" is used here advisedly, because, to bring the matter to actual proof, *positive demonstration* of certain facts is necessary.

Such a demonstration is attainable by the labor of the pathologist. The post-mortem table has yielded to us all the links of the chain that connects an inflammatory condition of a mesenteric vein with septic pylephlebitis and with embolic purulent hepatitis. It has put beyond any doubt the occurrence in appendicitis of fatal toxæmia, and has demonstrated that the door through which it enters is the portal vein. All that remains to be done is the visual demonstration of the existence of phlebitis and of septic thrombi in the appendicular region in such cases, in which, directly after the performance of a simple and easy aseptic "interval" operation, the patient succumbs to an irresistible septicæmia, though no demonstrable operative infection of the peritoneum be present before or after the operation.

Note.—If is significant that almost all of these mysterious cases of post-operative septicæmia occur after "interval" operations for appendicitis; that is, in those cases in which repeated attacks of a local sepsis have preceded and presumably have left behind deposits of an equivocal character.

To the author's knowledge this work is as yet undone. It would involve a much more minute and exact examination of the roots of the portal system than pathologists are wont to make. To clinch the matter it must be demonstrated in a given case: (1) That septic phlebitis and thrombosis due to appendicitis are present; (2) that no peritonitis exists; and (3) that there are no septic conditions originating in any region not drained by the porta system.

Proof of these facts will do two things: It will shed much needed light upon a dark subject, and it will remove undeserved blame from the operator, who has the misfortune to encounter a patient with a septic thrombus, which is ready to be detached and to be carried into the circulation on the slightest provocation.

We may now pass on to the consideration of the later stages of portal phlebitis. The subject is trite, all its aspects are well studied, and it will suffice to give Dr. Bryant's[7] excellent summary of the salient symptoms of the disorder: "Pyrexia, rigors, sweating, rapid pulse, abdominal pain, and tenderness in the right hypochondriac or the epigastric region, together with uniform enlargement of the liver and tenderness of that organ, especially if associated with or following any ulcerative lesion of the alimentary tract below the œsophagus, should suggest the the possibility of suppurative pylephlebitis."

The gist of the matter as to the diagnosis lies in these three propositions: (1) The presence of precedence of an infectious process involving the abdominal contents. (2) The presence of pyæmia. (3) The implication of the liver.

The diagnosis, made the first time in the living subject by Schœnlein, is not difficult when the initial affection is known, and especially when, as Fred Taylor[8] justly remarks, *the diagnostician is familiar with the disease.* Otherwise, it may be very difficult indeed. Bryant names the following diseases that have been confounded with suppurative pylephlebitis: pyæmia, septicæmia (from extra-portal causes), typhoid fever, malaria, adhesive pylephlebitis, catarrhal and other forms of jaundice, chronic catarrh of bile ducts, biliary calculus, cirrhosis of the liver; Chvostek[9] the following: catarrhal pneumonia, general septic pneumonia, empyema, subdiaphragmatic abscess, spinal caries, and rupture of a reduced hernia. Taylor adds malignant endocarditis.

To avoid error the following points may be found useful:

1. Demonstrate that the existing pyæmia or septicæmia is not caused by any lesion within the pale of the systemic circulation, and *especially not by malignant endocarditis*, a task which is very hard, when not even a murmur is demonstrable to indicate the presence of this treacherous malady.

Note.—A small but important lesion pertaining to the area of the general circulation may be easily overlooked.

2. Do not forget that the violent oscillations in the temperature (from 105° to 96° F.), which are so characteristic of the initial stages, become less and less typical as the disorder progresses. In protracted cases the fever is of a constant and remittent type, the chills disappear (Chvostek and Gerster), and the oscillations are merely accentuated by profuse sweats.

3. Again and again search for the primary septic focus in the belly.

4. Remember that the evidences of hepatic trouble are often very equivocal. Though the liver is mostly somewhat enlarged, local pressure, pain and jaundice are often absent. The enlarged spleen is not distinctive. nor do the stools offer anything characteristic.

5. A persistent local pressure along the right rectus abdominis, extending upward toward the epigastrium and accompanied by fever, observed after an appendicitis operation, and with the abdominal wound healing or healed, justifies a strong suspicion of continued pylephlebitis if there are no signs of sacculated peritonitic abscesses. (See Case IX, Mrs. L.)

Prognosis.—The prognosis is very bad, but not invariably hopeless. Chvostek[10] published the history of a case in which an hepatic abscess was incised and drained by him, resulting in the cure of the patient. Emmanuel Herczel[11] of Budapest also reports a similar case. Probably these abscesses were solitary and the virulence of the infection could not have been very great. Ralph Thompson[12] mentions recoveries reported by Loison, Sheen, and Munroe.[13] Under favorable circumstances, even a spontaneous cure may ensue. The autopsy of Case IX seems to afford sufficient grounds for this assumption.

Therapy.—It seems clear that, as regards purulent pylephlebitis caused by appendicitis, an early diagnosis of the primary trouble and prompt operation offer the only reliable safeguard.

The occurrence of a chill is of the greatest import and should be considered to constitute a more urgent indication to operate than even the signs of local peritonitis. Where much necrosis is found it would be very desirable to expose and evacuate thrombosed veins.[14] On account of their anatomical relations this is sometimes easy, oftener difficult, and mostly impossible. During the operation unnecessary pressure by retractors, sponges, or the fingers of the surgeon should be carefully avoided. Hence an incision of adequate length is necessary, and the puerile attempts at removing a diseased appendix through a mere buttonhole are to be condemned.

The evacuation of septic thrombi from the jugular vein in mastoid disease has yielded such excellent results that the application of the principle to the portal vein would be natural and logical. But the anatomical relations, while very favorable in the former instance, are just the reverse in the latter. Only a short piece of the portal vein, that situated in the hepatoduodenal ligament, is approachable. The two mesenteric veins and the splenic are practically inaccessible. Hence, though phlebotomy of the portal trunk in the hepatoduodenal ligament is not impossible, the evacuation of thrombi by flushing through a catheter seems to be too problematic, not to mention the technical difficulties the surgeon might encounter in the closure of the phlebotomy wound. The usual multiplicity of the abscesses found in the liver renders the incision and drainage of one or a few of them absolutely worthless. Chvostek's and Herczel's successes may be justly called exceptional.

In fulminant toxæmia copious infusions of saline solution would seem to deserve trial, likewise in cases of septicæmia. In one of the author's cases the employment of Marmorek's antistreptococcic serum proved of no avail; but it is proper to state that it was resorted to too late—that is, at a time when the liver was honeycombed with abscesses.

We may say, then, that the treatment will have to be simply a symptomatic one.

The histories upon which this study was based, and which were not communicated in the text, follow here:

(*a*) *Acute Toxæmia and Septicæmia.*

Case I was given on page 1006.

Case II was given on page 1007.

Case III (Mt. Sinai Hospital Reports, 1901, page 284; 1900, vol. ii, page 94).—*Acute Perforative Gangrenous Appendicitis; Large Localized Abscess; Evacuation of Abscess; Removal of Appendix; Drainage; Acute Toxic Resorption; Death Third Day Following Operation.*—Abraham S., aged fourteen years, a school-boy, was admitted in the afternoon of August 13, 1900. The present attack was the first one and was of eight days' standing. Had one chill followed by fever the day before admission. A large tumor could be felt in the right iliac fossa, very painful and tender, and bulging into the rectum; immediate cœliotomy. No free fluid was present in the peritoneal cavity. A large abscess cavity occupied the iliac fossa; when it was opened there followed a gush of fetid pus. The appendix, perforated and gangrenous at the tip, lay in this abscess cavity. It was shelled out of its peritoneal coat and ablated. The cavity was thoroughly evacuated and drained by tube and gauze. The temperature declined to 99° F. immediately after operation, but in the evening it rose to 102.6° F. The following day the temperature rose to 103.2°F., the pulse rate to 110. The discharge from the abscess cavity was profuse. The abdomen was soft and lax. The bowels moved freely and there was no vomiting.

August 15. The temperature and pulse were still high, 103.6° and 136, respectively. The urine contained a large amount of albumin and no casts. Icterus developed and the sensorium was clouded and delirious.

16th. During the night of August 15 the temperature continued rising to 104°, 105°, and finally reached 108° F. in the evening of the 16th. The abdomen continued to be soft, not tender; the bowels moved; there was no vomiting; the wound looked well; the icterus was more marked. The high temperatures and the pulse rate and the delirious condition were the only symptoms until death occurred, on August 16.

No post-mortem permitted.

(*b*) *Suppurative Pylephlebitis.*

Case IV (1894, vol. ii). *Perityphlitic Abscess; Pylephlebitis; Incision; Drainage; Death.*—Ida M. four months ago gave birth to a child; was apparently well until three weeks ago, when she began to suffer from general abdominal pain, chills, and fever Pain was not localized. Subjective history was.

very unsatisfactory; temperature 105.4° F., respiration 44; pulse 120. On admission, May 16, 1894, her general condition was poor; patient pale, anæmic and icteric; tongue dry and coated; pulse red and weak; lungs and heart negative; abdomen slightly distended; liver two fingers below free border of ribs; marked tenderness over the liver; spleen enlarged, palpable; vaginal examination negative.

May 16. Bowels moved effectually by enemata.

17th. Temperature 101.6° F.; respiration 28 to 40; pulse 108 to 130; had severe chill. Operation under chloroform. Under anæsthesia mass palpable in right inguinal region. Incision over mass. Tumor was found to be behind and outside of the peritoneum. Aspiration yielded foul pus. Tumor incised, pus evacuated from between folds of mesentery; drainage established with iodoform gauze.

18th. Temperature 99° to 105.8° F.; respiration 40 to 60; pulse 106 to 150. Patient had several severe chills; rise of temperature after each chill; is delirious at times; pulse irregular and intermittent; urine contains granular casts, bile, pus.

19th. Temperature 99° to 108° F.; respiration 48 to 64; pulse 142. Patient failed rapidly; death.

Autopsy through the Wound.—Slight jaundice; abdomen contained a moderate amount of turbid serum. Intestine: adhesive peritonitis; ileum constricted by adhesive band, causing obstruction; appendix swollen, inflamed, and perforated at the tip. In the ascending mesocolon near the appendix was an abscess the size of an egg which had been opened and drained. Spleen enlarged and septic; kidneys negative; liver somewhat enlarged. On the surface of the right lobe were two abscesses the size of a walnut. On section multiple abscesses everywhere. Septic pylephlebitis.

Case V. *Gangrenous Appendicitis; Secondary Suppurative Pylephlebitis; Abscesses of the Liver, Pancreas, and Omentum; Death.*—Keile U., aged forty-two years, Russian housewife, admitted on December 19, 1894, to Mt. Sinai Hospital, gynecological service. She was in this hospital one year ago, operated upon for salpingo-oophoritis (double). Both ovaries were removed. Was well from that time up to six months ago. For the last six months complained of pain in the lower part of abdomen. Four weeks ago had chills and fever, headache, and pain in the hypochondriac regions. These pains and the fever have continued off and on up to the present; bowels constipated; some leucorrhœa.

December 22. Transferred to medical side.

23d. Temperature fluctuated between 100.6° and 103° F.

24th. Physical examination: general condition fair; tongue coated: lungs, slight general bronchitis; heart, systolic murmur at apex; liver normal; spleen enlarged to its free border; cicatrix in median line below the umbilicus; tenderness on palpation over the cicatrix; no spots; temperature fluctuated each day between 100° and 104° F.; at times had chills. Had quinine ten grains in morning.

26th. Urine acid, clear, 1018, bile; systolic murmur over pulmonalis.

28th. Liver dulness about three fingers below free border in the mammary line. Tenderness and pleural crepitation from the angle of the scapula to base in axillary line.

31st. Had pericardiac râles over center of sternum.

January 2. Temperature subnormal and then rose to 103° F.

3d. General condition same. Temperature varied each day between 99° and 104° F.; at times chills.

4th. Transferred with the diagnosis of liver abscesses to surgical side. A careful examination of the pelvic organs elicited no positive result except the manifestations of pain on pressure, which were pretty general. No tumor could be felt in the right iliac fossa.

5th. Aspirated liver and pus withdrawn.

6th. Prepared for operation.

7th. Operation under chloroform; incision about four inches in length over region of the liver. Peritoneum found free. Liver sutured to peritoneum and abdominal walls with catgut. Wound packed with iodoform gauze and dry dressing applied.

8th. Second operation under chloroform. Liver aspirated in several places and at last found pus. Grooved director and dressing forceps introduced and opening dilated. Small quantity of pus evacuated. Drainage tube inserted, irrigated, packed with iodoform gauze, and dry dressing applied. Patient slept greater part of the night. Temperature normal.

10th. Patient's general condition poor. Septic look; refused medicine; was stimulated hypodermatically.

11th. General condition became worse and the patient died; temperature before death was 106.6 F.

Autopsy.—Liver, right lobe adherent, not enlarged; soft and septic; on section lobules not apparently congested; multiple abscesses from pea to walnut size, containing thick, green pus. Portal vein contained pus; cellular tissue around portal vein indurated and full of abscesses. Pancreas: multiple abscesses. Omentum: veins filled with pus. Intestines: appendix gangrenous and perforated; a very small abscess behind the cæcum. Spleen enlarged, soft, and septic. Kidneys enlarged, capsules not adherent; cortex pale.

Case VI. *Gangrenous Appendicitis and Pylephlebitis; Incision and Drainage of Appendicular Abscess; Transpleural Hepatotomy; Death.*—Joseph R., aged twenty-nine years, admitted to Mt. Sinai Hospital's surgical service October 27, 1899, from the medical side. History began three weeks ago with a chill, followed by fever and sweating. Such an attack was repeated daily, and then every other day; general malaise; slight conjunctival icterus. Examination: spleen enlarged to percussion, but not felt. Liver extends from sixth rib to free border; lungs and heart negative; temperature 101° to 103.4° F.; marked leucocytosis; no plasmodia.

October 21. Temperature 99° to 105.2° F.; chill.

22d. Temperature 102.6° to 105.8° F. Sausage-shaped mass in appendicular region, which was not very tender nor painful. Rectal examination negative.

24th. Daily temperatures between 101° and 103° F.; at times a chill. Mass in appendicular region persists, likewise the fever. Urine separated by Dr. Harris with segregator. Examination showed casts and albumin in both specimens. Examined by Dr. Gerster under anæsthesia. Aspirated in right lumbar region; pus withdrawn. Pus was offensive and greenish in color; temperature 98° to 105.4° F. Was transferred to surgical service.

27th. Operation; posterior incision for retroperitoneal abscess and about half an ounce of foul pus evacuated from iliac fossa.

28th. Chill; temperature 104.2° F.

29th. Foul purulent discharge from wound; violent chill; temperature 105.2° F. Daily chills and temperature rising at times to 107° F.; marked leucocytosis.

November 14. Tenderness over the liver, especially in the axillary line. Dulness over the liver in this line extending higher than normal.

Transpleural hepatotomy for liver abscess by Dr. Brewer, adjunct. Mulitiple abscesses found and drained; died a few hours later.

Autopsy of Abdominal Contents.—Liver enlarged, soft; large number of abscesses in the right lobe. In the trunk of the portal vein is a purulent thrombus; the walls of the vein are necrotic and in places eroded into an adjoining abscess cavity. Appendix retrocolic situs; tip absent. In its place is found fibrous tissue representing the abscess which had been drained by the first operation.

Case VII (Mt. Sinai Hospital Reports, 1901, p. 279). *Fulminant Gangrenous Appendicitis with Simultaneous Thrombosis of the Veins of the Mesenteriolum; Removal of a Totally Gangrenous Non-perforated Appendix Twenty-four Hours after the First Onset of the Malady. Purulent Phlebitis of Portal Vein; Multiple Abscesses and Partial Mass Necrosis of Liver; Death from Septicopyæmia Nineteen Days after Operation.*—E. O. L., aged forty-eight years, banker, a man of large stature, somewhat obese and of a florid habit; in perfect health heretofore, with the exception of a severe pneumonia passed through several years ago; had attended to his business up to noon of April 12, when he lacked appetite at luncheon and began to feel some pain in the abdomen. This was not severe enough for him to cancel a dinner party at his own house. Among the company was his family physician, who noticed that his host was rather pale and abstemious, but kept his seat at table until, late in the evening, his company dispersed.

The doctor, remaining behind, was told that the patient felt an atrocious pain in the iliac fossa. His pulse was then between 80 and 90, the temperature normal. A hypodermic injection of morphine stilled the pain. The next morning the patient reported having spent a wretched, sleepless night. Shortly after midnight a severe chill had set in, lasting an hour and fifteen minutes, ending with profuse sweat. At 8 A.M. the patient vomited. At 9 A.M. the doctor found the temperature above 104° F., the pulse 90, the pain in the iliac fossa still excessive. At 9.45 A.M. he was seen by the writer. The abdominal wall was very rigid over the site of the appendix, elsewhere soft, and pressure over McBurney's point was exquisitely painful. Rectal examination revealed nothing unusual. The temperature was falling and by noon reached 102° F. and a fraction. A slight icteric tinge was noticed in the sclerotic.

The case was declared to be a very grave one, needing speedy action, and the patient was transferred to the hospital, where the operation was performed at 1 P.M.; that is, just twenty-four hours after the first manifestation of the trouble and twelve hours after the first rigor.

The patient's internal organs, kidneys included, yielded no morbid signs.

After opening the abdominal cavity a small quantity of turbid serum escaped. Readily the dusky, almost slate-colored appendix was brought to view, its situation being rather superficial. It was nowhere confined by adhesions. Its surface appeared mottled by yellowish spots and roughened by adhering shreds of fibrin. Its distended and erect condition and elastic, hard feel demonstrated that it was filled, almost unto bursting, by liquid matter, and nice handling was required to remove it whole and unbroken. Evidently its rupture was imminent and would have been followed by the most virulent septic peritonitis. While liberating it from its mesenteriolum it was noticed that the latter was excessively brittle, permitting the ligature to cut through it immediately. And as blood flowed neither from vein nor artery, it was concluded that these vessels must be occluded—in short, that we had to deal with a mesenteric thrombosis, probably of a septic character.

The appendix was ablated close to the cæcum, was in its entirety gangrenous and filled with horribly fetid, greenish-gray ichor. While distended and *in situ* its diameter was fully three-quarters of an inch. The removed portion measured four and one-half inches.

A gauze-wick drain was placed against the appendicular stump and was brought out to the surface. Except where this wick emerged, the wound was closed in the usual manner. The patient, a cool, cheerful, and resolute man, bore the operation excellently, and in the course of the next twenty-four hours his temperature and pulse were restored to the normal standard, the former being 76 to 84, the latter 98.6° F. The peritoneal symptoms had vanished, and on the surface affairs looked promising, but apprehensions were not lulled by these appearances of peace.

April 14. Calomel and salts were given and produced a number of liquid stools. The temperature rose to 102° F., but the patient felt well and consumed and retained large quantities of liquid nourishment. During the night a slight chill occurred.

15th. A thorough examination of the wound was made, the wick-drain was removed, and was followed by a few drops of fetid serum. The belly was soft, painless, the patient expelling gases freely, and retained much liquid nourishment. Examination of the lungs showed signs of congestion corresponding to both bases; but, there being no pain and no dypnœa, it was concluded that the dull percussion sound and sharp breathing were caused by hypostatic changes—a most ominous sign. From this on the physical appearances of the lungs remained stationary to the end. The icteric hue of the sclerotics also became more noticeable. In the evening the patient vomited a large quantity of water, the melted product of much ice he had chewed and swallowed.

16th. The temperature rose to 103.4° F. with a marked chill. The wound was irrigated and dressed three times daily, discharging less and less of serum, on which floated a few drops of fat and a few shreds of necrosed tissue, evidently cast-off portions of the mesenteriolum. The belly remained soft, the bowels moving daily. The liver and spleen slightly intumescent, the former not painful to forcible pressure and manipulation.

17th. Local conditions unchanged. The urine showed no diminution of chlorides; icterus more pronounced. Urine, barring the presence of bile pigment, normal. In the afternoon a long and severe chill, the temperature rising to 105.4° F. Splenic tumor more pronounced.

From this on there were daily several more or less hard chills, followed by profuse sweating. With the chills the temperature rose to 105° and 106° F.; after profuse sweating it dropped to nearly the normal standard.

20th. During the day three hypodermic injections of fifteen grains each of the hydrochlorate of quinine and urea were given without appreciable effect, except causing slight deafness. A blood culture yielded an absolutely negative result; no plasmodia.

Though it was evident that we were dealing with a pyæmic form of virulent sepsis, our efforts were not relaxed. From this date on altogether eight injections of Marmorek's antistreptococcic serum, each dose consisting of 8 c.c., were made and very

well borne; but they did not alter the course of the malady.

21st. Albumin was found in the urine, together with renal epithelium, a few granular casts, and pus cells. The wound discharged scantily a colorless and odorless serum. The swelling of liver and spleen had markedly increased, but there was no pressure pain. Severe chill, with a temperature of 106.6° F., also the appearance of a rash, was noted.

And so it went on to the end. Chill after chill followed, the sensorium remaining perfectly unclouded to the very end. The belly remained soft, bowels active; food was well retained, except the last two days.

25th. The patient began to complain of pain in the epigastric and hepatic regions, which was augmented by pressure. He was now deeply jaundiced, and there was no doubt that we had to deal with abscesses in the liver. The urine became more and more scanty, the pulse softer.

28th. The stomach rejected all ingesta; but there was no vomiting if the patient abstained.

29th. A marked collapse following one of the usual, severe chills, but the patient rallied. Pulse remained remittent.

May 1. Out of full consciousness the patient fell back and died of heart-failure.

Autopsy, May 2, 1900.—Eighteen and one-half hours post-mortem: marked rigor; marked general icterus.

Wound.—Incision (wound) 12 cm. long in right iliac region, covered with healthy granulations leading to a sinus which leads down and in, containing some cloudy fluid; intestines adherent to the lower angle of the wound. Sinus, where the walls are covered with dark-colored fibrin, leads to appendicular stump, which is covered with fibrin. Intestinal coils adherent to each other near the stump of the appendix.

Spleen.—Enormously enlarged, flabby; congested section shows diffluent pulp; numerous small hemorrhages; 19 x 14 cm.

Kidneys.—Left, enlarged and succulent; section shows congestion and marked degeneration; capsule somewhat adherent. Right, same; more flabby. Both kidneys and capsules are bile-stained.

Liver.—Very much enlarged and congested; parenchymatous degeneration. In the portal vein there is a parietal thrombus covered by a layer of pus. Along its branches are a large number of abscesses varying in size from miliary to those of 2 cm. in diameter. In the dome of the right lobe there is an enormous number of closely-packed abscesses, between which the liver parenchyma is necrotic. Veins in the mesentery near the appendix not thrombosed.

Heart.—Right auricle markedly distended with post-mortem clots; valves bile-stained; free edge of tricuspid thickened; right ventricle moderately dilated; muscle pale. Free edge of pulmonic slightly thickened. Left auricle markedly dilated; ventricle slightly hypertrophied; no dilatation; mitral slightly thickened; endocardium between mitral and aortic valves thickened; aortic valves slightly thickened; moderate atheroma of aorta and coronaries; muscle cloudy.

Lungs.—Left: at apex, slight adhesions; emphysema of upper lobe; fibroid patch at apex; marked congestion and œdema, especially at base; bronchial glands moderately enlarged and anthracotic. Right: at apex, fairly firm adhesions; very small calcareous nodule at apex; very marked œdema and congestion, especially of the lower lobe; glands the same.

Pancreas.—Congested and degenerated. In the mesentery are two calcareous areas 1 cm. in diameter (healed tuberculosis?).

Microscopically.—Pancreas, focal necrosis; kidney, congestion, hemorrhages, marked acute degeneration, marked inflammation.

Spreads.—Spleen: very few cocci; liver: numerous streptococci.

Cultures.—Right heart, coli; left heart, coli; abscess in liver, coli, and streptococci; spleen, coli.

Diagnosis.—Appendectomy; purulent inflammation of portal vein (?); multiple abscesses of liver (streptococcus); acute hemorrhagic inflammation of spleen; chronic nephritis; acute hemorrhagic nephritis; acute degeneration of liver; hypertrophy of left ventricle; parenchymatous myocarditis; moderate atheroma of aorta; congestion and œdema of lungs; focal necrosis in pancreas.

Case VIII (Mt. Sinai Hospital Reports, 1901, p. 283). *Acute Gangrenous Non-perforative Appendicitis, with Thrombosis of the Vessels of the Mesenteriolum; Appendectomy Seventy-two Hours after Onset of the Attack; Death from Pyelophlebitis and Septicopyæmia Seventeen Days after Operation.*—Milton S., aged nineteen years, a clerk, has had several previous mild attacks of appendicitis. Three days before his admission to the hospital on October 11, 1900, he commenced to have severe pain in the right iliac fossa. Forty-eight hours later he had a chill, followed by high fever. On admission the abdomen was not distended, the right rectus muscle was rigid, and there was marked tenderness in the right iliac fossa. No tumor could be felt; his temperature was 102.8° F.; pulse 116; urine normal. Immediate operation was proceeded with. The right iliac fossa was exposed by the usual incision through the rectus sheath. The appendix was at once found, lying quite superficially on the antero-lateral aspect of the ascending colon, surrounded by adherent omentum. The appendix was rigid and erect and the blood vessels of its mesenteriolum thrombosed. The appendix was about two and one-half inches long, nonperforated, obliterated at its apex, and its mucosa necrotic. The lumen was filled with ichorous pus. The mesenteriolum was secured with a stout catgut ligature, the appendix ligated at its base, and ablated. The wound was closed by sutures, drainage being placed to the bed of the appendix.

Immediately after operation the temperature rose to 105.2° F., the pulse rate to 148. Vomiting occurred after the administration of divided doses of calomel. The temperature receded toward evening. The next day (October 12) the temperature again rose to 103.4° F., the pulse to 144; vomiting was repeated. The abdomen was soft, not tender, and the bowels moved freely. Toward evening singultus bothered the patient considerably.

October 13 and 14, the condition remained the same.

15th. The patient became delirious at times. The temperature and pulse elevations were not so high; on the other hand, icterus developed and the urine contained a few hyaline casts.

16th. There was some tenderness over the liver; the abdomen was soft; the bowels moved daily, and nourishment was taken and retained. Singultus continued to trouble the patient very much. From day to day the patient's general condition became gradually worse; the temperature daily rose to 102° and 103° F., the pulse rate proportionately; but the character of the pulse was growing gradually worse. The wound healed per primam. The abdomen remained soft; the icteric condition fluctuated in its degree of intensity; the cerebral condition was always clouded; at times delirious. The urine con-

tained albumin and hyaline casts. The tenderness over the liver was not marked.

22d. A blood culture was negative. The patient gradually grew weaker and weaker, and succumbed from exhaustion on October 28, 1900. Post-mortem examination was not permitted.

Case IX. *Gangrenous Appendicitis; Suppurative Pylephlebitis; Operation; Pyæmia; Death.*—Minnie L., aged forty-five years, housewife, had an attack of appendicitis four years ago, and again two years ago, and again four months ago. Present history began three days ago with chill and sharp pain in right iliac fossa. Pain has persisted and grown worse; has been vomiting since first day; had a second chill yesterday and another one early this morning; bowels had moved yesterday; had some fever.

On admission, April 22, 1901, the following was noted: general condition fair; tongue dry and coated; lungs, heart, spleen, and liver negative; abdomen distended and tympanitic. In the right iliac fossa marked tenderness and rigidity; rectal and vaginal examination negative. Immediate operation; Kammerer's incision; appendectomy; appendix markedly congested and swollen; gangrenous throughout; its mesenteriolum gangrenous.

April 23. Had slight chill; temperature 103° F.; urine acid, clear, 1022; no albumin; urates.

24th. Felt chilly; temperature 104° F.

25th. Packings shortened; purulent discharge from wound.

26th. Chill; increased pulse rate from 100 to 160.

27th. Pulse still rapid; free stimulation.

28th. Slight discharge from wound; general condition improved.

29th. Two chills; temperature up to 104° F.

May 5. Two to three chills daily, each lasting three to fifteen minutes; after chills temperature rose to 105° F.; pulse 90 to 150; general condition failing. The wound healed in sutured portion. Through the drainage opening there is still a slight yellowish-brown, purulent discharge.

11th. Chill; temperature rises to 107° and falls to 96.6° F. in eight hours. Complains of considerable abdominal pain, but at palpation no area of tenderness can be located. Slightly hypersensitive over liver; tongue coated with blisters; has been taking large amount of fluid and solid nourishment.

17th. A distinct systolic murmur at apex; temperature not above 103° F. for past three days; no chills from May 14 to 25; temperature during this period fluctuated between 99° and 103.4° F., and her general condition seemed to be fairly good, though the pulse continued to be rapid.

25th. Patient irrational at times; complains of some cardiac pain; heart murmur more distinct.

June 1. Temperature not above 101° F. for three days past; no chills from May 25 to time of death. Has distinct tenderness over the liver at ts lower border in the mammary line; liver enlarged and easily palpable half an inch above the umbilicus; tongue moist; takes nourishment well.

6th. Cardiac murmur louder; wound discharges less; cerebral condition improved.

26th. Complains of general abdominal pain; tenderness in left iliac fossa. Splenic dulness merges below with an area of marked flatness, which latter extended downward to the iliac fossa. Spleen enlarged and to be felt separately and distinct from this lower area of flatness. Over the left side distinct pain and tenderness. Marked fluid wave in the abdomen; general condition bad, pulse small, soft and rapid; temperature between 100° and 104° F.

July 14. No tubercle bacilli in sputum. Patient complains of severe general abdominal pain, which recurs every afternoon. Occasional attacks of cough and dyspnœa; heart action rapid and more feeble; murmur marked; temperature 103° F.

15th. Death. Urine never showed any kidney elements.

Autopsy.—Large amount of clear and opalescent fluid in the peritoneal cavity; partly sacculated in the flanks. Lungs: large amount of clear fluid with flakes of fibrin on pleuræ; both lungs congested and œdematous. Heart: slight increase of clear fluid in pericardium; slight chronic thickening of valves (tricuspid, mitral, pulmonary, and aortic); no acute lesion of valves or heart walls. Spleen large, soft, acute and septic; splenic vein negative. Kidney: slight chronic nephritis with congestion. Adrenals and pancreas negative. Liver slightly enlarged; substance soft and grayish in color. Branches of the portal vein in the liver show changes the same as described later in the portal vein proper, except that some of the smaller branches appear to be closed by fibrous tissue. Along branches of the portal veins in the liver are some whitish nodules about the size of a pinhead, which appear to be old miliary abscesses. From some of these pus exudes, but not from others. Gall-bladder small and adherent to omentum and transverse colon; contains some firm faceted stones; wall trabeculated; covered by fibrin in places; rather firmly adherent stone in the cystic duct. In the common duct is a freely movable stone; common duct is somewhat dilated. Intestines adherent to each other with sacculations of the mesentery; clear fluid; white fibrin on coils. Small intestine floats as one mass upward and forward; cæcum and ascending colon partly adherent to the abdominal wall; appendix stump hardly visible. In the pelvis is a large, irregular abscess cavity, containing green pus and bounded by the uterus below and adherent gut and mesentery on the sides and above. It lies in Douglas' cul-de-sac. Into this opens the cavity from the mesentery containing similar pus. It appears to have been due to suppuration of mesenteric veins, as near the edges pus tracts are found emptying into it, which prove to be suppurating veins. Suppurating tracts found leading up to the portal vein. Veins near the appendix stump show no macroscopic changes. Portal vein and branches: no pus in lumen nor obstructive thrombus; on the walls are firm, yellowish deposits, which appear to be the remains of parietal purulent thromboses. At its lower part the portal vein is rather narrow, and the remnants of the thrombus extend around the entire circumference of the vessel. Vena cava inferior and vena hepatica show no changes. Intestines, when opened, negative, except for slight patchy inflammation of mucosa. Mesenteric nodes moderately enlarged; in the median and left parts of the mesentery but few are seen. Supposed that some were destroyed by the suppuration. Microscopic examination of the liver demonstrates the presence of large numbers of purulent foci, many of which are quite far advanced toward organization. There are also some fibrous areas around some of the branches of the portal vein which seem to be the result of organization of the purulent foci. The wall of the portal vein shows that the thrombi were in an advanced stage of organization. Smears from the mesenteric abscess show numerous streptococci and many bacilli, some of which decolorize by Gram and others which do not. Cultures show streptococcus and b. coli.

Case X. *Acute Gangrenous Appendicitis; Thrombosis of Mesenteriolum; Septicæmia; Death.*—Eleanora Z., aged eleven and one-half years, admitted to Mt. Sinai Hospital October 13, 1901. Ordinary child-

hood diseases. Three months ago had an attack of indigestion with abdominal pain; no fever at that time, no chill. Present history of two days' standing; at onset, pain in abdomen, general at first, later localized in right iliac fossa; vomiting at onset and throughout the two days; fever of 103° F.; chill twenty-four hours after onset; no cough or expectoration. Examination: abdomen lax; in right iliac fossa a tender mass the size of an egg. Rectal examination reveals tenderness and fulness high up on right side. Immediate operation; appendix recurved, three inches long; club-shaped, dusky in color; stricture at junction of the proximal and middle third; distal third thickened and congested; its mucosa necrosed and perforated into the mesenteriolum. Appendix was removed; drainage. Diagnosis: gangrenous appendicitis and suspected portal involvement. After the operation the patient's temperature rose to 104.4° F., pulse to 120.

October 14. Child restless; no signs of peritoneal involvement; face pinched; restlessness increased, and child became apathetic; pulse more rapid; temperature varied between 99° and 105.4° F.

15th. Child in collapse and died.

No full autopsy could be secured, but the abdominal contents were removed through the incision *en masse* for examination. Appendicular stump found firm; surrounded and covered by purulent lymph; no evidences of general peritonitis; no exudite in the pelvis. Leading from the appendicular stump was a thrombosed small vein, which led up into the superior mesenteric vein; throughout its whole extent were marked changes. In places the lumen was closed by purulent material or a dark-red thrombus. At other places there was only a parietal purulent thrombus adherent to the wall of the vessel. The wall itself was not particularly affected, except for some evidences of slight inflammation involving small areas. But at irregular intervals small collections of pus were found outside and directly alongside of the vessel. The superior mesenteric vein was filled by a non-adherent, dark and soft thrombus. The portal vein was not yet involved. Mesenteric nodes were enlarged, some of them dark red. Spleen moderately enlarged and congested, its pulp soft. Liver enlarged; acute degeneration; marked inflammation with leucocytes. Kidneys: capsules not adherent; congestion; acute nephritis.

Case XI (from the service of Dr. Howard Lilienthal). *Acute Gangrenous Appendicitis and Abscess of the Mesenteriolum; Suppurative Pylephlebitis; Appendectomy; Exploratory Laparotomy for Liver Abscess; Death.*—Robert K., aged twenty-two years; present attack began December 8 with local abdominal pain, vomiting, chills, and fever. On admission, December 14, 1901, general condition was good; abdomen rigid; in right iliac fossa tender mass size of fist; rectal examination negative; temperature 103° F., pulse 110.

December 14. Ether anæsthesia; Kammerer's incision; after separation of some omental adhesions appendix appeared three or four times its normal size. Mesenteriolum very much thickened and rigid; while this latter was being tied off in sections an abscess with gangrenous walls opened near the base of the appendix. Appendix tied off and removed; drainage.

18th. A remittent constant fever continued; its cause appeared not to be influenced by the treatment.

22d. Liver dulness much enlarged; liver not tender to pressure. Pressure pain just to right of the umbilicus; right rectus still rigid; leucocytes 24,000.

26th. Liver repeatedly aspirated; from one of the punctures a drop of pus was obtained.

28th. Exploratory laparotomy to afford better facilities for aspiration; through the abdominal opening numerous aspirations were repeatedly made, but with negative results; the temperature continued to fluctuate between 101° and 104°F.; the chills were repeated.

January 6. Sudden death during the night after a severe chill.

Autopsy through Wound.—Small amount of pus about appendix stump, well walled-off; no general peritonitis; no lesion of veins immediately about the appendix stump. Many enlarged suppurating lymph nodes in mesentery; many are fused together; some connected by suppurating tracts. In two places veins found exposed by the suppuration. In these veins purulent thrombi. Portal vein shows parietal purulent thrombosis extending into intrahepatic branches. Multiple liver abscesses. In dome of right lobe large abscess with necrotic walls containing thick, tenacious pus, light brown in color. Enlarged septic spleen; kidneys congested. Spreads: in all abscesses streptococci and a bacillus positive to Gram, not growing in acrobic or anaerobic cultures. Cultures: mesenteric abscess: streptococci, b. coli, staphylococci; polymorphous, short bacillus, Gram positive. Liver abscesses: streptococcus and same bacillus as above.

Case XII (from service of Dr. Howard Lilienthal). *Suppurative Pylephlebitis Following Appendicitis; Hepatotomy and Drainage; Death.*—Foster R., aged forty years, lawyer, admitted August 20, 1902. Four weeks prior to his admission had been operated upon for the removal of the gangrenous appendix. Fever continued high after the operation; four days thereafter he had a severe chill, which was followed by a temperature of 105°. Thereafter he had repeated chills; temperature fluctuated betweer 97° and 105° F. On admission general condition was poor; temperature 104° F.; pulse 104; general icterus. Liver much enlarged, extending from fourth rib to the crest of the ilium. Free margin of liver tender; numerous friction râles over the dome of the liver. In the right iliac region was a large granulating wound and a sinus led downward to the pelvis, from which there was a profuse discharge of thin pus. Aspiration of the liver yielded thick, reddish pus.

August 21. Gas and ether anæsthesia; transpleural hepatotomy, evacuation of small abscess; collapse and death.

Autopsy.—Slight icterus, pus oozing from old appendicitis sinus. In the mesentery are large intercommunicating abscesses containing thick pus, connected by suppurating tracts which seem mainly to involve and correspond to veins; abscess also involves the lymph nodes. Veins near the site of the appendix (appendix is absent and stump covered by adhesions) do not contain pus, but are closed by firm, red thrombi: superior mesenteric vein closed by purulent thrombus; portal vein almost entirely closed by purulent thrombus extending into branches in the liver. Around branches are a large number of closed abscesses varying in size from a pinhead to 5 cm. in diameter. Some contain green pus; some brown. No pus in the subphrenic space. Liver, as a whole, congested and markedly cloudy. Lung: pneumothorax on right side; lung collapsed; spleen: acute septic. Kidneys: chronic interstitial nephritis; adrenals and pancreas negative. Bacterial examination: pus in liver; streptococci only in spreads; cultures: mesenteric abscess; spreads: streptococci and bacilli holding Gram stain; in cultures bac. coli.

(c) *Suppurative Thrombosis of Radicles of Mesenteric Vein.*

Case XIII. *Perforated Empyema of Appendix; Purulent Thrombosis of Vessels of Appendix and Neighboring Cæcum; Appendectomy; Removal of Mesenteriolum; Incision and Drainage of Thrombosed Veins; Cured.*—Isaac G., aged twenty-seven years, a presser, had never been ill until the present time. Thirty-six hours before admission he began to suffer with severe abdominal cramps; vomited repeatedly; was chilly at the onset. During his transportation to the hospital the abdominal pain subsided very materially. On admission, December 9, he looked very sick. His internal organs were normal; the abdomen was rigid and tender all over, but especially so in the right iliac fossa; free fluid in both flanks. Rectally, a tender area high up on the right side could be palpated; temperature 104°F.; pulse rate 82. Diagnosis: acute appendicitis; peritonitis. Immediate laparotomy; free exudate in the peritoneal cavity; there was a localized, thick, tenacious, but odorless encapsulated exudate in the right iliac fossa below and external to the caput coli. The appendix was found internal and below the caput coli curled up in a semicircle. It was perforated, and from the hole brownish pus exuded. The mesenteriolum was infiltrated with pus and the purulent infiltration extended up to the adjoining vessels of the cæcum. The appendix with its mesenteriolum was deligated and removed. The purulent veins of the caput were incised, curetted, and drained. During this part of the manipulation the cæcum was punctured and at once closed by Lembert sutures. Drainage of stump of mesenteriolum, appendix, and cæcal region; closure of the rest of the wound. The temperature fell after operation to 100° F. and then rose to 102.2° F., and continued for the next ten days between 100° and 101° F. There was a profuse purulent discharge from the drainage opening for a week; thereafter rapid closure of the wound. The convalescence was interrupted by a rather severe attack of tonsillitis. Discharged cured, February 2, 1902.

Case XIV. *Acute Gangrenous Appendicitis; Thrombosis of Veins of Mesenteriolum of Appendix; and Adjoining Veins of Cæcum; Appendectomy; Drainage of Thrombosed Veins; Cured.*—J. G., aged twenty-four years, a canvasser, was never sick until thirty-six hours before his admission. During the first twelve hours he felt chilly at intervals and suffered with pains in the right iliac fossa; during the last twenty-four hours he had two severe chills and vomited repeatedly, the pain in the right iliac region remaining constant. On admission, April 26, 1902, temperature was 102.4° F.; pulse 108. He was well nourished. Internal organs were normal. The lower half of the right rectus was slightly rigid. Exquisite tenderness from McBurney's point downward and inward to the pubes, but no distinct mass was to be felt. Rectally, nothing except distended intestines could be palpated. Diagnosis: acute appendicitis; probably venous thrombosis. Immediate laparotomy was proceeded with. Just before taking the anæsthetic the patient had a very severe rigor. The appendix was located anteriorly to the caput coli, lying free and surrounded by omentum. It was two and one-half inches long, dusky in color, and completely gangrenous. The vessels of the mesenteriolum contained purulent thrombi. The vessels of the caput coli could be palpated as rigid cords. This rigidity extended well up along the ascending colon. The appendix was delivered from its omental bed, its mesenteriolum was deligated at as high a point as was possible, and the appendix, after ligating its base, was removed. In the stump of the mesenteriolum could be seen the purulent thrombi in the veins. The veins in the stump and in the adjoining portion of the cæcum were slit up and drained by gauze, and the wound was closed. The patient reacted well; temperature fell during the next twenty-four hours to 99° F.; the pulse rate to 72; with chilly sensations it rose suddenly in the next four hours to 103° F., pulse rate 92; it then declined rapidly to 97.8° on the third day; thereafter it fluctuated between 99°and 100° F. There was a profuse purulent discharge from the drain opening for ten days; thereafter the wound healed rapidly.

1. Pylephlebitis and Liver Abscesses Following Appendicitis. Boston City Hospital Reports, 1902.
2. Oppenheim, "Lungenembolien nach Appendicitis-operationen." *Berliner klinische Wochenschrift*, 1902, No. 5.
3. Boston City Hospital Reports, 1902, p. 143.
4. Langenbeck's "Archiv," Bd. xx.
5. *Charité Annalen*, xi. Jahrg.
6. *Wiener klinische Wochenschrift*. 1891, Nos. 13 and 15.
7. I. H. Bryant. Guy's Hospital Reports, 1900, vol. liv., p. 88.
8. "A Case of Suppurative Pylephlebitis." Guy's Hospital Reports, 1902, vol. lvi. pp. 109–126.
9. "Krankheiten der Pfortader." Wiener Klinik, March, 1882, Heft 3.
10. *Loc. cit.*
11. Epityphlitis és annak sebészi Kezelése. Budapest, 1900.
12. *Loc. cit.*
13. "Lymphatic and Portal Infection Following Appendicitis." *Boston Medical and Surgical Journal*, January 23, 1902.
14. See histories of Cases XIII and XIV.

THE LATE DR. T. GAILLARD THOMAS.*

By HENRY D. NICOLL, M.D.,
NEW YORK.

Mr. President and Fellows of the New York Academy of Medicine:

It is my sad duty to announce officially the death of Dr. T. Gaillard Thomas, a Fellow of the Academy, which took place on the 28th of February, 1903, at Thomasville, Ga.

"It has been well said that the profession of medicine is the noblest of professions, meanest of trades." Thus spoke the late Dr. T. Gaillard Thomas to the medical students of that day, in the "Introductory Address delivered at the opening of the session of the College of Physicians and Surgeons of New York, in October, 1864." His professional career, extending over a period of more than half a century, bore ample witness to the truthfulness of the first part of the quotation.

Dr. Oliver Wendell Holmes, in reply to the question as to when a boy's education should begin, answered: "At least one hundred years before he is born." According to this rule, Dr. Thomas had enjoyed very especial advantages in his education. He was descended from the Rev. Samuel Thomas, a clergyman of the Church of England, who was sent from England as a missionary to South Carolina, in the year 1700. His mother was Jane Marshall Gaillard, a connection of Chief Justice Marshall. Her ancestor, Theodore Gaillard, a Huguenot refugee, came to South Carolina after the revocation of the Edict of Nantes. With such antecedents, small wonder is it that we are able to make record of a life full of high aims and noble deeds!

Theodore Gaillard Thomas, son of the Rev. Edward Thomas, was born on the 21st day of November, 1831, on Edisto Island, South Carolina. He was educated at Charleston College, beginning his course there at the age of fourteen years. At the end of the junior year he withdrew from the

*Memorial address delivered before the New York Academy of Medicine, June 4, 1903

literary college to enter the Medical College of the State of South Carolina, from which institution he was graduated in 1852, being a little more than twenty-one years of age, and being awarded the highest honors for his graduation thesis. He came at once to New York in search of greater opportunities than his home city afforded. He arrived here in season to take part in the competitive examination for the position of interne at Bellevue Hospital. In this examination he was successful, and began his service in the hospital on the first of April, 1852, at which time an epidemic of typhus fever was raging. After completing the course in Bellevue, he went, as interne, to the Emigrants' Hospital, on Ward's Island, where he remained for six months. Being desirous to prosecute his medical studies still further, he visited Europe, in order to avail himself of the many clinical advantages to be found in the European hospitals. He passed one year in Paris in the general hospitals, and then became a resident physician in the Rotunda Hospital, Dublin, where he enjoyed peculiar opportunities for the study of obstetrics. It was in Dublin that Dr. Cornelius R. Agnew and Dr. Thomas first met, and the foundation of their life-long friendship was laid.

Returning to America in 1855, Dr. Thomas began immediately the practice of medicine in New York City. Early in his career here, in connection with Dr. W. R. Donaghe, he organized a "quiz-class" for medical students, the second of its kind in this city. The success of this class was most gratifying in two directions: the pupils were admirably trained in the various subjects, and the instructor quickly became known as a teacher of ability. The University Medical College, recognizing his talent, appointed him Adjunct Lecturer on Obstetrics. Soon afterward he was made visiting physician to Bellevue Hospital, in which institution, as interne, less than ten years before, he had had such splendid preparation for his life work. In Bellevue Hospital he continued and enlarged his system of instruction, establishing a clinical course in medical diagnosis, a new feature at that time, and one that met with high approval.

Already, as lecturer, teacher, and hospital physician, Dr. Thomas was enjoying unusual favor. Dr. John T. Metcalfe, who was described by Dr. Welch as "that admirable gentleman and doctor, a type of the best of our profession," had become so convinced of Dr. Thomas' ability and conscientious devotion to his profession, that he offered him a partnership in his private practice. This at once assured his success as a private practitioner. He was advanced to the professorship of obstetrics in the University, succeeding Dr. Bedford and holding that position until 1863.

In 1862 Dr. Thomas married Miss Mary T. Willard of Troy, daughter of John W. Willard, and granddaughter of Emma Willard, the authoress, and the founder of the Troy Female Seminary. In 1863 Dr. Thomas was made Adjunct Professor of Obstetrics in the College of Physicians and Surgeons, as assistant to Professor Gilman. Two years later he became professor of obstetrics and the diseases of women and children; and so continued until the division of this department in 1879, when he was made emeritus professor of obstetrics and diseases of women and children, and professor of gynecology. In 1881 he became professor of clinical gynecology, and in 1889 emeritus professor of obstetrics and gynecology. This steady progress upward as a teacher was not accomplished without effort. He was careful to prepare himself fully, not only as to the subject of his lecture, but he studied also to present his facts in such language and manner as to impress them upon the minds of his hearers. He devoted much time to the study of elocution, and became so proficient as a speaker that he was conceded to be one of the greatest orators in our profession.

Not satisfied with his attainments as practitioner and as teacher, upon his appointment to the Chair of Obstetrics in the College of Physicians and Surgeons, he began the preparation of his work on the "Diseases of Women." The first edition of this book appeared in 1868. The reception accorded it established its author at once in the foremost rank of the gynecologists of the world. The book has passed through six editions in English, and has been translated into French, German, Italian and Chinese, and twice into Spanish.

Dr. Thomas was appointed attending surgeon to the Woman's Hospital in 1872, and he held this position until 1887. In this hospital the greater portion of his surgical work was done, although he served as surgeon in the Strangers' and the Roosevelt hospitals. As a diagnostician he was thorough in his investigations, clear in his reasoning, and seldom incorrect in his opinions. As an operator, he worked rapidly, though most carefully; was ever ready in emergencies, and displayed always great personal interest in the care of his patients. He devised the operations of laparoelytrotomy, as a substitute for Cæsarean section, when the latter procedure was attended with a very high death rate. Dr. Thomas contributed many valuable articles to the medical journals and to the various medical societies to which he belonged.

Dr. Thomas was a member of the New York County Medical Society, the New York Pathological Society, the New York Academy of Medicine, the New York Medical and Surgical Society, a founder and several times president of the New York Obstetrical Society, a founder and one of the first presidents of the American Gynecological Society, a member of the New York State Medical Association, and of the American Medical Association. He was a corresponding member of the Obstetrical Society of Philadelphia, the Gynecological Society of Boston, the Medical Society of Lima, Peru, the Obstetrical Society of Berlin (1869), honorary member of the Washington Obstetrical and Gynecological Society, Chicago Gynecological Society, Louisville Obstetrical Society, the British Gynecological Society, and the Societè Impèriale de Mèdicine de Constantinople, and honorary fellow of the College of Physicians of Philadelphia, the Edinburgh Obstetrical Society. and of the London Obstetrical Society, and honorary member of the Obstetrical and Gynecological Society of Berlin (1894)

Dr. Thomas was a member of the Consulting Board of the old Marion Street Maternity Hospital, the Nursery and Child's Hospital, the Presbyterian Hospital, the French Hospital, the Skin and Cancer Hospital, the General Memorial Hospital, the Woman's Hospital, St. Mary's Hospital, Brooklyn; St. Joseph's Hospital, Jersey City, and the New York Infant Asylum. At the time of his death, he was president of the medical boards of the Woman's Hospital, the Nursery and Child's Hospital, and the New York Infant Asylum.

During President Cleveland's second term in office, as chairman of the "Committee on National Health Bureau of the New York Academy of Medicine," Dr. Thomas rendered the State and the nation conspicuous service. Together with other fellows of the academy, he was active in his efforts to secure a national health bureau of wide scope. He strove to obtain the appointment of an advisory council, which should represent the various parts of the country;

and he advocated, both here and at Washington, the passage of the so-called "Spooner bill." He urged in every way, not the entire abolition of quarantine, but the bringing about of a condition which should make quarantine almost unnecessary. Although Congress did not pass this measure, the efforts of the academy's committee have not been lost. A better knowledge of the needs of the country has been secured. A national bureau of health will yet be established, and the credit for inaugurating it will always belong to this committee of the New York Academy of Medicine, and to its chairman.

From the enumeration of these facts, we turn to the consideration of Dr. Thomas's character and endowments. So many touching tributes have been paid to his memory, so many prose poems have come from the hearts of his friends and colleagues, so much has been told of his noble life, that it would seem as if one man's career could hold no more of richness. And yet, from day to day, some fresh reminiscence, some new recollection of his rare gifts, develops itself in the minds of those who knew and loved him.

Many men are great in a single line in the particular profession they may have adopted. It is safe to say, that Dr. Thomas would have been equally great had he chosen any one of several other pursuits. In law, in literature, we may easily picture him as a shining light. His mind was a judicial one; his view of a situation singularly simple and direct. His comprehension of a case was characterized by unusual thoroughness and clearness of vision, and he formed his opinions with astonishing rapidity. However, although he was most decided in his views, there never lived a man more open to conviction, nay, eager for it; and he courted advice from those about him, listening to it with a mind wonderfully free from the influence of any foregone conclusion. In this respect, his character was remarkable, and indeed, really touching with its mingled elements of integrity, experience, brilliancy, child-like purity and simplicity. Few men have had so much excuse for vanity, few have been so utterly free from it. His command of literature is well known, and his own writings show refined taste, as well as power and originality. In addition to his professional essays, he wrote much in lighter vein, exhibiting great ability of expression, appreciation of incident, sense of humor, and poetic instinct—qualities which certainly make for success in authorship

It is hardly necessary to dwell upon his skill and inventive genius in the practice of his profession. These attributes were synonymous with his name, and are of world-wide repute; but the lovely character and lofty mind to which they were wedded could hardly be realized except by those who knew him. There are not many men who, attaining such prominence, have made and kept so large a number of friends, or have had so few enemies. Possessing an uncommon charm of manner and courtliness of address, he attracted and held the admiration and affection of all with whom he came in contact. A perfect host, a delightful guest, Dr. Thomas's presence at any function insured its success. His conversation sparkled with grateful allusions, appropriate anecdotes, and ready wit. His enjoyment of the society of his friends was keen and spontaneous. His domestic relations were unusually beautiful. He was a wise and devoted father, and his home was made happy by the noble influence of a companionship and inspiration which lighted his path through life.

One more characteristic must be touched upon, his deep and tireless sympathy for the poor and suffering, the esoteric essence of charity. His left hand knew not what his right hand gave. But above the material generosity of his ministrations, he conferred the inestimable gift of brotherly love, and by his kindness and compassion, raised and cheered many a suffering soul. Truly did he exemplify his own words, and in his life proved the nobility of his profession. Such a record of years well spent, such an example of what a man can be, may justly find its place in our hearts, a memory to cherish, an ideal for which to strive.

51 East Fifty-seventh Street.

A NEW BLOOD-STAIN.

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Since Ehrlich's important discovery of staining the various elements of the blood in a distinctive manner by means of combinations of various aniline dyes our knowledge of the blood has made great and rapid progress.

Ehrlich's stain was so comprehensive, differentiating nearly all of the blood elements so well, that until recently it has held supreme sway over all other stains. It is only in the last few years that it has been partially supplanted by suitable combinations of methylene-blue and eosine that will bring out as much as the triacid stain and at the same time stain the basophile protoplasm and granules and malarial parasites. Preëminent among these stains both for results and simplicity is the Jenner[1] stain. This, as is well known, consists of a powder, obtained by mutually precipitating methylene-blue and eosine in certain proportions and dissolving the resulting compound in methyl alcohol. Blood specimens are stained directly with this solution without preliminary fixation. The chief drawback to the Jenner stain is that it does not stain the chromatin of the malarial parasites distinctively. Although Jenner published his results in February, 1899, this fact seems to have been overlooked by May and Grünwald,[2] who recently published as a new bloodstain one that is exactly the same as the Jenner stain, the only difference being that Jenner has given his directions for preparing the stain a little more minutely than the authors mentioned.

In 1891 Romanowsky[3] published a new method of staining the malarial plasmodium. The stain was a mixture of methylene-blue and eosine in certain proportions and differed from other similar stains in that it demonstrated certain nuclear structures that had not been observed before. The stain was, however, exceedingly uncertain in its results, and we now know that this was due to the different qualities and age of the dyes employed, especially of the methylene-blue.

This valuable stain, therefore, owing to the unsatisfactory results it gave even in the hands of skilled observers, threatened to drop into obscurity, when Ziemann[4], in 1898, in a very painstaking and scholarly monograph, modified the stain so that with great care and extreme accuracy good results might constantly be obtained. The working of the stain was still, however, so sensitive that, for instance, the use of a different pipette in measuring the drops of one or other of the solutions would produce a failure.

Still later in 1898 and 1899 Nocht[5] discovered that instead of employing methylene-blue and eosine only, the addition of a little polychrome methylene-blue to the staining fluid would bring about constantly good and reliable results without being at all as sensitive as Ziemann's modification.

The Nocht-Romanowsky method has been found to be a reliable stain and has been used ever since. The disadvantages of this method, however, are that it requires fixing of the bloodfilm, a time for staining of from fifteen to sixty minutes and longer, and that it frequently gives rise to annoying deposits on the bloodfilm which often render it unfit for further examination.

Dissatisfied with the slowness of the Nocht-Romanowsky method and its occasional unsatisfactory results as compared with the Jenner stain, I experimented with the latter solution, trying, if possible, to obtain from it also the distinctive chromatin reaction. After various unsuccessful attempts I accidentally hit upon the addition of a little polychrome methylene-blue. A new and distinctive result was at once obtained. After extensive trials with various specimens of blood and with various modifications I finally succeeded in staining specimens of blood so as to bring out everything from eosinophile granules to the granules of mastzellen and at the same time obtain a beautiful chromatin stain.

I will now describe my method of staining: First, make a ½-per-cent. solution of Jenner's powder (Gruebler's) in methylic alcohol (Merck's, highest purity). Do not filter this solution. Secondly, make a solution of one part Unna's polychrome methylene-blue solution (Gruebler's) to 150 parts of distilled water (about 2 drops to 15 cc.). Then proceed as follows: Take the cover-glass specimen in a Cornet forceps, drop upon it 5 drops of Jenner stain. allow this to act one minute, then, without removing the Jenner stain, pour on 10 drops of the dilute polychrome methylene-blue solution. Agitate the forceps so as to produce a thorough mixing of both solutions on the cover-glass. Allow the combined stain to act five minutes longer. Then wash off with distilled water and allow some of this to rest on the cover-glass about one minute longer with occasional agitation of the forceps. At the end of this time dip the specimen rapidly into a very dilute acetic acid solution (about 1 drop of 50-per-cent. acetic acid to 10 ounces of water) until it is of a reddish or pinkish color. Rinse again with water and dry in the air. Do not employ heat or filter-paper to dry specimen.

With this stain the red blood-corpuscles will be stained a distinct pale rose. The nuclei of the white as well as of the red cells are of a bright carmine purple color (the specific chromatin reaction). The granules of the neutrophiles stand out very distinctly and are of a light violet color. The eosinophile granules are of a bright coppery red, the mastzellen granules of a very deep metachromatic blue. The protoplasm of the large and small lymphocytes is a pale light blue, dotted here and there with fine bright purplish chromatin granules. The network of the blood plates takes the carmine purple chromatin color, the bodies of the blood plates staining a light blue. The body of the malarial parasite is stained blue, its chromatin the same as the nuclei of the white cells, only of a brighter hue. Granular degeneration of the red cells appears as fine blue specks in the affected cells.

A stain constituted exactly as given above and used in the manner indicated has given in my hands perfectly uniform and eminently satisfactory results. If once made up correctly it is a very simple stain, but we must always observe a few minor details in using it. The specimens should not be fixed in any way and should not be too old. The time given for the Jenner (1 minute) and the combined stain (5 minutes) should ordinarily be strictly adhered to. It is, of course, not necessary to use always 5 drops of the Jenner solution, as with small cover-glasses 3 or 4 drops will be sufficient, but in every case double the number of drops of dilute polychrome methylene-blue solution should be used. The latter must not be added drop by drop, but in one quantity. It is also essential that the distilled water should be left on the cover-glass 1 minute longer after rinsing off the stain, as this serves to bring out more distinctly the chromatin stain. I would especially recommend to make up the Jenner stain oneself, as I have seen absolutely useless preparations sold in New York by presumably reliable dealers (one such stain being made up with ordinary common wood alcohol). Jenner recommends the thorough filtration of the stain, but I cannot see for what reason. In my own experience better results have always been obtained from an unfiltered stain, which has never deteriorated like the filtered one. The Jenner stain itself, if it is used in sufficient quantity, does not cause a precipitate; it is the water with which the stain is washed off that will do it, if not used carefully. With my stain there is never any precipitate at all

On looking up the more recent literature on this subject, I found to my surprise that Major Leishman[6] has described a method which is very similar to mine. It bears about the same relation to mine as the Ziemann-Romanowsky method bears to the Nocht-Romanowsky modification. He makes the stain by mixing a ripened alkaline methylene-blue solution with an eosine solution in the proportion of 10:1. The precipitate which results he filters off and dissolves it in methyl alcohol. The procedure of staining is very similar to mine, with the exception that he uses distilled water in place of the polychrome methylene-blue solution. The result, however, is not as good. I employed Gruebler's preparation of Leishman's stain, and obtained good results with it as far as the chromatin stain is concerned, but the red corpuscles and eosinophiles came out poorly and the neutrophile granulations were always very indistinct and frequently not stained at all. As a pure malarial stain it is certainly very good, but as a general stain it is much inferior to any good eosine and methylene-blue stain.

J. H. Wright[7] recently modified Leishman's stain somewhat in the manner of preparing the methylene-blue solution. I have not had occasion to try this stain.

About the same time that Leishman published his stain, Rueter[8] had been working on similar lines. He employed, however, absolute alcohol instead of methyl alcohol, necessitating the previous fixation of the specimens. The time of staining also was much longer, taking from ½ to 3 hours. Reuter has also been trying to isolate that part of the stain which is active in staining chromatin. He denies that it is the "red from methylene-blue" as maintained by Nocht. Giemsa,[9] after extensive investigationst, hinks that the active part is a "methylene azur," which by a new process he has been able to make in a ready and inexpensive manner. This preparation, according to Giemsa, certainly has a future in the staining of blood. It might, perhaps, be substituted with advantage for the polychrome methylene-blue in my stain; I have, however, no personal experience with this new substance.

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FEEDING OF OLDER INFANTS AND CHILDREN.

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FROM the ages of six to twelve months it is generally conceded that infants are sufficiently developed normally to digest cereal foods. It is rare that the hospital baby can stand a high milk formula, and it seems often to demand extra feeding. Cereals are recommended because they are, as a rule, easily digested and very nutritious. Individual cases must be studied by themselves, and it is only by a fair trial that any particular food can be recommended.

During the past four months all babies seven months and over in age, either artificially fed or nursed, and whose digestion seemed able to stand extra feeding, were given some stronger food. Flaked rice, cream of wheat, oatmeal gruel, farina, were all tried, but apparently the most satisfactory proved to be bread and milk. This was especially prepared. Stale bread which was twenty-four to forty-eight hours old was used. The pulp of this bread was soaked in boiling water until thoroughly softened. The water was then poured off and a cup of milk added. This was boiled for three or four minutes. After being sweetened and cooled sufficiently, it was fed to the baby.

At first a teaspoonful once a day is given, but as the infant becomes accustomed to it, this is increased, both in quantity and in frequency of feedings, until, at the end of ten days, it is receiving from one to two or three ounces daily. The time for giving this is arranged so that it comes between the regular bottle hours. Never more than half an ounce is given at one time.

If curds appear in the stools, or if, for any cause, the food disagrees with the baby, it is at once discontinued and castor oil or calomel given.

At present we have twelve babies who are receiving bread and milk prepared in this way. Most of them are babies who have suffered from intestinal trouble. As they grew older bread and milk was added to their diet with a resulting increase in weight. One advantage of this food is that it makes the transition to plain milk much easier.

Some babies seem to take the bread and milk mixture much more readily than others, and to digest it better than they do plain milk. Other babies do not care for it at all and absolutely refuse the feedings. For these babies we try to find some simple cereal which they will take.

Our older children, ranging in age from eighteen months to four years, are all fed upon plain bread and milk, with no extra preparation, at least once a day.

In the morning they generally receive farina with milk. At noon boiled rice, with meat broth poured over it, is given to them. This is made by taking Hamburg steak, one pound to a quart and one-half of water and allowing this to come to the boil. If it is allowed to boil, the meat becomes too tough. Two or three tablespoonfuls of this broth are poured over a cup of rice.

For supper they have bread and milk, the older children often receiving some plain jelly spread upon their bread.

During the fruit season they are allowed an orange or some easily digested fruit at noon. We have very few attacks of gastric or intestinal disturbances among these older ones.

Since we have been giving the extra food for the younger children and infants, there has been a marked change in the general appearance of the weight charts, so much so that our experience adds to the proof that in addition to the other cereals, bread and milk properly prepared is most valuable as a supplementary food.

Urethroscopical Diagnosis and Treatment of Chronic Urethritis.—Georges Luys of Paris, in a paper read before the International Medical Congress at Madrid, presented a new urethroscope, a modification of the urethroscope of Valentine of New York. This instrument is composed essentially of an ordinary urethroscopic tube, which is introduced into the urethra by means of a mandrin. After the tube is introduced, the mandrin is withdrawn, and in its place is introduced a small electric light mounted on a long shank, so that the illumination can be pushed to the end of the tube. A movable magnifying glass of which the optic focus corresponds exactly to the length of the urethroscopic tube, magnifies the urethral lesions and permits the examination to be accomplished in a complete manner. The small electric lamps, easily adjustable, are of different lengths and can be easily changed and adapted to long or short tubes; the former for the posterior urethra, the latter allowing a more exact examination of the anterior urethra alone. This apparatus was presented to the Société de Chirurgie in December, 1902, and has been described in the *Presse Médicale* of April 23, 1903. With it, urethral exploration can be practised in a far more precise manner than with any other method. It makes clear the recognition of polyps, vegetations, papillomata, strictures, lesions of the glands of Lithe, and the lacunæ of Morgagni. All of these lesions not diagnosed by the ordinary means of investigation are the cause of the persistence of a urethral discharge during an indefinite time. This urethroscope also gives the opportunity of urethroscopical treatment of these lesions. The treatment consists of the destruction, by means of the fine points of the galvano-cautery, of the foci which keep up chronic urethritis.

A Case of Epidermolysis Bullosa Hereditaria.—Dr. G. W. Wende reports a case of this disease. The chief points in it were the evidence of hereditary or congenital formation of vesicles and blebs at points subjected to traumatism and irritation; the marked infiltration of the skin after the lesions had subsided; the arrangement of the bullæ in concentric patches; the decided changes in the nails; the lack of hirsute growth upon the scalp; the absence of eyebrows and eyelashes; and the general tenuity of the skin. The patient was a boy of seven years, with a negative family history, if we except the fact that one brother died at the age of two years of bowel trouble, and another at about the same age, after having suffered one year from a skin disease that rendered him weaker as it progressed. Another brother is in good health. The parents are cousins, and healthy. The patient was apparently healthy at birth, and the first sign of the disease appeared concomitantly with an attack of diarrhœa, at the sixth week. The appearance at that time was of a reddening and moistening of the regions about the mouth and anus, which persisted in varying degree till an attack of cholera morbus in the

third year, when a complete remission occurred. The condition reappeared shortly, the hands and soles being covered with blebs. During the fourth, fifth, and sixth summers the disease almost completely disappeared, reappearing every winter. The patient had a good crop of hair that disappeared at the first sign of the disease. The development of the child is normal and the health is good.—*Journal of Cutaneous and Genito-urinary Diseases.*

The Separation of the Urine of the Two Kidneys in Children.—Georges Luys states that the separation of the urine of the two kidneys is as useful in the case of the child as in the adult, for surgical affections of the kidney are far from being rare at an early age. But up to the present time it has been almost impossible to accomplish such an examination, on account of the small size of the openings in the bladder of a child, and on account of the size of the instruments necessary for the separation of the urine. But the difficulties seem now overcome by the modification of the separator. In the first place the total caliber of the instrument has been lowered from No. 21 Charrière to No. 15. Another modification consists in the reduction of the curve of the vesical part of the instrument, which has been diminished so that it is more easily adaptable to the bladder of a child. Otherwise the instrument has been retained with its well-known simplicity. Excellent results have been obtained in two cases by means of this instrument: One patient was a boy of fourteen years and the other, a girl of nine years. The former patient first came for treatment on September 5, 1900, for a cystitis. The diagnosis of tuberculous cystitis seemed most probable. Although the bacteriological examination did not show any kind of microbe, a guinea-pig which was inoculated, died three weeks later with tuberculosis. On February 7, 1903, the separation of urine was made, and that from the right kidney was found to be clear, while the urine from the left kidney was purulent and bloody. From the right kidney, 9 c.c. of urine, containing 26.90 gr. of urea per liter, was obtained, while the left gave in the same time only 7.5 c.c. of urine containing only 0.64 gr. of urea per liter. The urine of the bladder contained only 10.24 gr. of urea per liter. These results determined an operation on the left kidney. The same process of separation was gone through with in the case of the second patient, and it was determined from it that the right kidney was healthy while the left was diseased. Nephrectomy of the left kidney was performed. The writer believes that these are the first two cases published of separation of the urine in children

Unilateral Ren l Hæmaturia.—A. A. Eshner gives the history of a case of this nature and follows it with an extended review of previously reported cases. He notes that various explanations have been suggested for the hæmaturia as well as for the cessation of the phenomenon after simple exposure on manipulation or incision of the kidney. No doubt the cause is not the same in every case, as the evidence goes to show. In by far the larger number of cases in which histologic examination has been undertaken lesions of an inflammatory character have been found. In some vascular changes or capsular adhesions have been noted. In a considerable number there has been mobility of displacement of the kidney sufficient to give rise to circulatory disturbances. In some, perhaps, lesions were present, though not appreciable to the naked eye. Only exceptionally could the kidney be considered healthy after histological examination. It is probable that none of the cases was an example of true hæmophilia. The suggestion of a vasomotor or angioneurotic condition does not seem an adequate explanation, and for the present it must be confessed that in a certain number of cases the cause of the hæmaturia, as well as its localization to one kidney, remains obscure. We are equally in the dark as to the mechanism through which the bleeding is controlled in the sequence of mere exposure, manipulation, or even incision of the kidney. Perhaps we have here an analogy with the recovery that sometimes follows abdominal section in cases of tuberculous peritonitis. It has also been shown that the symptoms of nephritis may be relieved by division or stripping of the capsule of the kidney or puncture of the organ, probably through circulatory modifications thus brought about. A similar explanation may be applicable to the results of appropriate operation in the presence of adhesions or displacement or mobility of the kidney.—*Pennsylvania Medical Journal.*

A Method of Intravesical Separation of the Urine of the Two Kidneys.—Georges Luys of Paris, in a paper before the International Medical Congress at Madrid, presented the advantages of his method of separating within the bladder, the urine of the two kidneys., He has made this method simple and practical by means of his separator. This instrument is composed of two metallic sounds, connected, but still independent the one of the other, and having a curve analogous to that of a Béniqué, although more accentuated; between the two sounds and at the level of their concavity, there is a rubber partition which is controlled by a (volant) shuttle-cock situated at the other end of the instrument. This apparatus has been used over two hundred times on one hundred and twenty-five different patients; fifty-six men, sixty-six women, and three children, and has always given the most satisfactory results. It can be easily disinfected; it can be boiled, and is solid and simple of construction. Every surgeon who has had a little practice in urinary affections can easily manage it, and will have no more difficulty in using it in the case of a male than in that of a female. Thus as Guyon has said, "Separation of the urine in the bladder will give new progress in diagnosis, by permitting the study of the function of the kidneys, so that it can be learned whether the lesions are unilateral or bilateral, and in case of the latter condition, to what degree the two kidneys are affected." This method of separation of the urine in the bladder, inaugurated by Lambotte of Brussels in 1890, had fallen into absolute disuse up to the time of Luys' work which dates from about three years back.

Clinical Researches on the Action of the Extract of the Medullary Substance of the Suprarenal Gland in Gastro-intestinal Atony.—Umberto Baccarani and Augusto Plessi had the best possible results from the administration of this medicament in cases of gastric atony. The sense of weight after meals, eructations, constipation, discomfort, insomnia, etc., disappeared, improvement occurring almost at once and persisting after cessation of the treatment. Cardiovascular pressure was increased, and the pulse was slightly more rapid. There were, also, evidences of beneficial action on general metabolism.—*La Riforma Medica.*

Treatment of Mastoiditis.—L. G. Woodson says that the mastoid should be opened: (1) When there is acute inflammation of the bone that resists palliative treatment. (2) When repeated swellings and abscesses occur. (3) When there is a bulging of the posterior and superior wall of the meatus, with suppuration of the middle ear. (4) When there is a fistula. (5) When there are severe pains in the same side of the head as the diseased ear, and they resist all other treatment. (6) When a foul otorrhœa cannot be cured by any other means.—*Alabama Medical Journal.*

Malaria in the Barracks in Rome from January to July, 1902.—G. B. Mariotti-Banchi concludes from his investigations that in the region in which his researches were made, the semilunar forms of the parasite which are abundant at the end of the year and the beginning of the next, completely disappear about the end of March, and are only exceptionally found until the epidemic period begins again. They are then, however, not abundant enough to explain the occurrence of the fresh epidemic. The pre-epidemic recrudescence of relapses noted in various parts of Italy, is absent.—*La Riforma Medica.*

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THE GENESIS OF PULMONARY TUBERCULOSIS.

OF recent years, since the discovery of the tubercle-bacillus by Koch, comparatively little attention has been given to the histology of the tuberculous process. In the minds of some, doubt has arisen whether the bacillus is capable of exerting its deleterious effects upon healthy lung-tissue, and whether infection takes place through inspiration. With the object of elucidating a number of obscure points in connection with the pathogenesis of tuberculosis, Dr. E. Aufrecht (*Deutsches Archiv für klinische Medicin*, 75, Nos. 3–5, p. 193) undertook an extensive anatomic-histological study, and the results, while somewhat divergent from current views, are of the greatest interest and importance.

It was found that the principal and, numerically, probably the most important portal of entry for the tubercle-bacillus in the human being is constituted by the tonsils, whence the bacilli are conveyed through the cervical lymphatic glands to the mediastinal glands, in which they cause enlargement. In the living, at times in youthful persons, who come under observation for the treatment of beginning infiltration at the apices of the lungs, one or several enlarged glands can frequently be felt at the angle of the jaw on one or both sides; at autopsy enlarged, in part cheesy, mediastinal glands are found most frequently as the sole result of the activity of the tubercle-bacillus, at times in the bodies of individuals that have died from some non-tuberculous process. Caseation of cervical lymphatic glands, with the presence of tubercle-bacilli, may be found more frequently than heretofore and thus establish a direct connection with the tonsils if greater attention be given this point than it has received in the past.

The permeability of the intact walls of the blood vessels for tubercle-bacilli derived from enlarged adherent lymphatic glands having been demonstrated, it is understandable that tubercle-bacilli may be conveyed from tuberculous cervical or mediastinal glands. From the cervical veins they gain entrance into the right heart and thence into the smallest branches of the pulmonary artery; from the mediastinal glands they may penetrate directly into the pulmonary artery or into the pulmonary vein, and in the former event likewise into the lung, and in the latter event into the general circulation, and if present in large numbers give rise to general miliary tuberculosis.

That on the entrance of the bacilli into the pulmonary circulation the apices of the lungs especially should be the preferable site of lodgment is due in part to the less favorable circulatory conditions in these situations, and in part to the possibility of mechanical injury to the pulmonary tissue. As the circulation in the lungs depends upon their distention through the inspiratory action of the muscles of the thorax and the diaphragm, and in this way the flow of blood to the pulmonary vein is facilitated, this condition, as can be readily understood, is less developed at the apices. A sedentary mode of life is capable of increasing these unfavorable circulatory conditions in especial degree.

Injury to the tissues at the apices of the lungs, however, may occur as a result of violent respiratory action, because under such circumstances the sternomastoid and the scaleni muscles contract and their extreme degree of functional activity is opposed to that of the diaphragm. Also severe paroxysms of cough must cause stagnation of air in the apices of the lungs, because these are covered only by soft tissues, which do not take part in expulsion of the air. It is not impossible that all of these conditions alone, that is prior to the invasion of the tubercle-bacillus, may result in histologic injury to the tissues at the apices of the lungs. When, however, the tubercle-bacilli have become adherent to the walls of the smaller vessels in the apices of the lungs, they undergo multiplication and give rise to an increase in the cellular elements of the vessel-wall, and this becomes so marked as to create an appearance in section of circumscribed accumulation of cells that have heretofore been looked upon as newly-formed granulations, as gray tubercles.

While in the liver almost always this change alone, namely, the gray tubercle, that is, a considerable thickening of the vessel-wall takes place, the thickening of the vessel-wall in the lungs, as well as in the spleen and the kidneys, gives rise to nutritive disturbances in portions of tissue supplied by these vessels, and resulting in necrosis, without, though still more frequently with, thrombotic occlusion of the lumen of the vessels, because these organs have end arteries. The bacilli gain entrance into these necrotic areas from the vessel-wall, and thus the caseous tubercle is produced. It is the product of the combined activity of the necrosis and the tubercle-bacilli.

The extent of the anatomic alteration in the lungs brought about by the tubercle-bacilli entering through the vessels is dependent upon the number of bacilli, but probably also upon the amount of minute particles of necrotic organic substance such as occurs in caseous masses. In the presence of small numbers of tubercle-bacilli that have penetrated as such through the intact walls of the vessels there occurs the formation of isolated foci only in the apices of the lungs, while in the presence of large numbers of bacilli enormously large numbers of caseous tubercles develop in the lungs and eventually in all portions of the lungs. In the former event cicatrization may take place, or after extrusion of the necrotic caseous area a small cavity may form in the apex of the lung; in

the latter event death may result, usually after a rapid course, although recovery appears not impossible.

When it is borne in mind that extensive tuberculosis of the peritoneum may undergo perfect recovery, leaving fibrous tubercles as the remains of caseous tubercles whose necrotic products have been absorbed, the possibility of a similar process in the lungs must be admitted. If, however, the lung possesses the unfortunate advantage, in consequence of the presence of cheesy tubercles arising from disease of the walls of the vessels, of being exposed to most extensive tissue-destruction or cavity-formation, this depends not upon the caseous tubercles, directly but upon the pneumonic process due to their presence, and which gives rise to exudates into the alveoli as well as into the interstitial tissue, and thereby lays the foundation for the entrance of tubercle-bacilli from the caseous tubercles. The formation of cavities of considerable size results only from the disintegration of pneumonic-infiltrated tissue.

In the presence of isolated caseous tubercles in the apices of the lungs the pneumonic process remains confined to these localities. Under suitable treatment it may undergo resolution or result in chronic pneumonia or cavity-formation. If the entire lobe of a lung or an entire lung is filled with caseous tubercles, the correspondingly extensive pneumonic process gives rise to desquamative pneumonia or caseous lobar pneumonia.

The problem of discovering a remedy for the destruction of the tubercle-bacillus and thus for the prevention of the development of the caseous tubercle is to be solved by specific therapy. Upon hygienic-dietetic therapy (altitude, sanatoria) is placed the obligation, from the results of the foregoing investigation, to avoid the pneumonic processes, which first constitute the type of pulmonary phthisis and comprise the great danger that the tuberculous patient may become phthisical; and if already present to limit the disintegration of the parts to the seat of the pneumonic process. Empiricism, which has long preceded scientific explanation and reasoning, demonstrates adequately that such endeavors will be attended with success.

THE ETIOLOGY OF SLEEPING SICKNESS.

An editorial note which appeared in the Medical Record, April 25, commented on the news reported by Dr. Aldo Castellani, one of the members of the commission sent out by the British Royal Society to Uganda, to investigate into an outbreak of sleeping sickness there, that he had found an organism which he had good reason to suppose was the cause of sleeping sickness. It is rather more than one hundred years ago since the first account of this disease was published by Winterbottom. In the intervening period Corre, Hirsch, and Stephen Mackenzie have investigated into and written on the subject, although perhaps the most complete history of the malady, considering the then state of knowledge, was that by Clark. Manson was one of the first to suggest that the disease might be of parasitic origin. Writing in "Allbutt's System of Medicine" in 1897, he threw out the hint that filaria perstans might be responsible for sleeping sickness. Several germs have been at one time and another described as the cause of the peculiar disease which affects the natives of certain districts in Africa known as sleeping sickness or negro lethargy. In 1897 two Portuguese medical men declared that they had succeeded in isolating a bacillus from the blood of a patient suffering from sleeping sickness, which when injected into animals would reproduce the disease, but these experiments were not confirmed by other investigators. Marchoux, from the result of his observations, came to the opinion that sleeping sickness was due to Fränkel's diplococcus, and, lastly, there have been the bacteriological researches of the Portuguese Commission, of Dr. Broden, director of the bacteriological laboratory at Leopoldville, and of Dr. Castellani.

Dr. Castellani, in the preliminary notes he published in the *Lancet* and *British Medical Journal*, both of March 14, and which were referred to in the Medical Record of April 25, stated his decided opinion that he had isolated a new germ in sleeping sickness, a brief description of which was given in the aforesaid journals. He further differentiated it from the diplostreptococcus discovered by the Portuguese Commission, in that the culture of their germ generally failed every time on the usual media, like agar, gelatin-agar, etc., and with gelatin they never succeeded in obtaining cultures at all. So far it seemed as if Dr. Castellani had made good his claim as the dicoverer of the germ of sleeping sickness.

An article, however, appeared in the *Lancet*, May 23, which puts an entirely different complexion on the matter. Drs. Annibal Bettencourt, Ayres Kopke, José Goures de Rezende, Jr., and Annibal Correia Mendes, the members of the Portuguese Commission place on paper their side of the question. They state that on August 10, 1900, in Loanda, they first proved the existence of a diplostreptococcus in the cerebrospinal fluid and in the subarachnoid exudate in cases of sleeping sickness, but that the principal characters of the germ could only be demonstrated in an imperfect and summary way, owing to the absolute impossibility of making a complete study of it up to that date. These results were published in September, 1901. In August, 1902, after many further researches, the existence of the parasite was confirmed, and it was particularly pointed out that the microorganism ought to be included in the streptococcus group, and it was proposed to give to it the name "hypnococcus." It was described in the second report as growing on gelatin and other media at a temperature lower than 24° C., and as also growing well in His's fluid, the reaction not being modified, nor the fluid coagulating after a month's stay in the incubating oven. Castellani's contention, therefore, that the germ isolated by the Portuguese, and that discovered by him, could not be the same, because the culture of their germ generally failed nearly every time on the usual media like agar, gelatin-agar, etc., must lose its force.

The Portuguese Commission say that Castellani's statement was founded upon a misconception, as when he made it he had only seen their first report. The commission then say "months before the publication of Castellani's work we published a

description of our cultures on agar, bouillon, and potato, in which we obtained identically the same result as he obtained. We also pointed out the absence of the coagulation of milk, and the absence of gas production in the media containing glucose, in respect of both of which characteristics Castellani agrees perfectly with us. . . . How can it be suggested that the bacteria so often isolated by us in pure cultures may not be the same as the one seen in the sections and exudates, the identical morphology being given? And how can the germ isolated by Castellani from the same regions of the body as we obtained it during life and post-mortem examination, not be the same we saw in our microscopical sections?" With regard to finding the germ in the blood of those suffering from sleeping sickness, the Portuguese isolated it twice and Castellani once. The difference of opinion between the Portuguese Commission and Dr. Castellani as to priority of discovery of the germ of sleeping sickness, appears to lie in the fact that Dr. Castellani only saw the commission's first report, which was avowedly incomplete and to some extent perhaps inaccurate or rather misleading. In the second report the conclusions arrived at by the commission —judging from the article in the *Lancet*—seem to agree in nearly every particular with those of Dr. Castellani. It is a pity that the latter had not seen the second report before publishing the result of his investigations. There is one feature in the situation that must strike a note of satisfaction in the breasts of scientific men, that both the Portuguese and Castellani are convinced, that the germ discovered independently is in verity the true cause of sleeping sickness.

THE DISTRIBUTION OF THE KLEBS-LÖFFLER AND HOFFMANN BACILLI.

It has long been known that the results of bacteriology and of clinical medicine were not in accord so far as the question of diphtheria goes, many persons whose cultures have been pronounced "positive" having no evidence of diphtheria in the clinical sense. And of course, isolation on *a priori* grounds must often, to them, have seemed a hardship. It is therefore of great importance to determine whether such persons are dangerous to others, and to what extent. This is what Dr. G. S. Graham Smith has attempted. In the *Journal of Hygiene* for April, 1903, he discusses the question of the distribution of the Klebs-Löffler and Hoffman bacilli in the throats of those who have been in contact with diphtheritics ("contacts"), and in those of normal persons. His conclusions are, in brief, that the Klebs-Löffler bacillus has been found in a considerable proportion of persons who have been in contact with cases of diphtheria, or with infected persons. Such persons have been shown to be a grave danger to public health, especially when they are frequenting schools or institutions, and they constitute the usual channel by which the disease is spread. Very satisfactory results have followed the isolation of convalescents from the disease and of infected "contacts," until two consecutive negative cultures have been obtained. Carefully conducted investigations among healthy persons who have not been in contact with cases of diphtheria or with infected "contacts," have shown that virulent diphtheria bacilli are very rarely found in the mouths of the normal population, they being actually found only three times in 1,511 examinations. This fact renders the discovery and isolation of infected persons a practical possibility, and offers a fair prospect of discovering and isolating the majority of them in any outbreak. Diphtheria bacilli are usually distinguishable on morphological and cultural grounds, but whenever possible, it is desirable that their virulence be tested. The bacillus of Hoffman is inocuous to man. It is a very common organism in the mouths of the poorer classes. The distribution of this bacillus points to the conclusion that it is carried from mouth to mouth in the same way as the diphtheria bacillus, and therefore its wide prevalence in schools attended by poorer children, is significant as showing how wide-spread and uncontrollable an outbreak of diphtheria may become, unless measures are taken early to deal with infected "contacts."

Annual Report of the Matteawan State Hospital.

The medical superintendent of the Matteawan State Hospital has just issued the forty-third annual report of that institution for the year ending September 30, 1902. Owing to a part of the new hospital, now in course of construction at Dannemora, being ready for the admittance of patients, all the male convicts who remained at Matteawan under sentence for felony have been removed thither. This action relieved Matteawan of all male felons under sentence, excepting those who had but a few months to serve. During the past three years the total number of patients transferred to Dannemora, plus those sent to the other State hospitals by order of the State Commission in Lunacy, was 228. Consequently the overcrowding at Matteawan has been so greatly lessened that the necessity for relief by transfer to State hospitals has ceased to exist. No male patients are now received at Matteawan from the State prisons, nor from the New York State Reformatory at Elmira. The only class of felons now admitted consists of women.

Regarding the manner of disch rge of the convict or criminal who is, or who has been insane, the report draws attention to the fact that more interest pertains to this question than attaches to the release of the ordinary insane. The reason is that a majority of the former class awakens a sense of uneasiness because of their dangerous tendencies toward the commission of unlawful acts. Any person who is insane, even a quiet, chronic patient not a criminal, is a source of more or less anxiety on the part of friends, and the community when he is at large. "What disposition should be made of the criminal insane, therefore," says the report, "when the occasion arrives for him to leave the hospital, is a matter of some concern. Out of the total number of ninety-seven discharges, less than 26 per cent. were released by the hospital authorities. The State Commission in Lunacy for special reasons transferred four cases to other hospitals for the insane. The new hospital at Dannemora received over one-third of all who were discharged from Matteawan, the custody of all these cases being simply transferred from one hospital to the other. "The ratio of recoveries, as at other institutions of a like nature, has always been extremely small at Matteawan. The ratio of recovery for the year just closed, based upon the average daily population, was 2.50 per cent., and 2.16 per cent. upon the

whole number treated. The death rate at Matteawan has, too, always been exceedingly small and much below the usual percentage reported at other hospitals. The ratio of deaths, based upon the average daily population, was 2.83 per cent., and 2.45 upon the whole number treated. A little more than one-half of all the deaths occurred from tuberculosis. The weekly cost of maintenance at Matteawan, based upon the daily average population, was $3.42. The total annual cost was $178,274. The Matteawan State Hospital, judging from its latest report, would appear to be in a satisfactory condition.

Diphtheria in Relation to Domestic Animals.

In some cases animals have been shown to spread disease among men, and within recent years various domestic animals and birds have been regarded with grave suspicion as possible conveyors of infectious maladies to the human race. Members of the canine tribe are asserted to be a not infrequent source of hydatid disease. With less ground for assertion, cats have been stigmatized as the cause, occasionally, of disseminating scarlet fever, while parrots would seem to have been rightly accused as the means whereby a highly infectious disease, to which these birds are subject, has been spread among the human race.

In *Public Health* for June is an article bearing on this matter, the author of which, Dr. Martin of Gorton, Manchester, England, treats especially of the connection between diphtheria and domestic animals, and quotes largely from different well-known writers in favor of this view. Dr. Longstaff, in a report on the Geographical Distribution of Diphtheria in England and Wales, said "The distribution of diphtheria and its mortality does not appear to be regulated by density of population, nor do insanitary conditions appear to favor its development," and he concludes his report thus: "The line of investigation which seems to me most promising lies in comparative pathology. The peasantry live on terms of great intimacy with domestic animals, more particularly with cows, sheep, pigs, poultry, and pigeons. Some little known diseases of some one or other of these creatures may be capable of inducing in the human subject brought into frequent and close contact with them a trivial 'membranous sore throat,' then, under suitable conditions of recipient and environment, the more generally recognized form of the disease, true diphtheria may result. The poison, perhaps, gathering intensity and infectiveness, may then be conveyed into towns by farm produce, such as milk, cream, poultry, eggs, meat, or vegetables, and, lastly, through the poisons first infected, the sources of water supply or the public sewers may get poisoned, and so indirectly aid in the spread of the disease." Dr. E. W. Goodall has described what he declares to have been an absolutely authentic case of diphtheria in a horse.

McFayden and Hewlett described in the throats of diseased and healthy pigeons an organism which resembled the Klebs-Löffler bacillus in morphological, cultural, and staining peculiarities, and differing only slightly in pathogenic and toxic properties. Roup, a malady which largely affects fowls, presents many features of marked similarity to human diphtheria. The writer of the article in *Public Health* states that diminution of cases of diphtheria, in his district, has been synchronous with regulations restricting the keeping of pigeons and poultry in backyards, while J. S. M'Intire brings forward the bold theory that cat-fleas may carry diphtheria to man, the cat being subject to a form of diphtheria, in the same way as it is argued by some that fleas carry the plague.

Dr. Martin concludes his article by drawing attention to the fact that the etiology of the disease points to some condition of home life affecting early childhood, decreasing after six years of age. Two animals are in close relation with the child at that period of life, namely, cow and cat, and both are liable to forms of diphtheria. Further it has been shown that varieties of diphtheria can be produced in pigeons and fowls by passages through other birds. Therefore, in the opinion of the writer, it is not difficult to conceive of a cat or a cow becoming infected, or to be the medium of conveying a pathogenic variety to human beings.

News of the Week.

Care of the Insane in New York.—Some of the measures of improvement in the care of the insane of the State of New York carried through during the past few months by the Lunacy Commission are as follows: The Pathological Institute has been reorganized and more than sixty of the medical men connected with the staffs of the fourteen State hospitals have been instructed during the past winter at the Institute on Ward's Island in the recent development of psychiatry along clinical pathological, psychological, and clinical lines. The hospitals have been opened to medical internes in the same manner as general hospitals. Last year sixteen clinical assistants entered the service in this way, and this year the number is nearer thirty. The Legislature recently passed the Lunacy Commission's bill for the appointment of a medical inspector to ensure a more thorough inspection of the thirty-nine institutions under its charge, viz., twenty-three private retreats, two criminal asylums, and fourteen State hospitals for the insane. To remedy overcrowding the Lunacy commission proposes to construct a new hospital in the territory north of Albany and Troy on the colony system. A scheme similar to that of the Craig colony for epileptics will be carried out. The site will be selected and plans made this year. It is hoped that this colony for 1,500 to 2,000 patients will be ready inside of three years. Three tuberculosis hospitals, each with a hundred beds, will be constructed this summer at a cost of $90,000 at Middletown, Utica, and Binghamton, on the grounds of the State hospitals located there; and the plans embody the main features of such hospitals described in the King Edward Prize Essays. Tent life for the tuberculous insane has been in vogue at the Manhattan State Hospital East (under Dr. MacDonald) for two or three years and for a shorter time at Binghamton and other of the State hospitals. The country colony for a few of the working classes of the insane, as an offshoot of the Utica State Hospital, has been enlarged. A similar colony has been established at the Willard State Hospital and two are in existence at the State hospitals at Binghamton and Poughkeepsie. A new departure this year is the creation of a summer camp for between forty and sixty insane on the lake shore about fifteen miles from the Rochester State Hospital, which is now in operation. The feature of nurses' homes having been found so useful at some of the hospitals, two additional ones will be put up this summer, one at King's Park State Hospital, Long Island, for three hundred nurses, and one at the Gowanda State Hospital for one hundred. Six or seven residences for superintendents and separate houses for the medical staffs will be put up this season at as many of the State hospitals,

thus removing the officials from the central main buildings and utilizing the vacated space for patients. A bill providing for emergency commitments, recommended by the Lunacy Commission, was passed by the Legislature at the last session. Copies of this law have been sent to all the examiners in lunacy of the State. It is believed that this will prevent the all-too-frequent incarceration of urgent cases of insanity in jails and station-houses. A strong effort is being made by the Lunacy Commission to increase the number of deportations of alien insane, and through the efforts of New York State the federal government passed a law making the limit three years instead of one, *i.e.* an immigrant becoming insane within three years after landing in the United States may be returned to his own country.

Protest against the Action of the Health Commissioner in the Antitoxin Cases.—At a mass meeting of physicians held under the auspices of the East Side Physicians' Club, June 12, 1903, Dr. Julius Solow presiding, the following resolutions were unanimously adopted:

"*Whereas*, A number of physicians practising on the East Side of the Borough of Manhattan have been arrested on warrants in criminal proceedings instituted by the Commissioner of the Health Department without previous notice, warning, or opportunity to present their defence of alleged charges of larceny in accordance with the best traditions of the Health Department, and

"*Whereas*, This hasty, unwarranted, and unprecedented aggressive action of the Department may tend to alienate the rank and file of the profession from their natural union and coöperation with the said department, and

"*Whereas*, The medical profession of this city as a unit has always stood ready to serve the Department of Health without fee or favor, be it

"*Resolved*, That the physicians of the East Side, in mass meeting assembled, deplore the circumstances and emphatically protest against the unmerited and summary procedure of the Department of Health, a procedure which demoralizes the community, offends the profession, and gravely injures the accused physicians and their families by branding them as common criminals, and be it further

"*Resolved*, That a copy of these resolutions be forwarded to his Honor, the Mayor of this city to the Commissioner of the Health Department, and to the press."—Signed, Dr. Julius Solow, President; Dr. I. Wm. Schapiro, Secretary.

Drs. Clarence A. McWilliams and Forbes Hawkes have been appointed Instructors in Surgery in the College of Physicians and Surgeons of Columbia University, New York.

The Stevens' Triennial Prize of Columbia University for original research has been awarded to Drs. L. Pierce Clark and Thomas P. Prout of New York upon "Status Epilepticus: A Clinical and Pathological Study of Epilepsy."

A Medical Protest against the Kishineff Massacre.—At a meeting of the Eastern Medical Society of this city, held June 12, resolutions were adopted deploring the massacre of Kishineff and protesting against the renewed outbreak of persecution of the Jewish inhabitants of Russia, which has been made possible by the culpable neglect of the government. The resolutions call for the exercise of the good offices of the United States Government in obtaining from the Russian Government better protection for its citizens of the Hebrew race. The following are the members of the executive committee signing the resolution: Drs. A. E. Isaacs, A. Rovinsky, D. Robinsohn, J. Barsky, and Z. Scharfin.

Organization of the Louisville Academy of Medicine.—On Wednesday evening, June 3, 1903, at the Louisville Hotel, the Practitioners' Club and the Falls City Medical Society met and amalgamated, forming the Louisville Academy of Medicine, with twenty-eight members present. The following officers were elected: *President*, Hugh N. Leavell; *Vice-President*, John J. Moren; *Secretary*, Hugh R. Manning; *Treasurer*, Dr. W. A. Jenkins. A paper on "Tumor of the Kidneys" was read by Dr. Charles G. Lucas, who exhibited a pathological specimen, removed at postmortem.

Foot-and-mouth Disease.—The Secretary of Agriculture, having completed a careful investigation of the States now in quarantine for foot-and-mouth disease, through the inspectors of the Bureau of Animal Industry, without finding any cases of the disease during the last five weeks, has offered a reward of $250 for all cases, in either Massachusetts or New Hampshire, that are reported prior to July 1. The nature of the disease must be confirmed by the inspectors of the Department. The object is to ascertain with all possible certainty that the disease has been entirely eradicated, before the quarantine is removed and foreign countries are asked to receive again live stock from New England ports. It is believed that the disease has been entirely eradicated, and this reward is offered as a final effort to discover any traces of contagion that may possibly exist.

Suit of an Opera Singer against a Physician.—A well-known opera prima donna of Munich, Mme. Mikla Ternina, has brought suit for 50,000 marks against her physician. She suffered severely from trigeminal neuralgia and, while under treatment for the same, became partially paralyzed in the left side of the face. She was led to believe that the remedies employed for the neuralgia brought on the paralysis.

Tri-County Medical Society of South Jersey.—A society with this name was organized on May 27, at Woodbury, N. J., at a meeting of physicians for the counties of Cumberland, Salem, and Gloucester. The following officers were elected: *President*, H. A. Stout, Wenonah; *First Vice-President*, B. A. Maddington, Salem; *Second Vice-President*, N. W. Elmer, Bridgeton; *Secretary* and *Treasurer*, George Evans Reading, Woodbury; *Executive Committee*, L. M. Halsey, Williamstown; E. E. DeGrofft, Woodstown; and D. Oliver, Bridgeton.

Alabama State Medical Association.—At the annual meeting of this society at Talladega, the following officers were elected: *President*, M. B. Cameron of Sumpterville; *Vice-President*, J. R. G. Howell of Dothan; *Secretary*, Lewis C. Morris of Birmingham; *Treasurer*, H. G. Perry of Greensboro. The annual meeting for 1904 will be held in Mobile.

Mississippi State Medical Association.—At the annual meeting of this society at Vicksburg, the following officers were elected: *President*, C. D. Mitchell, Pontotoc; *Vice-Presidents*, Joseph Waldauer, Vicksburg; May F. Jones, Columbus; B. L. Culley, Jackson; *Secretary*, J. J. Haralson, Forest; *Treasurer*, Dr. J. F. Hunter, Jackson. The annual meeting for 1904 will be held at Pass Christian.

American Congress on Tuberculosis.—At a conference of the officers and Advisory Committee of the American Congress on Tuberculosis, held in New Orleans, May 7, some important changes were made in the plans as previously announced. The previous plans of the Council to hold the congress in St. Louis, in 1904, were changed, many considerations favoring Washington, D. C., as the place of meeting. A change of time of meeting was also

made to April, 1905. The change in date was made so that there should be no interference with the International Congress on Tuberculosis which is to be held in Paris in 1904. A committee was appointed to have charge of the Section on Pathology and Bacteriology, as follows: Dr. Simon Flexner, Chairman, Drs. William H. Welch, George J. Adami, Theobald Smith, and F. F. Wesbrook.

A Birth Benefit Company.—The American Mothers Association of the United States has organized what it calls a "birth insurance society," for the benefit of its members who justify their title to membership by becoming mothers. The monthly dues are only $3, and the payments made to the policy-holders giving birth to a living child are from $200 to $500, according to the length of time during which the monthly premiums have been paid. The benefits are restricted to associate and junior associate members of the Mothers' Association, and the only restriction is that "no person shall receive any benefit for a birth which occurs within nine months from the date of payment of the first regular assessment," which is probably of the nature of the suicide clause in the older life policies and intended to discourage attempts to beat the game.

Dr. Frederick E. Lambert of Jersey City has been appointed trustee of the City Hospital to succeed Dr. John J. Baumann who resigned recently.

Decision against the State Veterinary Examiners.—A case which may have an important application in the interpretation of the medical practice law of this State has recently been decided in Troy. The State Board of Veterinary Examiners refused to accept as satisfactory the testimony of an applicant for license that he had practised veterinary medicine for three years prior to the year 1900. The applicant carried the case to the courts, and Justice Howard, in Special Term, at Troy, has decided that the Board must recommend the issue by the Regents of a veterinarian certificate to the applicant, accepting his affidavit as sufficient evidence of previous practice.

A Suit for a Stomach.—A Milwaukee surgeon, performed a gastrectomy on a woman some time ago and kept the part removed among his pathological specimens. The son of the woman has now sued the surgeon for $5,000, the alleged value of the purloined stomach.

Drug Inspections in Massachusetts.—At the recent annual meeting of the Massachusetts State Pharmaceutical Association a resolution was passed protesting against the action of the State Board of Health in inspecting, from time to time, the stocks found on the shelves of the retail druggists. Some of the examinations of drugs, like those made in New York and other cities, had shown that the crime of adulteration and substitution of drugs was by no means uncommon.

The Indiana State Medical Society.—At a meeting of this society held at Richmond, on June 4 and 5, the following officers were elected: *President*, Jonas Stewart of Anderson; *Vice-President*, Chas. A. White of Danville; *Secretary*, F. C. Heath of Indianapolis; *Assistant Secretary*, C. T. Hendershot of Connelton; *Treasurer*, A. E. Bulson, Jr., of Ft. Wayne.

Obituary Notes.—Dr. Isaac Newton Love of this city, recently of St. Louis, died of apoplexy on the steamship *Aurania* as the vessel was entering New York harbor on the morning of June 18. He went to Paris with a patient about a month ago and returned by way of Liverpool. The voyage was a pleasant one and Dr. Love was apparently in excellent health and spirits and was the life of the ship. He was at breakfast and presiding at a meeting which had been called to present congratulatory resolutions to the captain when he fell to the floor and died immediately. Dr. Love was born in Barry, Pike County, Ill., in 1848. When thirteen years old he went to St. Louis to live in the family of a relative, Dr. John T. Hodgen, who was a famous surgeon. He studied in the St. Louis high schools, and in 1872 he received the degree of M.D. from the old St. Louis Medical College of the Washington University. He was the city physician of St. Louis for a time. He devoted special attention to the diseases of infancy and childhood. In 1887 he was made president of the Mississippi Valley Medical Association. In 1889 he was elected president of the section of diseases of children of the American Medical Association, and also one of the trustees of the *Journal of the American Medical Association*. That year, also, he was chosen president of the American Editors' Association. In 1890 he issued the first number of the *Medical Mirror*, of which he continued as editor after his removal to New York, although the publication office is in St. Louis.

Dr. John C. Halstead of this city died at his home on June 17 of tuberculosis of the bladder. He retired from active practice several years ago on account of ill health. He was born in Harrison, Westchester County, and was graduated in medicine at the New York University in 1883.

Dr. Orpheus Everts of Cincinnati died on June 19 at the age of seventy-six years. He was a graduate of the Indiana Medical College, Laporte, in 1848, and received a second degree from the Rush Medical College, Chicago, in 1867. He had been superintendent of the Cincinnati Sanitarium since 1880, and was a member of the American Medical Association, the Mississippi Valley Medical Association, the American Medico-Psychological Society, the Ohio State Medical Society, and the Cincinnati Academy of Medicine.

Subcutaneous Injection of Paraffin.—Kofmann utters a word of warning against the indiscriminate employment of Gersuny's method of prosthesis by this means. He himself carried out the technique with great success in a number of cases of saddle nose, depressed scars, and even for deformity following amputation of the breast, when he undertook to apply it for the correction of a slight prolapse of the uterus. Two injections had been made through the same puncture, and the syringe was being emptied for the third time when the patient suddenly began to cough, and within twenty-four hours was dead of pulmonary embolism. The author, therefore, warns against using this procedure in gynecology, and in any region of the body where anastomosing vessels are numerous and advocates the routine use of a paraffin, having a melting point of 57-60° C, injected from a syringe inclosed in a non-conductor of heat.—*Centralblatt fur Chirurgie.*

Neurasthenia in Children.—Luigi Cappelletti gives the various symptoms of this disorder, but considers that the absolutely characteristic symptom is a special attitude of the mind, which he calls a state of doubt. The children are in a continual condition of hesitation, which leads to inability to finish work, as in school, a tendency to isolate themselves from their playmates because their constant hesitations put them out of tune with their more lively and decided companions, and a general morbidity of character, with a tendency to analyze their sensations and motives. Such a condition of doubt should arouse the attention of the physician, who, by prescribing special treatment for the development of energy and resolution may avert life-long suffering to the patient.—*La Riforma Medica.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

GENERAL MEDICAL COUNCIL; THE CONTROVERSY WITH THE COLLEGES; FINANCIAL DIFFICULTIES—ROYAL MEDICAL CHIRURGICAL SOCIETY—PHENOMENA OF DROWNING AND RESUSCITATION OF THE APPARENTLY DROWNED—DEATHS OF DRS. HAVILAND, D. JONES, AND DELLER.

London, June 5, 1903.

The Medical Council came to no conclusion as to its dispute with the two royal colleges. You will remember I gave you an account of the matter last year, so far as it had then progressed. It has been drifting ever since, but whether these august powers will drift into war remains to be seen. At present there is a sort of truce. The council disapproves of the action of the colleges in recognizing school teaching in chemistry, physics, and biology as a part of the five years' curriculum. The colleges have recognized thirty-four secondary schools as places of study in these subjects, and say if the preliminary examination has been passed, and the equipment of the schools is up to date, prolongation of study at these schools is better for boys than too early entry at hospitals.

The council had before it the report of the Education Committee, which states that any period from three months to a year passed in study of one, two, or all three of the above subjects, at these secondary schools, is permitted by the colleges to count as part of the five years' curriculum. But the report also says that in the majority of these schools biology is not taught at all, and the instruction in physics and chemistry occupies less than fifteen hours a week—in many much less. It seems actually possible for six months of the curriculum to be constituted by a course of chemistry and physics limited to four or five hours a week, taken out at an ordinary grammar school during school hours, or at a technical institute's evening classes.

The colleges are inclined to stand on what they hold to be their legal right to regulate their curriculum.

The council has no means of enforcing its view short of representing to the Privy Council that the course of study of the conjoint board of these two colleges is not sufficient. Sir Victor Horsley would do this and would no doubt be supported by most reformers, but the council hesitates as usual at any decisive action "letting I dare not wait upon I would." Result—resolution to hold a special meeting in July to consider this and other reports on examinations not yet to hand.

This extra meeting will, of course, entail extra expense, and the next important subject taken up was the financial position of the council. The report on the careful memorandum of the president on this matter suggesting that the council should receive a grant in aid, as the Incorporated Law Society does, was brought up and discussed. On this I remark that the lawyers are strong enough in the House to enforce their claims to consideration, which is not the case with us.

Some councillors objected to asking money from the government lest unpleasant conditions should be imposed. One expressed an opinion which is pretty general outside but did not seem welcome within, that the council did not manage its business properly, and gave too much attention to things which would be as well let alone. Another said that as trustees they ought to avoid extravagance on one hand and niggardliness on the other. The old political cry of "Peace, retrenchment, and reform," was quoted, which provoked the more modern cry of "efficiency."

Sir V. Horsley proposed to reduce printing bills, traveling allowances, and other items. These suggestions were well received—not so a further one to prolong the sittings for an hour a day.

These hard-worked gentlemen could not curtail their time of amusement in their jaunts to London. Four hours in the council room was declared by one member to be fatiguing enough at a time. The atmosphere is certainly rather close. Eventually it was agreed, by a majority, to ask for a government grant.

In 1892 the Royal Medical and Chirurgical Society appointed a committee to inquire into the phenomena attending death by drowning, and the means of promoting resuscitation in the apparently drowned. The report of this committee was presented by Professor Schäfer at the last meeting. A former committee of the same society in 1862, reported in favor of Silvester's method, and that became almost universally employed, but it seemed that further investigation was desirable, and so the society appointed the last committee. The report gives an account of some physiological experiments and also experiments designed to measure the amount of air taken into or forced out of the lungs by the various methods of artificial respiration, following thus the lines of the 1862 report. No less than ten different methods were tested, all of which proved competent to effect a sufficient exchange of air to maintain the oxygenation of the blood. The smallpox amounts were given by the plan of simple traction by both arms, the subject being supine. Rolling the subject alternately from the lateral or latero-supine to the prone position, with alternating pressure upon the back of the thorax was very effectual. The pressure applied to the back was more evenly distributed than otherwise, and simple rhythmic pressure in the prone position was recommended for a prominent place in directions for the resuscitation of the apparently drowned.

The experiments showed the great length of time immersion might occur and recovery follow—in one case eight minutes. In other cases a much shorter immersion was followed by death in spite of artificial respiration; in two cases, in spite of the reëstablishment of natural respiration. Sometimes this was due to heart failure, sometimes to deficient aeration of the blood by the respiratory movements. The amount of frothy mucus seemed to have an important influence. Sea water gave less rapid results than fresh water. The injection of suprarenal extract to antagonize the lowering of blood-pressure had a very transitory effect. These are only some of the points in this report, which is deserving of attentive study.

In the discussion that followed, Dr. Silvester said the committee had not followed exactly his method, as they had not placed the body on an inclined plane, which was essential. The rolling method was likely to force the contents into the pharynx, whence they might pass into the air passages. He thought the report rather retrograde. He thought experiments on animals under anæsthesia were not altogether comparable to cases of accidental drowning.

Dr. R. L. Bowles expressed the same opinion as to anæsthetics, and said the condition of the lungs in dogs drowned experimentally differed from that found in man. The supine position let the tongue fall back, which, with the mucus in the pharynx, hindered the artificial respiration. He held that the public should be taught only one method—and that Marshall Hall's.

Dr. Woods said that the first thing was to get rid of the water from the lungs, and the prone position was the one for that. Often too little pressure on the back was employed.

Dr. Hewitt compared death by drowning and anæsthetics. Often spasm prevented the entrance of air. Perhaps the inflation method might meet such cases.

Dr. Pembey attached very little importance to the amount of air forced into the lungs, as a few extra respirations made up the deficiency. The influence of the nervous system could not be overlooked in man.

Mr. Alfred Haviland died on the 30th ult., aged seventy-eight years. He was deeply interested in climatology and meteorology as connected with the distribution of disease, and wrote many papers on such subjects. At one time he lectured at St. Thomas' Hospital on the geographical distribution of disease. His work on the distribution of cancer and phthisis in 1875 produced a great impression. He had written on climate and weather twenty years before that, and he has continued his work to the end of his life. The article on medical geography in Allbutt's System being from his pen, and he gave an inaugural address on this subject as an aid to clinical medicine in 1897. For nearly three years he has been incapacitated by illness.

Dr. David Jones died on the 20th ult., at the age of seventy-six years. He practised for about forty years in a suburb of Liverpool.

In contrast with this, Dr H. G. Deller did not enter into practice at all, but was cut off by phthisis after a brilliant career at Cambridge, where he took his M.A., M.B., and B.C. He also took the diplomas of the two colleges (1898). He went to South Africa to try the effect of climate—afterward to Davos Platz, where he died on the 26th ult., aged thirty-one years.

The Diagnosis of Meningeal Hemorrhage.—Fernand Widal says that at the present time this disease is one of the affections the diagnosis of which is the least difficult to establish. Kernig's sign indicates the meningeal lesion, and lumbar puncture by demonstrating the presence of blood in the spinal fluid furnishes the proof of the hemorrhagic nature of that lesion. The nature of the blood found in the fluid is of importance in the diagnois, nor is it an easy matter to decide as to its source. A careful study must be made of the intensity of coloration, the coagulability of the fluid, and the variations found in the fluid obtained by several punctures.—*La Presse Médicale*, June 3, 1903.

OUR LETTER FROM THE PHILIPPINES.

(From our Special Correspondent.)

THE PROBLEM OF SAN LAZARO HOSPITAL—LEPROSY IN THE PHILIPPINES—PROSTITUTION IN MANILA—SANITARY EXAMINATION OF PROSTITUTES—DETENTION CAMP FOR CHOLERA, SMALLPOX, AND PLAGUE SUSPECTS—CONTAGIOUS DISEASE HOSPITAL—THE MANILA CITY MORGUE.

MANILA, APRIL 28, 1903.

ABOUT a mile from the business section of Manila is located the San Lazaro Hospital, a large, rambling old pile, built some three centuries ago, and inherited from the former Spanish administration here. It is a two-story structure, built around a central court and having projecting wings. The buildings are of stone, with enormously massive walls many feet thick, pierced by infrequent and small, grated windows, and altogether the architectural effect is more like that of a fortress or a dungeon than a hospital. The basement rooms are low, dark, damp and poorly aired, the water supply is insufficient, and the little plumbing and sewerage provided is poorly planned, badly constructed, and in worse repair. The whole institution is something of a white elephant on the hands of the health authorities, as much money has been expended on it by the Spaniards, and the buildings are strong and substantial to the last degree, having withstood the ravages of time and the earthquakes of three hundred years with little injury. It would seem desirable, if possible, to utilize these buildings as far as practicable, in the interests of economy, yet their plan, arrangement, and construction are such that they would have to be so extensively altered and remodeled that it would probably be as cheap, and certainly more satisfactory, to abandon them entirely to other uses and build a new hospital elsewhere. Unfortunately, the buildings are so located and planned as to be of little value except as a penitentiary or for storehouses, and there is no present necessity for either. A government hospital for the insane is much needed, and it has been proposed to put these buildings to that use, but they are thoroughly unsuited for such a purpose. At present the hospital shelters about 200 lepers in one-half of its buildings, and about the same number of prostitutes affected with venereal diseases are held for treatment in the other part of the institution. With the completion of the buildings for the leper colony on Kulion Island in the next few months, the lepers will be removed. The authorities will then have to decide whether the disinfection of the leper buildings is practicable by ordinary measures. These buildings have sheltered several hundred lepers constantly for three centuries, and are certainly thoroughly infected with the lepra bacillus throughout. While the characteristics of the latter have not been thoroughly worked out, it is known to be strongly resistant to drying and to retain its virulence for a long time under such conditions as prevail in the San Lazaro institution. Where everything is so saturated with infectious material, it is probable that all the woodwork should be torn out and burned. The stonework would have to be thoroughly scraped down and plastered over, the present windows must be enlarged and new ones cut, and this would be extremely expensive. After all necessary work had been done only a mere shell would remain, and this would even then be unsuited for hospital purposes. The ground on which the hospital is situated is so flat that there could be no flow of sewage into a distant "estero" without the use of pumping, and the soil is scarcely of the proper character to make its disposal by means of sewage farming a success, and in the wet season the water stands in pools all over the surrounding flat country. For these reasons the problems raised in connection with the remodeling of these old buildings are very serious. The whole institution is enclosed by a high stone wall, and the enclosed space is further divided into smaller areas by division walls. The detention camps for cholera, plague, and smallpox contacts being located in one of these spaces.

The type of disease presented by the lepers in the hospital is chiefly of the tuberculous form, and few of the cases appear to be far advanced. Mutilation of the extremities seems to be infrequent, and the horrible disfigurations so common in the lepers seen in the countries of Spanish America are relatively rare here. The sexes are about evenly divided, and a large number of the patients are children. A native Filipino doctor is in direct charge of these unfortunates, who are nearly all Filipinos. There are two or three Chinese lepers, but no whites. The lepers appear to be cheerful and contented, though a half dozen are said to have escaped when they were informed of their probable early removal to the leper colony on Kulion They have their own theater, chapel, and school. Those less affected perform all the work for the leper hospital, for which they receive the same pay as the attendants in the women's department of the hospital The cooks are leprous, and order is maintained by several lepers who are paid to perform police duty and who seem very proud of their authority, uniforms, and policemen's clubs. The money that the lepers receive for their services they use to purchase delicacies, and to send to their friends and families outside. The institution is as neat, clean, and well kept as the faulty arrangement, construction, and lack of modern sanitary conveniences permit, and there is no overcrowding. There is no communication between the leper department and the rest of the institution, except through the physicians in charge.

The cases of leprosy presented seem to be of an unusually slowly progressive type. Treatment is purely symptomatic; the various specific treatments have been tried and found wanting. Only a few of the patients are in such condition as to require frequent medical attention. The good results reported from the use of the *x*-ray and the Finsen ray in lupus and the treatment of neoplasms has induced the authorities to order the necessary apparatus for a thorough trial of these methods of treatment; the apparatus has not yet arrived and probably will not be installed at San Lazaro but sent direct to the leper colony on Kulion Island.

The women's department of the hospital at present contains about 200 prostitutes affected with venereal disease, of whom 100 are Filipinos, 85 are Japanese, and the remainder are white—chiefly Russians. There was one American. There are between 400 and 500 prostitutes living in the municipal district in which they are segregated in Manila, and of these about one-half are at present diseased. The women's department at San Lazaro is at present filled to its utmost capacity, and a few prostitutes are consequently receiving treatment outside. The known prostitutes are, as already mentioned, segregated in a certain district of the city, as far as possible, and are kept under sanitary supervision. They are not licensed or registered, but are now examined by a city physician at intervals of about one week, and smears are made from each individual at the time of examination, marked by name and sent to the Government Laboratory for microscopical examination. This microscopical test reveals many cases of gonorrhœa which would otherwise be passed over If a woman is found to be diseased, the case is reported to the police, who order the woman to enter the hospital for treatment, under the municipal laws governing the control of contagious diseases, by the health department. After entering the hospital the woman is kept there until cured —in the case of gonorrhœa, she is kept there until smears made for several consecutive days, from the urethra and from the cervix, fail to show the presence of gonococci on microscopical examination. It not infrequently happens that this test remains positive for some time after the gross visual signs of the disease have disappeared. Gonorrhœa is by far the most common disease among the public women, especially among the Japanese prostitutes, who seem to have a special resistance to syphilitic infection. Chancroids are relatively much more common among the Filipinos than other nationalities. Syphilis is relatively rare among all these women. The examinations at the hospital are conducted by the two physicians attached to the department, one of which is an American and in charge of the whole San Lazaro institution. They verify conditions, make the microscopical specimens and prescribe the treatment: the latter being given by the native female nurses attached to the institution. Gonorrhœal cases receive two vaginal injections daily, potassium permanganate or benzozone solutions being commonly used. Chancroids are cauterized and treated antiseptically—the local application of a paste of benzozone crystals to the lesion is said to have given very excellent results in many cases. The usual treatment is followed in respect to syphilis. A row of reclining tables and siphon bottles of solutions enable the douches to be given quickly and effectively. A matron and the female nurses preserve order. The women are very quiet and orderly and make little trouble. The Japanese are especially tractable. The Filipinos occasionally disagree among themselves. The white prostitutes chafe more under the restrictions and the few of them make more trouble than ten times their number of Japanese and Malays. One recently attempted to take out *habeas corpus* proceedings, but was informed that if she were successful she would be arrested and sent to Bilibid prison under the laws governing vagrancy—which alternative has operated to prevent further attempt at recourse to the courts. The food is good, well cooked and of ample variety, costing about forty-five cents Mexican per day. It is better than anything that the Filipinos and Japanese are accustomed to eat. The white prostitutes are fed on a somewhat better scale, to avoid too much complaint, as they have usually been accustomed to living well.

The entire expenses for treatment and subsistence are borne by the Government, and the women have no expenses from the time they enter the hospital until they

leave it. As the system is operated, there is no attempt to create any official recognition of vice or the licensing of prostitutes. The women are regarded from exactly the same sanitary standpoint as suspects or contacts with bubonic plague, smallpox, or cholera would be regarded, and, like the latter, they are examined from time to time to ascertain if the suspected disease has developed. Should the latter be the case, they are isolated and given medical treatment like any other individuals affected with a dangerous communicable disease. The whole thing is a practical sanitary proposition and is handled as such, any abstract questions of the immorality of prostitution not entering into consideration as having no relation to the public health. The system is not as perfect as could be devised, but is efficient so far as it goes. The unfortunate women receive good care and medical treatment, and are themselves much benefited thereby, while the enforced isolation of some two hundred cases of communicable disease cannot fail to have a pronounced and markedly favorable effect upon the public health. In few cities in the United States is the delicate sanitary question of prostitution in relation to venereal disease handled as well as here. The women, especially the Japanese, rarely leave their houses, or appear on the streets, and when they do they conduct themselves in public in such a manner as to attract no attention and give rise to no offence. Such a thing as solicitation, so common in New York and other large home cities, is practically unknown here. As the system is operated under local municipal laws, it is fortunately beyond the reach of the professional reformers at home. A stricter system prevails in some of the towns of the Southern islands, where venereal disease, by rigorous inspection and control, has been rendered as rare among the public women as it is common among the prostitutes of the United States. While on this subject, it may be mentioned that there is little venereal disease in the country districts, except what is imported. This is explained by the fact that outside of the cities there is little public prostitution, and this, in turn, is influenced by the existence of a general system of concubinage among the natives, in which the Filipino public sentiment sees no harm. The native women are *un*moral rather than *im*moral. Many of them live with a man, bear him children and remain true to him for the sake of a mere subsistence where they would repudiate the idea of general prostitution for purposes of gain. Such women lose no prestige among the lower native classes because of the position they occupy. If such a woman becomes infected with venereal disease, the chances are extremely small that she will communicate it to others of the opposite sex, and for this reason the proportion of such disease in the smaller communities is relatively small.

It is expected that the present more searching and scientific methods of examination of prostitutes in Manila will greatly reduce the amount of venereal disease among them. Until very recently the system of inspection practically existed in name only. A native physician was in charge of the matter, and his work was not at all satisfactory. Microscopical methods of diagnosis were not used by him. When he was relieved and an American physician, lately, put in charge, the amount of venereal disease among the prostitutes was found to be six or eight times greater than was reported by the Filipino doctor previously in charge. The system of inspection and isolation must be conscientiously and scientifically carried out by competent men—when it is so carried out it is of very great sanitary value. The arguments urged against the system by its opponents with respect to its sanitary inefficiency do not apply where the work is as thoroughly done as has lately been the case here. No harm is done thereby and much good results. One American female reformer recently objected to it in a newspaper interview, on the ground that the examination "humiliated" the prostitutes, but this objection would not seem to apply to a class that is ready at any time to be "humiliated" for the sake of gain.

Within the main walls surrounding the San Lazaro hospital, occupying a large enclosed space, is located the detention camp for contacts with cholera, smallpox, and plague cases. The buildings are of bamboo, with nipa thatch roofs, and are elevated several feet above the ground. They consist of long pavilion buildings, divided into small rooms by walls of bamboo, the latter reaching nearly to the ceiling. Each room has its own door and is intended for the shelter of a family. The camps, as a whole, may be capable of accommodating a thousand persons. The buildings are not at all suited for the purpose for which they are intended, inasmuch as they are built of porous and retentive material, and if once infected, their disinfection would be most difficult. They were hastily constructed on the sudden outbreak of cholera, when there was neither money nor opportunity for the erection of structures of more desirable type and material. At present their capacity is largely in excess of the needs of the city, but this excess may be of much advantage should the anticipated recrudescence of cholera occur with the beginning of the rainy season. As the life of buildings of bamboo and nipa is but a short period at the most, the detention camp will have to be rebuilt within a few years. By that time the future of San Lazaro Hospital will have been decided, and solidly constructed buildings for a permanent detention camp can be leisurely erected on the present site or on some location elsewhere.

The contagious disease hospital, with detached wards for smallpox, cholera, and plague, is located on the other side of San Lazaro hospital, outside its walls and some 600 yards from the detention camp. The buildings are poor, and their arrangement, capacity, and location are unsatisfactory. They are on a well-traveled road and there is a cluster of native houses only a short distance away. The hospital buildings are not fenced in, and there is no way of preventing a certain amount of communication between the native employees and those outside. The authorities are planning to remove the entire establishment inside the San Lazaro walls, and in the meantime have ordered the road closed and the contagious disease hospital enclosed by a high board fence. At the present time the hospital contains eighteen or twenty smallpox cases and eight or ten of plague.

The best sanitary feature of the San Lazaro establishment is the new city morgue, which is now being constructed on one edge of the San Lazaro grounds. This is a permanent building of wood and iron, and is fitted up in a thoroughly sanitary, though inexpensive, manner. There are no facilities for the preservation of bodies, and the latter will be sent to the morgue only for a few hours' stay, for the performance of autopsies, and to provide for their final disposition. The bodies of the unclaimed dead and those dead from plague, cholera, and smallpox are disposed of by cremation, except in the case of Americans and Chinese, the bodies of whom are buried after being packed in quicklime and enclosed in hermetically sealed metal caskets. The city crematory, where the bodies are incinerated, is also located on the San Lazaro grounds. It is fitted up as a general crematory, and much combustible refuse, carcasses of animals, etc., are destroyed therein. Thus, during the month of January past, there were 3,046 carcasses of animals and 1,819 loads of refuse destroyed by cremation. A small disinfecting plant is now being set up near the detention camp, for use in connection therewith.

Progress of Medical Science.

The Boston Medical and Surgical Journal, June 18, 1903.

A Case of Paget's Disease of the Nipple Treated by the X-Ray.—Edith R. Meek reports the case of a colored woman, aged thirty-two years, suffering from Paget's disease of the nipple. Operation was advised and refused. *X*-ray treatments were given. Within ten days marked improvement was noted; at the end of the fourth week the nipple and areola were perfectly normal in appearance. At the beginning of the sixth week microscopical examination was made with the report of normal skin and subcutaneous tissue.

Hæmostasis by Compression and Heat.—John W. Keefe states that his experience with the Downes' electrothermic angiotribe has convinced him that he can dispense with the use of the ligature—certainly to a great extent, if not wholly. He reports a series of 50 cases in which the electrothermic angiotribe was used; 45 cœliotomies, 13 abdominal hysterectomies, 2 salpingo-oophorectomies, 28 appendectomies, 2 ovarian cysts, 1 resection of intestine, 1 nephrectomy, 1 amputation of thigh, 1 amputation of leg, 1 varicocele, 2 hemorrhoids, 1 removal of Meckel's diverticulum, 1 ruptured tubal pregnancy, 2 vaginal hysterectomies. The instrument perfected by Downes, known as the electrothermic angiotribe, is unquestionably of practical value, as shown by the results in the foregoing cases, no secondary hemorrhage having taken place. The femoral was clamped in a thigh amputation and the anterior and posterior tibials in an amputation of the leg. The writer found the clamp useful doing a gastroenterostomy. He speaks of the most interesting case to him as that of the resection of fourteen inches of the intestine on a man, following numerous experiments on dogs. The author sums up the advantages of the use of the electrothermic angiotribe as follows: the exclusion of the ligature, hæmostasis *en masse* or of isolated blood vessels, aseptic gastrectomy, gastroenterostomy and resection of intestine, appendectomy, salpingectomy, extension of septic material during operation being rendered impossible, sterile occlusion of the Fallopian tube, absence of irritable and painful stumps, less tendency to post-operative adhesions, rapidity of operation, no secondary hemorrhage from

slipping of ligatures or suppurating sinuses due to ligatures, less pain subsequent to operation, and no puckering or dragging on the tissues. It is of special value in removal of cancer, as there can be no danger of inoculation, with cancerous material during the operation, and the heat destroys the cancer cells beyond the point of application of clamps.

Journal of the American Medical Association, June 20, 1903.

Prolonged Withdrawal of Food in Certain Cases of Intestinal Disorder.—T. D. Parke advances two propositions: first, that infants can be safely deprived of all food except water for much longer periods than have been formerly advised, and, second, that in the management of severe cases of intestinal disorder, this withrawal is of the greatest therapeutic value. He records the case of an infant of ten months with ileocolitis, who for five days was kept on water alone, baths being used to reduce temperature. At the end of this time three ounces of albumin water were given, but all the symptoms were aggravated by it, and recourse was again had to the water diet for three days longer. At this time the fever abated, the stools changed, diluted food was given, and the child went on to recovery. Parke notes that children under this method do not emaciate as much as might be supposed. It is not to be tried indiscriminately, and his contention is that not time but the character of the stools and the general condition of the patient should be the rule for the return to food.

Aphthæ and Herpes Contracted by Children Drinking Milk from Cows Suffering from Foot-and-mouth Disease.—E. F. Brush reviews the histories of several epidemics of the source and nature indicated by the title of his paper, and appends abstracts from the literature of the subject. He notes that there is an aphthous condition of the young in both the bovine and human families that is non-contagious, and there is also an aphthous condition in both these species that is contagious, and the similarity between the contagious and the non-contagious in both families is so marked, clinically, that it is very difficult to separate them; in neither of the families and in neither the contagious nor non-contagious affection has, up to the present time, any pathogenic organism been discovered, and in the contagious affection, contrary to the general rule, one attack does not give immunity. Therefore, the only way to diagnose in the human young a stomatitis aphthosa acquired from the bovine race would be from a knowledge that the milk comes from an infected herd. All the literature points straight to one fact, namely, no matter how severe the affection may be, if it is caused by the milk it subsides very quickly without further treatment by simply stopping the milk. So it follows that the simplest way to diagnose between contagious and non-contagious stomatitis aphthosa in the milk-fed young is to stop the milk. Then, if the milk was the cause, the diagnosis is made and the affection cured.

Management of Catarrhal Pneumonia in Infants.—C. G. Kerley notes that at the commencement of the disease every child has a definite resistance with which to withstand the disease. Every unit of this must be conserved by treatment. Irritability, restlessness, and loss of sleep are tremendous forces against recovery. Special attention must be paid to ventilation. The patient must not be over-clothed. The oiled-silk jacket is useless and even harmful. Food should be reduced to from one-third to one-half by dilution with water, so that the quantity given remains the same. Children from two to four years may have diluted milk, gruels, and broths. The patient should not be disturbed oftener than once every three hours, and at such time all the nursing offices should be performed. The bowels should act once daily. Kerley places great reliance on steam inhalations and mustard plasters for counterirritation, but very definite directions must be given for the latter, else they will probably be of very little value. Hot mustard baths are useful in cases with a sudden invasion, high fever, rapid breathing, and cold extremities. Internal drug treatment is to a large extent symptomatic. Cough syrups should be avoided. The necessary remedies can be given in tablet or powdered form. The ammonia salts are useful during resolution, but should not be given as a routine measure, for they are apt to upset the stomach. Tartar emetic and ipecac form a valuable combination. For reduction of fever, if bathing cannot be carried out or does not prove efficient, we may give caffeine, Dover's powder, and phenacetin. Heart stimulants are called for when we see that the heart needs assistance but not before. Tincture of strophantus is the author's favorite drug for this purpose. Strychnine may be added to the strophanthus if necessary. Alcohol is to be avoided unless other means fail. In cases presenting cyanosis with cold extremities nitroglycerin may be given. In severe cases with restricted breathing space oxygen may be used. As a general all round antipyretic measure, the author advises the cold pack. Properly applied, it is free from all danger. In conclusion, he states that in catarrhal pneumonia the administration of drugs is of secondary consideration. We first make the child comfortable, place him under proper diet and hygienic rules of living, use local applications, steaming, and means other than the internal use of drugs, when possible. When drugs are given they should, without compromising their efficacy, be made as innocent as possible.

The Medical News, June 20, 1903.

A Contribution to the Pathology and Prognosis of the Diseases of the Bladder.—Robert Holmes Greene and Harlow Brooks conclude: (1) The most frequent cause of diseases of the bladder is: (*a*) Lesions of the central nervous system, causing dilation, (*b*) septic processes of various varieties, (*c*) hypertrophy of the prostate. (2) In all conditions in which the spinal cord or central nervous system is involved, frequent and early catheterizations should be resorted to, to prevent the bad effects of overdistention, or the possibility of cystic rupture. (3) Conditions of the bladder must greatly modify the prognosis in operative proceedings for the relief of obstructions of the urinary flow, therefore the importance of cystoscopic and other examinations cannot be too strongly insisted upon. (4) Hypertrophy of the bladder wall is due to four different processes, separate or combined: (*a*) Inflammatory infiltration, (*b*) increase of the fibrous connected tissue, (*c*) smooth muscle hyperplasia, (*d*) infiltration by new growth. The clinical symptoms in hypertrophy of the bladder depend on which of these factors predominate.

New York Medical Journal, June 20, 1903.

Whooping-cough; a New Method of Treatment.—The new method referred to in this article by T. W. Kilmer consists in the application of a stockinette band placed on the patient in the same manner as is done in orthopedic surgery preparatory to applying the plaster jacket. Shoulder straps prevent the band from slipping down. Upon this stockinette a single width of elastic bandage is sewed, extending entirely around the body and covering the abdomen. The bandage is fastened on slightly on the stretch. To this apparatus Kilmer attaches the greatest importance as a preventive of obstinate vomiting, especially in nurslings. This prevents inanition and often saves life. A similar band around the chest will often abort the paroxysms of coughing. In some instances a slight eczema is caused, but this clears up as soon as the belt is removed.

Pertussis with Unusual Cerebral Symptoms.—E. E. Graham reports the case of a child aged nineteen months. She had been suffering with pertussis for two months, and three weeks before coming under observation, became dull, apathetic, and finally stupid. She gave constantly low moans and moved the arms and legs but slightly. Coincident with the stupor, the respiration assumed the Cheyne-Stokes' type. Pulse was rapid and there was moderate fever. Sensation was evidently better on the left side than on the right. Temperature sense was well preserved. Motion was better on the left side than on the right. Both eyes were occasionally opened in a sluggish way. There was no facial palsy and no spastic condition. During the five days intervening between the patient's admission to hospital and its death, the temperature rose at irregular intervals. The respiration continued to be of the Cheyne-Stokes' type and a progressively increasing spastic condition was noticed, involving both arms and legs. The stupor increased, but the child was kept alive for a while by tube feeding. Autopsy revealed no cause for the above symptoms and bacteriological tests were negative. The author alluded to previously reported cases presenting unusual nervous symptoms.

American Medicine, June 20, 1903.

Management of Malignant Disease of the Uterus.—Geo. Erety Shoemaker declares that the only hope of permanent cure of malignant disease of the uterus is in the early diagnosis at a time when only one of the classic symptoms may be present, or when no one of them has become marked. The keynote of the whole subject is investigation with the aid of the microscope. In cancer of the body nothing can be detected at first by the eye or hands, except possibly slight enlargement of the organ. The old idea that abnormal symptoms, such as excessive bleeding or discharge occurring in a woman after the age of thirty-five years, may be due to an approaching menopause, has long since been exploded, but it is still responsible for thousands of deaths. Much may be done toward the prevention of cancer by the repair of serious injuries to the uterine cervix and by the connection of its gland degenera-

tions. All cases are suitable for hysterectomy and complete removal of broad ligaments, tubes, and ovaries, as much cellular tissue as is possible about the uterine attachments, and a part of the upper vagina. When the disease is apparently confined to the parts mentioned. In the later stages of recurrent or inoperable growths, the use of the *x*-ray as a palliative in the pelvis appears to be considerably limited by the deep-seated location of the parts. In late cases with sloughing, strong solutions of potassium permanganate give great satisfaction in the hands of the patient for daily use. The cases should be investigated early in which any of the symptoms of cancer are shown. The method of operating must be determined by the case, but every patient should receive in some form thorough treatment by the actual cautery before any lymph spaces are opened by any other form of operation.

Chlorosis.—S. H. Rosenthal says that this disease is nearly always found in girls between puberty and the age of twenty-four years. Some writers claim to have seen it in men, but the reported cases are very few. Among the first subjective symptoms are malaise, headache, languor, vertigo, dyspnœa, and palpitation. There is perversion or loss of appetite. Borborygmus and tympanites are troublesome. These symptoms are often intense. In some cases gastric ulcer exists as a complication. The impoverishment of blood in chlorosis has reference chiefly to the red corpuscles and in less degree to the albuminous constituents of the plasma. There is a reduction in the quantity of hæmoglobin with or without diminution of the cells. This condition of disproportionate diminution of hæmoglobin, known as oligochromæmia, is the distinguishing feature of the disease over all other anæmias. At times there is quite a large reduction of the red cells. The hæmoglobin will be down to 30 or 40 per cent. The white cells are but little affected. There is a great variety in the course and prognosis of chlorosis. The disease never endangers life except by complications. The treatment is comparatively simple when complications do not exist. The tettering of hygienic surroundings in the early stages will often do much. Outdoor life, exercise in moderation, withdrawal from school, no working in shops, good nourishing food, and the internal administration of iron practically completes the treatment. The absolute rest cure is indicated when the disease is well advanced. Arsenic has been strongly recommended. All complications should be met symptomatically and promptly treated. It may, however, be months before final cure is established.

The Lancet, June 13, 1903.

Embolism in Acute Rheumatism.—The patient of A. Brownlie was a boy of eight years with his first attack of rheumatism, in the course of which endocarditis had developed. Suddenly he was seized with a hemiplegia of the right side with aphasia. The upper branches of the facial nerve were not involved, as the orbicularis palpebrarum and the frontalis muscles were intact, this fact pointing to a supranuclear lesion. It was also noted that the voluntary movements of the face were more impaired than the emotional. Electrical tests were not applicable. The hypoglossal nerve was also involved, the patient being unable to put out the tongue straight, but it deviated toward the paralyzed side. The arm was more completely paralyzed than the leg. The thoracic and abdominal muscles were not involved. Hemianæsthesia was present and was more marked in the arm. The deep reflexes were increased in the arm and leg, ankle clonus being well marked. The boy eventually died from asthenia and cardiac failure. No autopsy was obtainable, but the author has little hesitation in saying that there the case was one of embolism of the left middle cerebral artery with softening of the supplied areas of brain tissue, including the posterior part of the internal capsule.

Chronic Volvulus of the Sigmoid Flexure.—H. W. Allingham and E. C. Bridges report the case of a man aged thirty years, subject to attacks of constipation with great abdominal pain and ending in vomiting. As a rule flatus passed during the attacks and the bowels promptly responded to the usual cathartics. No blood or mucus was passed. Following one of these attacks, which did not yield to the usual measures, a distinct sausage-shaped swelling could be felt in the left iliac region. It was very painful to pressure. Symptoms of intestinal construction soon manifested themselves and it was decided to operate. The ordinary incision for left inguinal colotomy was made and a coil of bowel much distended with gas came into the wound. This was punctured and when drawn out was found to be a volvulus of the sigmoid flexure, to which was attached the mesocolon. Adhesions were very numerous. These were broken down and the volvulus reduced. Before the wound was sewed up, the sigmoid flexure was attached by two sutures to the abdominal wall to prevent a recurrence of the volvulus. With the exception of a slight thrombosis in the left leg, the patient made an uninterrupted recovery. Allingham is disposed to believe that the volvulus was always present and gave symptoms only distended with flatus. One year after the operation the patient was reported as being perfectly well. He had had no return of his old symptoms and his bowels acted freely without medicine.

Parasyphilis.—G. Ogilvie defines a parasyphilitic affection as one syphilitic in origin but not in nature. Its two characterisic features are the following: (1) It is met with, independently of syphilis, being due to other causes as well, while true syphlitic lesions, such as mucous patches and gummata, are never produced outside the domain of syphilis; (2) The iodides and mercurials have a totally different effect upon parasyphilitic affections from that which they are known to exercise on true syphilitic lesions. These drugs have on the former either no effect at all, or it is at the best slow and incomplete. Ogilvie reviews the statements made by Fournier and Hutchinson upon the subject. The general argument of his article is that the term parasyphilis is a sort of pathological lumber room—in other words, many lesions following syphilis are called parasyphilitic for want of a better understanding of their relations to the primary specific trouble. He is not disposed to give much credence to the theory of the effect of transmitted syphilis on the third generation. He says that the idea underlying the doctrine of parasyphilis is not new. Any specific disease may lead to sequelæ devoid of all specificity in the same way as war may lead to famine. Under different names, such as quaternary-syphilis, pseudo-syphilis, post-syphilis, etc., exactly the same idea has at different times made its appearance in the history of syphilography. What is particularly new in the modern teaching of parasyphilis is, apart from the name, the enormous extension given to the deleterious and deteriorating influence of syphilis upon the race.

The British Medical Journal, June 13, 1903.

Rapid Effusion of a Large Amount of Fluid into the Pleural Cavity.—W. Hale White reports the case of a woman, twenty-two years of age, who was admitted to Guy's Hospital suffering from tubal nephritis with mitral constriction and incompetence. On December 16, 1892, her right pleural cavity was aspirated, and, as far as could be ascertained, all the fluid which was 36 fl. oz., was removed. Thirty hours after, on December 17, 106 fl. oz. were aspirated; 78 hours after this, on December 20, 120 fl. oz. were aspirated; 30 hours after December 20, on December 22, 50 fl. oz. were aspirated; and on February 12, 1893, 30 fl. oz. were aspirated, making a total of 342 fl. oz. of clear serum removed from the right chest. It appears, therefore, that after the first aspiration, the fluid collected at the rate of 3½ fl. oz. an hour, and after the second and third at the rate of about 1½ fl. oz. an hour.

Morphine in Puerperal Eclampsia.—W. Boxer Mayne reports two cases. The first case was that of a young country woman, about five months pregnant, with a history of two previous miscarriages, who had suddenly fallen into a fit. About breakfast time she had lost her sight for a time, and had "fainted," falling on the grate, rather severely burning her face; during the day she had complained of great headache, and about 7 P.M. had developed the fit referred to, in which she was much convulsed, had gone black in the face, and had bitten her tongue. It being so early in pregnancy, the os being undilated, and not more than two fits having occurred, it was decided that the morphine treatment should have a trial, and accordingly Dr. Mayne gave a hypodermic injection of morphine sulphate gr. ¼, at the same time placing croton oil (℥ij) upon the tongue, and wrapping her in a big blanket wrung out of very hot water. The next day the patient was quite sensible, having had no more fits, and having had free action of the bowels and skin. The woman eventually miscarried some three weeks later, the fœtus having apparently been dead for some time. She progressed satisfactorily. The second case was that of a multipara, eight months pregnant, having had a family of thirteen, in addition to two miscarriages. She had had six fits during the early hours of April 18, the first at 4 A.M. Dr. Mayne was sent for at the onset of the sixth fit; by the time he reached the house the convulsion had passed off, leaving the patient semi-comatose. On the strength of the success in the case already alluded to he gave straightway a hypodermic injection of morphine sulphate (½ gr.), there being no signs of labor setting in. From the time of the injection no recurrence of fits took place. At the same time he had the woman given a hot pack, and had the bowels well cleared out. The same evening he gave another hypodermic injection of ⅓ gr.; by this time the woman clearly understood what was said to her. Urine had been passed during the convulsions, but none during the day. Next day, however, a little

was passed, which on examination contained half albumin. She then commenced to make daily the most satisfactory progress, the urine on the eighth day being free from albumin, and passed copiously.

Berliner klinische Wochenschrift, June 1, 1903.

Does the Glycogen Reaction of the Leucocytes Support Metchnikoff's Theory.—Siegfried Kaminer says that it does not, since it is present in leucocytoses which are not due to infection, but which are produced by other means, such as the inoculation of spermin, etc. Alfred Wolff, in his recent work, has commented upon the irregularity with which he was able to elicit the glycogen reaction in the various infections. This was without doubt due to the methods which he employed. He used Ehrlich's new method, while the extended experience of the author conclusively demonstrates that the reaction is much more regularly produced with Ehrlich's old method. This certainly accounts for the variance between the results of Wolff and those of the author.

Treatment of Chronic Catarrh of the Large Intestine.—J. Boas refers to v. Aldor's recent article in No. 19 of the *Berliner klinische Wochenschrift* (see MEDICAL RECORD, June 6, 1903), and says that it is not possible to accomplish the high enemas there recommended. It is impossible to introduce a tube into the colon from the rectum upward for 85 cm. Much experience, both upon cadavers and the living subject, has definitely settled this point. Furthermore, the histories of v. Aldor's cases are defective. Especially is the diet upon which the patients were placed not mentioned. Boas has for several years treated these cases with good results solely upon dietetic principles. It can at least be affirmed that the favorable results obtained by v. Aldor were not due to the so-called high enemas which he employed, because such are not possible, and that other factors were responsible therefore.

Löwit's Bodies in the Nuclei of Lymphocytes and in Myelæmia.—Paul Reckzeh reports the microscopical examination of the leucocytes according to Löwit's methods in cases of lymphatic leukæmia, pernicious anæmia, myelogenous leukæmia, chlorosis, diphtheria, typhoid fever, scarlet fever, eosinophilia from mercurial dermititis, secondary anæmia in advanced phthisis, and in healthy blood. The bodies as described by Löwit were found in all cases, although most abundantly in those of lymphatic leukæmia. This substantiates the views of Türck and Bloch, that they are not peculiar to the blood of leukæmia. Their significance is in doubt, but it is improbable that they are degenerative appearances as suggested by Bloch, since they are found in non-degenerating leucocytes in fair numbers. Five cases of myelogenous leukæmia were examined for the presence of Löwit's "Hæmamöba leukæmiæ magna." By following his methods these forms were demonstrated in all cases, but they were also abundantly in a case of mercurial dermitis. It is thus seen that these bodies also are not exclusively found in leukæmic blood.

Münchener medicinische Wochenschrift, June 2, 1903.

Necrosis of the Gall-bladder.—Czerny reports two cases and advises against extirpation of the gall-bladder, except in those cases in which the necrosis is extensive. The operation most frequently to be employed is that in which the gall-bladder is opened, evacuated, and thoroughly cleansed. The walls of the bladder are then united and the wound closed, except in those cases in which previous suppuration has taken place when drainage is used. Under the latter circumstances, the biliary fistulæ heal in about three weeks after the operation.

Acute Necrosis of the Mastoid and Temporal Bone Following Scarlet Fever.—G. Heermann reports three cases. The clinical history differs from ordinary mastoid disease in that the initial subjective symptoms are slight and liable to be passed over with but little attention. Herein lies the danger of the condition, for in due time the situation becomes serious, requiring extensive and frequently futile operation. The only safety lies in an early and complete removal of the necrotic bone. The bacteriological status of the necrosis is probably diversified, but in the cases here reported streptococci and staphylococci were found in all.

Fatal Injury from a Horse Kick.—Alfred Riedel reports a case which is of interest on account of the extensive lesions found post-mortem. The patient received a horse kick in the right side of the abdomen. He immediately became unconscious and soon died. Upon autopsy, the abdomen was externally contused. The liver was torn apart and its parenchyma crushed and more or less destroyed. The right kidney fell into two pieces when removed, its substance being greatly mangled. The peritoneal cavity contained an enormous amount of blood, as did also the urinary bladder. The three lower ribs on the right side were fractured, the tenth being broken in several places.

A Case of Synechia Pericardii Treated by Talma's Operation.—Paul Clemens reports a case of synechia pericardii which was of many years' standing, and for the ascites of which all the usual measures had been repeatedly tried in vain. It was finally decided to perform Talma's operation, in the hope that this symptom would be permanently relieved thereby. The result, however, was a failure in that the ascitic fluid began to accumulate in a few days following the operation and maintained fully as large proportions as previous thereto. The reason for the failure of the operation is not plain, but it is probable that the long previous duration of the case was responsible therefor.

French and Italian Journals.

Arsenic in a Hen's Egg.—M. Bertrand, having been led by his researches on the normal arsenic in the organism to believe that this metalloid is one of the constituents of active cells, made a study of hen's eggs from this point of view. His predictions were verified, for he found arsenic in appreciable amounts not only in the yelk, where it is relatively abundant, but also in the white in the shell and in the membranes.—*Revue Française de Médecine et de Chirurgie*, No. 28, 1903.

Puerperal Stomatitis.—Albert Jobin concludes that stomatitis, especially of an ulcerative nature, is one of the complications of the puerperal state. Its nature is that of an infection, and the best treatment consists in washing the mouth with antiseptics. Antiseptic mouth washing should be given as a prophylactic measure to all women after confinement, especially if they have dental or alveolar lesions, or if they suffer from renal insufficiency.—*Le Bulletin Médical de Quebec*, May, 1903.

The Etiology of Hydrophobia.—G. Daddi experimented upon dogs, and in every case in which rabies was proved to be present, he found the little bodies described by Negri. These bodies, so constantly found in the nerve centers of animals who die of hydrophobia, would appear to be parasites of some nature, rather than degenerative form of cells. Whether they are the causative element of hydrophobia or not, they appear to furnish a sure method of diagnosis of the disease.—*Rivista Critica di Clinica Medica*, May 30, 1903.

The Gastric Function in Animals Deprived of Their Spleen.—Torindo Silvestri says that the general conception in regard to the spleen is that its action is due to an internal secretion the functions of which are pepsinogenic and trypsinogenic, whence the disturbances of digestion which would follow its removal. From his experimentation, however, he claims to have demonstrated that there is no trypsinogenic secretion in the spleen, and that the action of the congested spleen upon a pancreas inactive toward albuminoids is only because of its containing blood and that in large amount, and more especially because of the infarcts of leucocytes. —*La Riforma Medica*, May, 27 1903.

Asthma from the Point of View of Life Insurance.—M. Mahillon concludes his review of the subject by the statement that applicants under forty years of age without tuberculous family history, who are not exposed to contagion, whose attacks occur at long intervals, and are of short duration, who do not expectorate, nor suffer from respiratory troubles, whose hearts are sound, in whom there is no arteriosclerosis, and who do not practise any profession liable to cause a return of the asthmatic attacks nor to lead to pulmonary affections, are admissable for a limited term or even for life. Asthmatics over forty-five years, obese, and open to the suspicion of a fatty heart, affected with arteriosclerosis, gouty or emphysematous, or subject to bronchial disorders, are inadmissible, or at least to be taken only as impaired risks.—*La Médicine Moderne*, June 3, 1903.

Conservative Surgery of the Uterine Appendages.—Hector Traub reaches the following conclusions: In the majority of cases of salpingo-ovaritis, medical treatment is all sufficient. Should medical treatment be insufficient or contraindicated, a radical operation should never be resorted to at once. The first step should be a posterior colpotomy. If by means of this posterior colpotomy the affection is found to be tuberculous, hysterectomy should be performed as soon as possible. In cases of hydrosalpinx rebellious to repeated colpotomies and needing further intervention, and in cases when sterility is to be overcome, conservative abdominal operations (resection, salpingotomy, salpingo-ovarosyndesis) are indicated. Salpingorrhaphy should be kept as an accessory operation during the course of a laparotomy for whatsoever indication performed.—*Annales de Gynécologie et d'Obstetrique*, May, 1903.

Gastroenterostomy.—M. Vallas states that the chief indication for this operation is stenosis of the pylorus. Unfortunately in the majority of cases the stenosis is due to a neoplasm, in which case we can hope for palliation only, not cure. The immediate results, however, are of the best, and patients have been known to live on for two years. If the stenosis be merely cicatricial, the operation is curative. Gastro-entero-anastomosis, is also indicated to give absolute rest to the stomach, as an ulceration of the stomach, when the accompanying pain is unbearable, or the hemorrhages becomes dangerous from their abundance or their frequency. The author is not aware of any contraindication to the operation. He has had twelve deaths out of sixty cases, which, however, were not carefully selected, as he took all cases brought to him whatever their condition—*Lyon Médical*, May 31, 1903.

Physiological and Therapeutic Properties of a Serum Extracted from Milk.—R. Blondel says that the serum of cow's milk obtained by rapid coagulation, at 100.4° F. by the aid of an acid, neutralized with soda, and filtered. is endowed with remarkable properties. In a healthy subject, a daily hypodermic injection of 20 c.c. increases the appetite and at the same time diminishes weight. Given the day after a gouty attack it determines a second attack with an enormous discharge of uric acid. It diminishes blood-pressure to an extraordinary degree, and in a more constant and durable manner than does Trunecek's serum. In infectious diseases it lowers the temperature very markedly. The author has used it chiefly in cases of puerperal and surgical infection, and is well pleased with the results obtained. There are no disagreeeable effects attending the injection, except possibly a sensation of cold in the part in which the injection was given, which comes on about four hours later, and is of very temporary durations. A slight cloud of albumin may form in the urine from the second day of the treatment, but it is not marked at any time, and disappears with the cessation of the injections.—*Revue de Thérapeutique*, June 1, 1903.

The Pathogenesis and Treatment of Puerperal Eclampsia.—E. Bonnaire says that a consideration of all the theories held in regard to this affection lead to the conclusion that it is simply the result of some form of toxæmia, the source of which may be the mother of the fœtus. Preventive treatment consists in an absolute milk diet. If an attack has occurred the chief effort should be to prevent another; the first indication is to rid the system of as much of the toxin as possible, for which purpose bleeding to the amount of 300 to 500 grams, replacing it later by its equivalent of physiological serum, is advisable. The latter should be injected subcutaneously, not endovenously. A drop of cotton oil in a tablespoonful of castor oil should then be given to clear the intestinal tract, or a saline purgative may be chosen instead. Diuresis must be secured. About four to six quarts of mixed vichy and sterilized water is to be administered daily, and adhered to until the patient shows signs of improvement; milk may then be added to the water, and finally pure milk be given. In halations of oxygen will aid in the combustion of the toxins. A second indication is to calm the nervous system, which may be accomplished by chloral. The author also describes the obstetrical treatment.—*Le Progrés Médical*, May 30, 1903.

Annals of Surgery, June, 1903.

Gunshot Wound of the Longitudinal Sinus.—The patient of B. Farquhar Curtis was a man of forty-two years. The person firing the shot stood some twenty feet behind and considerably below. Examination five hours later revealed a wound in the median line on the back of the head. The patient had considerable headache and dimness of vision, but was able to walk and had no motor or sensory paralysis. The skull was trephined, the area opened being nearly one and a half by two inches, and a wound was found in the longitudinal sinus near the torcular Herophili. Severe hemorrhage accompanied the removal of the bone fragments, and this, according to the author, teaches the most important lesson of the case. The technical deduction is obvious that the fragments over the sinuses should not be disturbed until the surgeon has removed sufficient of the surrounding bone to give him complete control of the bleeding point. The patient in the present instance finally recovered, though with some impairment of vision. During convalescence he had several periods in which he was quite irrational, but his final mental condition was good, though he remained nervous for a long time.

The Pathology of So-called Bone Aneurysms.—According to H. R. Gaylord there are on record but eight clinical records of cases of this nature. He reports one additional case. From his own experience and a review of that of others he believes that the greater portion, if not all, of the cases reported under this heading were originally medullary sarcoma, and he would further maintain that while these tumors may present the characteristics of aneurysm, their etiology and the mechanism of their development have little in common with that affection. Consequently it would be preferable to drop the term "bone-aneurysm," substituting therefor that of "pulsating sarcomatous hematura of bone." Some doubt is thrown on the accuracy of diagnosis in all of the former cases. In two of the original five, no microscopic examination was made. In the remaining three, it may have been that the tumor was originally of sarcomatous nature, and that the characteristic structure had disappeared. A factor which must be of importance in the development of these large cystic cavities is the frequency with which extensive hemorrhages occur in the substance of the tumor. The effect exerted upon the sarcomatous tissue by these extravasations of blood, especially when the whole tumor is encased in a shell of bone, must so interfere with the nutrition of the cells as not only to impede their growth, but in many cases to lead to their complete disintegration.

The Drowning of Patients in Fecal Vomit During Operations for Intestinal Obstruction and Septic Peritonitis.—E. Wyllis Andrews believes that the accident of drowning is an ever-present danger in septic laparotomies. Fluid rapidly accumulates in the bowel, and though the stomach may at first be empty sudden access thereto from the bowel may occur when the tone of the cardia and pylorus is relaxed by extreme depression. Consequently the stomach fills, and the throat reflexes being abolished by the anæsthetic, there is no spasmodic expulsion when the trachea and bronchi are flooded. His conclusions are as follows: (1) Flooding of the air passages by fecal vomit is a real danger, and probably has caused many unexplained deaths. (2) Resuscitation is impossible or very difficult. (3) The fluid may flow by gravity through the relaxed stomach sphincters directly out of the intestine where it has accumulated in enormous quantities. (4) The accident occurs with great suddenness and with a stomach supposedly empty. The suffocation may be so complete that no outcry is made and may not be noticed by the attendant. (5) It may occur as late as an hour after anæsthesia, or at any time until consciousness is restored. (6) We have no evidence that it can occur during consciousness even *in extremis*. (7) After septic laparotomy, patients, when returned to bed, should be watched without even momentary intervals to full consciousness. (8) The suggestion made that as many as possible of such cases be operated under cocaine anæsthesia is of the greatest importance

Myositis Ossificans.—W. J. Taylor reviews the literature of this affection and reports two cases, one traumatic and the other non-traumatic. The first case was that of a young man kicked by a horse in the anterior middle third of the thigh. It was at first thought that the limb was broken, but he was able to get up and walk. Soon the severe pain passed away and he was able to ride horseback though with some pain at the injured spot. When seen three weeks later there was a marked swelling over the site of injury. It did not feel bony, but gave the sensation of an organized hematoma beneath the periosteum. Incision over this area showed the whole area of the bone, especially of the anterior surface—enlarged and the periosteum thickened, and the muscles—particularly the deeper fibres—containing small bony particles. The pieces of bone and muscular tissue removed were directly in contact with the periosteum, which was elevated and the bone beneath found roughened. The bone was curetted, all the thickened muscular portions removed, and the wound closed. Recovery was uneventful. Microscopical examination of tissues removed strongly suggested the diagnosis of myositis ossificans.

Case 2 was that of a woman of forty years, who from her ninth year had a slightly tender lump over the left fibula near the junction of the middle and lower third. At fourteen, walking became distinctly painful, and the muscles gradually contracted until her foot was in marked extension, *i. e.* an acquired equinus. At sixteen, tenotomy was done, the deformity, however, returning immediately. Some *x*-ray pictures which she had had taken in Washington showed that there was apparently an irregular, sharp osteophyte growing from the fibula at the point indicated, and that the bone was thickened for some distance above and below this point. The muscles of the right calf were harder than those of the left. Operation was done in a manner similar to that of Case 1, the design being to remove the supposed osteophyte, lengthen the tendo Achillis and to remove all the supposed ossified plates. Microscopical examination of the tissues removed showed a condition of myositis fibrosa passing into myositis ossificans.

Book Reviews.

Why Soldiers Desert from the United States Army. By Ellwood Bergey. Philadelphia: Wm. F. Fell & Company, 1903.

The author of this book does not leave his readers long in ignorance of the point of view from which it is written, for in the preface we find the following statement: "So unjust is the treatment of our soldiers, so contrary to sense, honor, exigency, and reason, that a searching investigation into every department of the organization fails to reveal a single redeeming or commendable feature." This tone of sweeping condemnation pervades the entire volume. With regard to the extent of desertion from the United States Army, the assertion is made, based, it is said, on official records, that the percentage is greater than in the case of England, France, Germany, Italy, Spain, Greece, or Belgium, the loss to the country through desertion being estimated at $1,000,000 annually. Figures are quoted from the report of the Judge Advocate-General, for 1896, showing desertions from eight western army posts aggregating from 1.96 to 14.08 per cent., of the enlistment at those posts, respectively, the present author's explanation of the higher percentages being "improper food and brutality." Mr. Bergey submits these conclusions, reached, he says, "after an impartial and painstaking investigation into the United States Army, extending over a period of many years: "That at enlistment the American private soldier is the best in the world, mentally and physically; that in the following particulars, namely, the death rate from "disease" and "injury," the number of discharges in home territory, by reason of disability, the rate of desertion for the last thirty years, the number of suicides and cases of insanity resulting from bad treatment, the number of trials by courts-martial, the number of sentences to guard-houses and military prisons, the unlawful disposing of soldiers' rations, by officers, and the general treatment of the private soldier—our army compares *unfavorably* with the military establishment of any other civilized power. Charges are made that, for many years, including the present year, enlisted men have been tortured, and that, since the beginning of the Spanish-American War, innocent soldiers have been executed, by order of commissioned officers, while others are now undergoing imprisonment. The existing conditions are attributed in brief to polities and to making the private soldier dependent upon the mercy of his superior officers. The remedies suggested are: substantially higher pay for enlisted men, abundant rations properly prepared, sanitary quarters, food, and housing always to be exactly alike for officers and men, free speech for the latter, a two years' service limit, amnesty to deserters, abolition of salutes and other practices marking distinctions between officers and men, and the prohibition of torture and violence. Several particulars touched on in the volume under consideration may be noted briefly here. Attention is directed to the fact that in the period of peace from 1880 to 1890, both inclusive, the death rate in the United States Army ranged from 6.33 (1889) to 11.60 (1883) per 1,000, while the average death rate of the British Army among troops at home, for a similar period, 1889 to 1899, both inclusive, was only 4.32 per 1,000, and that of the Canadian Army, for ten years, was only 3.5 per 1,000. The dates for the last-named army are not given, nor is there any explanation as to why the same years are not selected for comparison in the case of our army and that of Great Britain.

A number of incidents illustrative of gross negligence or brutality, or both, in the treatment of enlisted men in our army are brought forward, some in connection with the Spanish-American War, including the well-known case of Private Riehter. A letter purporting to have been written from Bilibid Military Prison, Philippine Islands, by Lawrenee F. Hoon, Company K, Fourth United States Volunteer Infantry, to his father, is quoted *in extenso*. If the facts are substantially as represented, they certainly show a gross abuse of power on the part of the court-martial and of the reviewing authorities. From the prisoner's statements, it appears that, an order having come for the promotion of one man from each regiment, he applied by letter to General Otis for promotion, whereupon he was arrested, charged with addressing a superior officer without the consent of intermediate officers. He did not know the offence was a crime, but was nevertheless sentenced by a court-martial of six officers to be dishonorably discharged and confined for one year in Bilibid Military Prison. Five months' pay, amounting to $78, was confiscated. The marked inefficiency and failure of the War Department under Secretary Alger come in for a share of the author's denunciation. It may be noted also that he expresses himself as opposed to the canteen system.

The Surgical Diseases of the Genito-urinary Organs. By E. L. Keyes, A.M., M.D., LL.D., Consulting Surgeon to the Bellevue and the Skin and Cancer Hospitals; Surgeon to St. Elizabeth Hospital, etc.; and E. L. Keyes, Jr., A.B., M.D., Ph.D., Lecturer on Genito-urinary Surgery, New York Polyclinic Medical School and Hospital; Surgeon to the Out-patient Department, St. Vincent's Hospital, etc. A Revision of Van Beuren's and Keyes' Textbook. With one hundred and seventy-four illustrations in the text and ten plates, eight of which are colored. New York and London: D. Appleton & Co., 1903.

Tempora mutantur, et nos mutamur in illis! Some of us can remember back to the days when it was Van Beuren and Keyes, and then when it was Keyes alone, and now it is Keyes and Keyes. Fortunately, there is no evidence of deterioration by age, and this revision of the original does full credit to the late senior collaborator. There are many new methods of treatment little dreamed of in the days of the original, which are here fully described and well illustrated. The publisher's part has been done in exeellent taste. The student will find in this work a textbook in which he can have full confidence as a guide and aid, and this applies equally to the man in practice.

Diseases of the Skin; Their Description, Pathology, Diagnosis, and Treatment, with Special Reference to the Skin Eruptions of Children and an Analysis of Fifteen Thousand Cases of Skin Disease. By H. Radcliffe Crocker, M.D. (Lond.), F.R.C.P. Physician for Diseases of the Skin in the University College Hospital; Honorary Member of the American Dermatologieal Society, etc. Third Edition, Revised and Enlarged, with four plates and one hundred and twelve illustrations. Philadelphia: P. Blakiston's Son & Co., 1903.

When one reads on the title-page that this edition has been enlarged, he can well believe the statement. There are no less than 1,466 pages, exclusive of a batch of advertising matter, that the publisher has thought well to inflict upon the purchaser. The work is unwieldy and altogether too discouraging to the novitiate in skin diseases. Aside from this the author presents, perhaps, the best and most complete treatise extant in the English tongue.

The second edition has been out of print for three years. This is sufficient evidence (aside from the mass of new material) that the present edition has not been brought out in a hurried manner for trade purposes. There is evidence throughout of thoroughness and a desire to include all advances up to printing time. Among the new material we find something about radiotherapy and radiodermatitis, various new forms of erythema, acrodermatitis, toxic serum eruptions, porokeratosis, blastomycosis, and, indeed, a long list of those things that dermatologists feel called upon to keep discovering and then naming. The author is entitled to sincere congratulation, and ours is hereby tendered.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital, etc., assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-patient Department of the Jefferson Medical College Hospital. Vol. I, March, 1903. Surgery of the Head, Neck and Chest, Infectious Diseases, Including Acute Rheumatism, Croupous Pneumonia, and Influenza, Diseases of Children, Pathology, Laryngology and Rhinology, Otology. Philadelphia and New York: Lea Bros. & Co., 1903.

The regularity with which these quarterlies come to hand laden with new matter indicated that in the flight of months vast work is being accomplished throughout the world in advancing medical science. Sometimes it makes one feel as though there were too much, and a desire arises to have the whole bulk of reports still more concentrated so that out of the mass that is *new* we could have the really little that is essentially and everlastingly and practically *true*. However, this, like much other modern literature, has its place of usefulness, and here Frazier Herrick, Crandall, Hektoen, Turner, and Randolph have done faithful and good work in gathering the material for their various departments. The usual standard is maintained.

Society Reports.

AMERICAN PEDIATRIC SOCIETY.

(Continued from page 830.)

SECOND DAY—WEDNESDAY, MAY 13.

Gastroenteric Infections of New-born Children.—Dr. Irving M. Snow of Buffalo read this paper. He said that the period most dangerous to human life was the first four weeks of an individual's existence. A few years ago congenital debility was a term used to explain 80 per cent. of early deaths. Atelectasis, intracranial hemorrhage and sepsis were not given proper recognition as etiological factors in infantile deaths. As an avenue of infection in new-born children the alimentary tract was an important consideration—a fact that had been overlooked in many textbooks. The introduction of the infection might be accomplished in various ways. The accoucheur, the nurse, the mother's breast, the milk, and not so very infrequently the amniotic fluid might be responsible for the infection. The infection in a young child soon became general, no matter what the path of entrance might have been. Dyspepsia might be responsible for vomiting, diarrhœa, colic, and other signs, but a severe gastroenteritis always meant an infection. The dividing line between dyspepsia and gastroenteric sepsis as manifested by the physical signs varied with the virulence of the infection. Five cases were described by Dr. Snow which had severe gastroenteric infections. Fever, rapid pulse, irregular respirations, vomiting, diarrhœa, and extreme prostration characterized the attacks. Blood and mucus were present in the stools, which were very offensive; in some of the cases tonic muscular spasm was observed. Rigorous asepsis and careful attention to the toilet of the mouth were the essentials of proper prophylactic treatment. Sudden attacks of alarming seriousness in these cases were common; the children should therefore be closely watched. The most valuable therapeutic agents were strychnine, atropine, and artificial serum.

The Relation of the Bacillus of Shiga to the Summer Diarrhœas.—Dr. Simon Flexner of Philadelphia had been invited by the society to speak on this subject. He said that there had been considerable research and much study in the attempt to discover the cause of diarrhœal diseases, but that prior to recent investigations little definite information had been obtained concerning the cause of infantile diarrhœas. While conducting some investigations in the Philippines in search of a cause of dysentery, Dr. Flexner had no difficulty in establishing the existence of a well-defined microorganism which differed from the ordinary intestinal bacteria and which closely resembled the bacillus described by Shiga of Japan. It had occurred to Shiga that if certain bacteria were constantly present in these cases of dysentery it was probable that blood changes would take place which would make it possible to select, by means of the agglutination test, the bacteria sought for. The test was applied and an organism was found which gave the positive Widal's reaction. The bacillus closely resembled the typhoid organism, but a ready differentiation was rendered possible by certain definite characteristics. Since first described by Shiga, this bacillus had come to be recognized as an important etiological factor, if not the causes of a certain definite group of acute cases of dysentery in adults. Dr. Flexner thought that results of value might be obtained if the same method of study was applied to the diarrhœas of infants. At the Wilson Sanitarium near Baltimore fifty-two cases of summer diarrhœas of a severe type were studied under his direction. In forty-five of these the bacillus of Shiga was found to be present. The blood serum of these children not only gave a positive reaction with cultures obtained from their own dejecta and with organisms obtained from other children, but also gave a positive agglutination test with cultures obtained from Japan and the Philippines. In most of these cases in which the bacillus of Shiga was found blood and mucus were present in the stools. It was a very difficult matter to find the bacilli in formed fæces. When mucus was present it was less difficult, but the organisms were most readily obtained when both blood and mucus were present in the stools. In calling attention to a few points of practical importance, Dr. Flexner said that it was desirable for those who made an attempt to obtain the bacteria from the dejecta of diarrhœal cases, to first study the bacillus of Shiga, since the ordinary cultures closely resembled the typhoid and colon bacilli. He also called attention to a trick in the technique of colony transplantation. Experience had shown that the colon bacilli outstripped the bacilli of dysentery in growth, so that one could be reasonably sure that at the end of the first twenty-four hours most of the colonies were colon bacilli. It was suggested that all colonies which develop in the first twenty-four hours of incubation be marked with a blue pencil The cultures should then be allowed to grow for a second twenty-four hours; from the colonies which appeared in the second twenty-four hours cultures should be taken. In these the dysentery bacteria were most likely to be found. The culture medium which Dr. Flexner employed was glucose-agar. This medium was chosen because it was found that colon bacilli decomposed the glucose with the formation of gas, while the dysentery bacilli did not, a fact which allowed of a second means of colony differentiation. As the study of the bacteria of dysentery proceeded it was discovered that they were not of a single type. A group was recognized which corresponded to the original type described by Shiga. This group possessed marked agglutinating properties, but when cultivated on a manite medium did not change litmus. In addition to this group a second was recognized by Dr. Flexner which possessed all the cultural properties of the first, but differed in the character and degree of its agglutinating properties, and which turned litmus red when grown on a manite culture medium. That one type or the other was the cause of the dysentery was impossible to say at the present time; in some epidemics one type had been found, in others, another type; in still others both types had been present in the same case. In all cultures obtained from the children studied at the Wilson Sanitarium, that type of bacteria was found which produced an acid reaction when grown on a manite medium, and they were not the original bacilli described by Shiga. The future alone could determine the position which these organisms should occupy as etiological factors in diarrhœas.

In discussion, Dr. W. H. Park of New York said that there were many difficulties in the application of the agglutination tests. In his experience he had found the bacillus of Shiga to be present only when the stools contained both blood and mucus.

Dr. Henry Koplik said that he considered summer diarrhœa to be a very complex entity. The majority of cases occurred in artificially fed infants, and might be separated into several distinct groups. One class of cases was due to anatomical or physiological insufficiency of the gut, or the diarrhœa might be dyspeptic and dealt with as a foreign element. A second group of cases were caused by microorganisms contained in the food itself, the third group would include infectious cases, in which microorganisms had been introduced from the outside. A fourth group would include those cases in which amœbæ of one or another variety were present in the intestines. In summer diarrhœa it was probable that the action of many varieties of bacteria was combined in the formation of an exceedingly complex etiological factor. Dr. Koplik thought that the number of cases caused by the presence of the bacillus of Shiga was limited, and said that bacteriological research and clinical experience should go hand in hand in the further study of this important subject.

Dr. L. Emmett Holt of New York said that the work of Dr. Flexner had shown what might be looked for in a

certain type of cases. It was essential that evidence be obtained of bacterial invasion of the intestines by blood examination before it would be possible to say that a certain organism was the cause of the diarrhœa, even though the organism were constantly present in the stools. Dr. Holt had superintended a series of investigations of one hundred and twenty cases of diarrhœa. In thirty-seven of these the bacillus of Shiga was present, and in each case a marked blood reaction was obtained. In all cases in which blood and mucus were present in the stools, the bacillus of Shiga was found. In many cases, however, in which the stools contained an abundance of mucus, it was impossible to prove the presence of the organism. It was considered of importance to know how long after the subsidence of the acute symptoms the bacilli could be found in the stools, since in one case the bacteria were present six weeks after all acute symptoms had subsided. In the majority of cases the organisms were present, and the blood reaction obtained two weeks after the subsidence of acute symptoms. A careful study of many cases had revealed no characteristic pathological lesion. Dr. Holt had used, as a therapeutic measure, in several cases, some anti-bacteriolytic serum, which he had obtained from Dr. Flexner. In several cases an injection of this serum was followed by good results, the effect, however, was very transient, it being necessary to repeat the dose (10 c.c.) every day, or at most every second day. The serum treatment looked hopeful, but it must be given on the clinical diagnosis, since it required forty-eight hours to make a bacteriological examination.

Dr. Knox, who was in charge of the Wilson Sanitarium, said that blood was at no time excessive in the stools of the acute cases in which the bacillus of Shiga was found. In some few cases the organism was found in the mucus of the stools when no blood had been present. He added that he agreed with Dr. Holt in that there was no definite pathological lesion, or clinical feature which would serve to differentiate the cases in which the bacillus of Shiga was present from those classed as ordinary summer diarrhœas.

In closing the discussion, Dr. Flexner said that the problem was very complex, and that he had committed himself to no idea other than that the bacillus of Shiga occurred in some of the diarrhœas. Up to the present time the serumtherapy was entirely experimental and attempted to deal with an organism which held its poison closely bound up in its own protoplasm, differing in this respect from the diphtheritic bacteria, which set free a toxic element in the blood stream. The serum used in the diarrhœal cases was not to be considered then, strictly speaking, an antitoxin, but rather an anti-bacteriolytic serum. Any good results must come from its early use.

The Infections of the New-born.—Dr. S. McC. Hamill of Philadelphia presented this paper. He said that it was not his purpose to suggest a new classification of infantile infections, but in many respects the present classification was unscientific and should be revised on a strictly bacteriological basis. Six cases were reported which had been studied with Dr. W. R. Nicholson of Philadelphia—an extensive bacterial invasion had been the cause of death in each instance. A bacteriological examination of various organs had revealed the presence of streptococci, staphylococci, and colon bacilli; the germs having gained an entrance into the body of the child probably, for the most part, by means of the alimentary and respiratory tracts. These same varieties of bacteria had been found in the dust of the rooms in which the infants were kept, in the bedding, in various toilet articles, in the clothes of the mothers and other attendants. Cultures were also obtained from the bottle nipples and mothers' breasts and from the bath water of the infants. Careless and poorly trained nurses were probably responsible for most of these infections. Dr. Hamill said that preventive treatment was of great importance. The general aseptic technique of the maternity hospital staff should be insisted upon—no person aside from regular attendants should be admitted to the wards, and these should wear gowns and wash their hands before and after handling the infants. The children should not be kept in the same ward with their mothers but should be under the care of a careful and well-trained nurse. The breasts of the mothers should be carefully watched and kept clean, and the mouths of the infants should also be kept clean.

In discussion, Dr. Koplik said that he did not consider it necessary or wise to attempt to cleanse the mouths of the infants after they had once been cleaned at birth. An epidemic of sore mouths was cited which occurred at the New York Maternity Hospital, B. I., when the nurses were instructed to stop all attempts at mouth cleansing, The ulcers in the mouths of the babies quickly disappeared. The importance of keeping the mothers' breasts and nipples clean was emphasized.

The Etiology of Rachitis.—Dr. Roland G. Freeman of New York read this paper. He said that although this disease had been recognized for over two hundred and fifty years, it must be confessed that even to-day the exact cause was still unknown. The affection was a general disease and not merely an involvement of the long bones; cases occurred in temperate and cold climates; the individuals who suffered most were those who had come from a hot to a cold climate, most cases being found among the Italians and negroes. Race and climate were predisposing causes, the exciting cause seemed to be associated with the diet. One of the most recent theories was that rachitis was due to a lack of fats in the food.

Dr. Herter of New York, in a series of experiments on pigs and guinea-pigs, proved that fat starvation did not cause rickets, but did bring about a condition of mucoid degeneration, except in those cases in which there was an excess of carbohydrates in the food. The fact that artificial baby foods contained an excess of carbohydrates probably saved many infants from mucoid degeneration. Dr. Freeman had studied many cases of rachitis in New York, and had been led to consider that the persistent use of some unsuitable food was the most potent cause of rickets. The disease was especially common in children who had recently migrated from a warm climate.

In discussion, Dr. S. S. Adams of Washington said that rachitis was far less frequent since the knowledge of proper methods of modifying milk had become more complete and widespread.

Dr. Miller of Philadelphia emphasized the fact that want of sunshine and good air were very important etiological factors in rickets.

Dr. Cotton of Chicago said that it was very rare to find rickets in an infant at the breast. Such an occurrence almost invariably meant that the mother was giving abnormal milk. The improved methods of the modification of cow's milk had been of great value, but there was not sufficient attention given to the errors of lactation. It had become a habit with most physicians to shy at this point. More of an effort should be made to make the mother give good milk, and treatment if necessary should be instituted before the birth of the child.

THIRD DAY—THURSDAY, MAY 14

Some Chemical Analyses of Milk Mixtures.—Dr. D. L. Edsall of Philadelphia gave a brief review of a series of experiments which he had undertaken with the assistance of Dr. Charles A. Fife of Philadelphia. He said that it was a striking fact that no control had been furnished in milk modification, in view of the fact that accuracy, in modification was of such importance.

Dr. Edsall had found it of interest to make a series of analyses of modified milks, which he had obtained under varied circumstances, and to compare his results with those obtained by the original modifier.

A certain amount of the milk which he used had been ob-

tained from known and reliable sources and modified by known and reliable persons. Another portion of the milk had been obtained from unknown and unreliable sources and had been modified by unknown and unreliable persons.

In the milk that had been modified at a well-equipped laboratory by an efficient person, the fats came very close to the formula, few errors of more than .2 per cent. being found.

In many of the milk mixtures modified at home by trained nurses the error in the fat percentage was as high as 2 per cent. The proteids in all cases followed the formulæ more closely than the fats. In considering the question of milk modification, it must be remembered that an absolutely accurate percentage estimation was quite impossible, because the proteids in the best of milk, supposed to be of constant quality, might vary from ½ to 1 per cent. from day to day, while the fats might vary still more. In drawing some conclusions from the results of his analyses, Dr. Edsall said that the laboratory milks which he examined were practically free from criticism. The examination of specimens modified at home indicated that certain definite plans should be followed. The milk and cream should be obtained from a known and reliable source, and reliable and competent persons alone should be allowed to make up the milk mixtures.

The Determination of Fat and Total Solids in Milk.—Dr. Henry L. K. Shaw of Albany presented this paper. He said that he had found it of interest to make an analysis of thirty specimens of milk to determine the fats and total solids, using several tests for each sample and comparing the results obtained by the different methods. He found that Babcock's test, Gerber's test, and Holt's cream gauge gave the most constant results. Dr. Shaw exhibited a modification of Babcock's centrifugal apparatus, which he recommended for office use in the determination of milk fats. The total solids could be best determined by taking the corrected specific gravity and considering the percentage of fat; by using Richman's sliding scale the results could be readily obtained without the necessity of employing mathematics.

In discussion, Dr. S. S. Adams said that he had had several analyses made by expert chemists of modified milks, and that the utter unreliability of most of the milk specimens was appalling. He thought that most laboratory inaccuracies were due to carelessness and inefficient workers. The conical dipper, in his experience, had proved the most reliable domestic method of milk modification.

Dr. Cotton said that it was very important that the physicians should know the quality of the milk a mother was giving. Several examinations were necessary before any deductions could be made.

Dr. Chapin of New York said that the Babcock test had proved to be of great value in the estimation of fats. He thought that investigators were giving too much attention to the fats of milk, and too little attention to the proteids.

Dr. Edsall said that centrifugal machines were valuable aids in the determination of fats and sufficiently accurate for general clinical purposes. He added that it should become the habit of physicians to make examinations of milk as much of a routine practice as the examination of urine.

A Note on Abdominal Auscultation in Infancy.—In presenting a second paper Dr. Shaw said that he considered this means of diagnosis of great value, but that he had never seen mention made of it in textbooks. The respiratory sounds in infants and young children were transmitted to the abdomen, and could easily be distinguished from the intestinal sounds. A case of lobar pneumonia was described in which râles were heard over the abdomen before any signs of the disease could be detected over the chest. The râles, associated with acute bronchitis, had also been readily heard over the abdomen. The sounds were much clearer when abdominal distension was present.

A Report of Eight Cases of Pneumonia in Infants Treated with Antipneumococcic Serum.—Dr. Lovett Morse of Boston read this report and said that he had made many attempts during the last twelve years to obtain a serum which would prove of value in pneumonia in man, but results had been very unsatisfactory. He described eight cases which had been treated with antipneumococcic serum, which had been given in doses of 5 c.c. to 10 c.c. every four hours. From results obtained from these eight cases the following conclusions were drawn: in no case was their any effect on the temperature; in no case was the course of the disease shortened; in no case was the crisis postponed; in no case was there any effect on the pulse rate; in no case was there anything noticed to justify the assertion that there was any alleviation of the subjective symptoms:

In discussion, Dr. Jennings described a case of pneumococcimeningitis in which he had used antipneumococcic serum. Apparently the clinical phenomena of the disease were in no way influenced by the administration of the serum, nor were subsequent cultures of pneumococci inhibited.

A Case of Myxœdema.—Dr. George W. Acker of Washington, D. C., reported the case of a child which had had a perfectly normal and uneventful existence up to the eighteenth month, at which time it developed a severe attack of diphtheria, from which a complete recovery was never made. Six months later its general appearance began to change, it was unable to walk, the bridge of the nose became flattened, the legs became flabby and swollen, the abdomen became pendulous, the face puffy and devoid of all expression. The child took no notice of things and did not even know its own mother, it slept well, had a good appetite, it increased in weight but not in length. The anterior fontanelle remained open, the hair became straight, coarse, and dry, the thyroid gland was not palpable. The child kept its mouth open, its tongue was of large size and flabby, most of its teeth became decayed, Harrison's groove was marked. Thyroid extract was given in half-grain doses three times a day, the dose was gradually increased up to three grains three times a day. On several occasions the child had a sharp rise in temperature, the drug was promptly discontinued until the temperature fell to normal. A marked improvement followed the administration of the thyroid extract.

In discussion, Dr. Koplik described the case of a child nineteen months old which presented a typical picture of myxœdema. Thyroid extract was given until it was seven years old, when the treatment was discontinued. In less than a month the symptoms returned in a most aggravated form. Treatment was immediately resumed and improvement followed. This case was described to illustrate the necessity of keeping a case of myxœdema under constant treatment. A child was able to stand large doses of thyroid extract providing that the drug was pure—as much as nine grains three times a day had been given. A rise in temperature might be caused by an impure drug and should not be considered an indication for discontinuing treatment.

Dr. Cotton had had considerable experience in the use of thyroid extract, and thought that it rendered children more susceptible to the ordinary infections.

Pulmonary Osteoarthropathy in a Child Three Years Old.—Dr. T. M. Rotch of Boston read this paper, describing a case which he had seen with Dr. Hunter Dunn of Boston. A boy three years old had had an uneventful history up to the time he was two years old, when he developed measles, and later had whooping-cough. He apparently recovered from these attacks, gave no general symptoms, nothing especially wrong had been noticed with his pulmonary apparatus. Som

time later he developed a troublesome cough, which lasted a year, growing gradually worse, until relief was finally sought at the hospital. The child had never had night sweats or been troubled with digestive disturbances. Nine months before he was admitted to the hospital his finger-tips had begun to enlarge. A physical examination showed flatness on percussion over the left upper chest in front and dulness behind; on auscultation bronchial voice and breath sounds were heard over this same area, together with loud crackling râles. The child apparently felt well, it ran around and played, presenting no subjective symptoms of disease. The abdomen of the child was large, blood and urine examinations were negative. An examination of the sputum showed it to be loaded with Pfeifer's bacilli of influenza. An injection of tuberculin was negative in its results. The physical signs were interpreted to mean a consolidation in the left lung, that was possibly due to an unresolved influenza pneumonia.

In discussion, Dr. West of Ohio reported the case of a child three years old that had been a weakling from birth. When eight months old it began to cough. After an attack of measles the cough became worse, slight clubbing of the fingers was noticed. The chest was narrow and bowed backward. Anteriorly and posteriorly, coarse râles could be heard. On the finger tips the skin was rough, a condition which the family attributed to nail-biting. As the child grew older, the clubbing of the fingers became more marked. The treatment consisted of the use of creosote given by mouth and inunctions, under which the child improved.

A Case of Chondrodystrophy Fœtalis in a Child Fourteen Months Old.—Dr. J. Park West of Ohio presented this case, describing a child with a negative family history which had had a normal birth. Soon after birth, however, it began to develop a large round head, short thick hands and fingers; when five months old an angular curvature of the lumbar spine was noticed, there was occasional sweating about the head, the anterior fontanelle and frontal suture remained open, light exophthalmos was present. The child's skin was very loose, so that it appeared to have about two and a half times as much skin as was necessary, the muscles were soft, there was no joint involvement nor curving of the long bones. A noteworthy feature was a deviation of two fingers to the radial and two to the ulnar side of each hand. The child had been subjected to various courses of treatment, none of which seemed to alter its condition. It remained weak and made no attempt to sit alone. The chief difference in its appearance from a normal child was in the length and size of the bones. The shape of the head and the sweating were the only features which resembled rachitis.

Congenital Gastric Spasm of the Pylorus, with Specimen.—Dr. West reported this case of a child which he saw when it was twenty-two days old; it had had difficulty in retaining food since its birth, a condition which became more marked as the child grew older, until it vomited everything that had been taken into its stomach, at the same time giving evidence of severe pain. On examination, a swelling in the region of the pylorus could be felt which led to the diagnosis of hypertrophic stenosis. At the autopsy, an hypertrophic condition was found only of the circular muscle fibers which surrounded the pylorus. No relief was obtained in this condition from the use of drugs. Prompt surgical treatment was recommended for such conditions.

Prophylaxis in the Prevention of the Spread of Vulvovaginitis in Hospital Service.—Dr. Henry Koplik of of New York presented this communication and said there was no more annoying infection in hospital practice than vulvovaginitis. Aside from its repugnant features, it was a menace to the individual and a source of infection to others. All paths of infection had not been recognized, but there was always a definite source. It had been supposed, in general, that the infection was ordinarily carried by means of catheters, fingers, napkins, etc., but it had been definitely proved that a pure culture of gonococci when rubbed on the genitals of the female children did not always produce vulvovaginitis.

In children a urethritis or a proctitis was prone to give rise to a vulvovaginitis. A scant watery discharge was more to be feared, for it was apt to be neglected or overlooked. Any purulent rectal discharge should invariably be examined for gonococci. Among the many avenues of infection were mentioned bed-pans, catheters, nurses' hands and clothing, bed linen, rubber sheets, wash rags, and bath-tubs. When an enfected case was met with prompt and complete isolation should be practised, and every case, on admission to the hospital, should receive careful examination. Every female child in Dr. Koplik's hospital service had its own wash basin and toilet articles; each bed had a thermometer case attached to it, and if a child had any discharge the thermometer used for such a case was used for no other child but was kept in the case attached to that particular child's bed. A bed-pan once used on an infected patient was never again used on a clean one. As a precaution against infection from the hospital linen, every female child was protected by a vulvar pad, All bedding from an infected patient was sent to the hospital sterilizer before it was sent to the laundry, and was at times kept carefully apart from the other bedding. An additional precaution was taken in the wards of marking the bed of every infected case with a red bandage; no nurse attending an infected patient was allowed to touch a clean one.

In discussion, Dr. Chapin said that he had proved cases to be infected by taking cultures in which there had been no sign to arouse suspicion.

Dr. Dodson of Chicago said that the importance of this infection was by no means fully appreciated. It was unfortunate that the patients should be at the mercy of the nurse; he thought that it was very desirable to have nurses trained in practical bacteriology. Another fact of importance that was overlooked was that the sterilizing of infected utensils was frequently left to irresponsible persons. The ordinary injections as therapeutic measures were quite inefficient. Remedies should be kept in close contact with the parts almost continually.

Dr. Downing of New York said that the possibility of a foreign body should not be overlooked in cases of vaginal discharge.

Nasal Intubation for Relief of Dyspnœa Due to Acute Nasopharyngeal Swelling in Infants.—Dr. Wm. P. Northrup of New York described a case of acute swelling of the tonsils and pharynx in an infant, causing extreme dyspnœa and cyanosis. Syringing was not at all efficient, steam inhalations gave but little relief, tracheotomy was about to be resorted to as a last hope when it occurred to Dr. Northrup to introduce bits of soft rubber drainage tubes into the nares. After the tubes had been introduced about two inches the child showed immediate signs of relief and sank into a quiet sleep, the tubes being allowed to remain twenty-four hours. When the tubes were removed the child immediately became cyanosed and all the previous symptoms of distress were repeated. The tubes were promptly reinserted and, in Dr. Northrup's opinion, tided the child over a condition which would otherwise have proved fatal.

In discussion, Dr. Morse of Boston reported a case of acute nasal and pharyngeal obstruction, in which he had obtained prompt temporary relief by the use of adrenalin chloride.

O'Dwyer Intubation Instruments.—Dr. Northrup exhibited the most recent O'Dwyer intubation sets. The set contained two new small tubes for infants under one year of age, and a fixed obturator, so devised that it could not turn on itself.

Concerning the Nature of Still's Type of Chronic Deforming Polyarthritis.—Dr. D. L. Edsall of Philadelphia

referred to a type of chronic polyarthritis which Still had described, a condition which was readily distinguished from arthritis deformans. The disease, as a rule, appeared before the first dentition; it was accompanied with fever and associated with a general enlargement of the glands, but had no tendency to go on to bony deformity. Dr. Edsall described the case of a boy who was supposed to have been suffering from acute articular rheumatism. The child died when eighteen months old, at which time there was a general involvement of the joints, in all of which movement was greatly restricted. There was also a tendency to a general enlargement of the glands. An injection of tuberculin gave a marked reaction, which was both general and local in the joints, and lasted about twelve hours. Unless the joints were considered tuberculous there were no other signs of tuberculosis. Microscopic section, however, of the glands showed the presence of tuberle bacilli in small numbers, some of which were injected into guinea-pigs, but in no case did tuberculosis develop in these animals, a fact probably due to the low virulence and small numbers of the bacteria. From a study of this case, Dr. Edsall thought that the disease was probably dependent upon a tuberculous process.

Disturbances of Respiration in the New-born.—Dr. W. Reynolds Wilson of Philadelphia said that the respiratory disturbances of the new-born were included, for the most part, in the following conditions: asphyxia, congenital atelectasis, dyspnœa, and rapid respiration. The main causes of asphyxia were deficient abdominal muscular action, traumatic causes and paralysis of the respiratory center due to toxic influences arising from the alimentary tract. Dr. Wilson describes a case in which he considered the respiratory disturbances to be due to this latter cause. The signs of this condition might resemble Holt's fever of inanition. The principle causes of dyspnœa were congenital malformations, cardiac disturbances, pneumonia, stenotic dyspnœa, pressure dyspnœa due to an enlarged thymus, pulmonary apoplexy, dyspeptic dyspnœa, toxic in origin and diaphragmatic hernia, a condition which sometimes gave rise to periods of distressing dyspnœa. The chief causes of rapid respiration were dyspeptic, the ordinary pulmonary and systemic infections.

In discussion, Dr. Saunders of St. Louis said that apnea was sometimes caused in young children by the presence of the products of combustion thrown out into a room by gas logs. In cases of apnea, flagellation had proved a quick and efficient remedy, a good method being to snap the feet of the child with a rubber band. When a child had aspirated fluid into its lungs, great relief might sometimes be obtained by turning the baby upside down, and making it gag by tickling the back of the pharynx.

Principles of Infant Feeding as Based on the Evolution of Mammals.—Dr. Henry D. Chapin of New York read this paper. He said that the essential difference between the milk of various mammals was in the proteids which were nearly the same composition, but assumed different forms. In reviewing some facts relating to the development and nourishment of the young in the early types of mammals, Dr. Chapin said that the earliest types deposited eggs in a nest and nourished the young by the injections of milk into the mouth of the offspring, no teat being present. In a higher form the egg was deposited in a pouch in which the young animal was developed. The mother nourished the young by ejecting milk along the course of certain hairs. In still higher types the egg became hatched within the mother, and after birth the young animal became attached to the mammary gland of the mother, growing on the teat, but the young animal had no power to suck. Ascending again to the evolutionary scale, a type is found in which the young becomes attached to the uterine wall, and has a placental development. The development of an animal seemed to depend upon the ability of the mother for defence. About the third month colostrum appeared in the mother, a time which corresponded to the attachment of marsupials to the teat. From an evolutionary standpoint, it seemed logical to consider an infant as having three stages of development, a pre-placental of three months, a placental of six months, and a mammary stage lasting ten or twelve months. A child that has been early deprived of the breast should be considered premature. It was important that the changes which milk underwent in the process of digestion in a baby be studied, and it should be remembered that it possessed functions other than nutritive. In concluding, Dr Chapin called attention to the following considerations: (1) In development an infant passes through three stages, and should be looked upon as attached to the mother in all three. (2) At the beginning of the mammary stage an infant has only a rudimentary stomach. (3) During mammary development, the mother first changed the character of the infant's nourishment from colostrum to milk, and the infant's digestive secretions so changed the character of the milk that, as the digestive juices increased in quantity and strength, the work of digestion was increased, for the stronger the gastric juice became the tougher the curds became, due to a combination of the acid with the curds. (4) All milk would produce tissue, provided it differed in composition with the rate of growth of the young animal. Proteids differed in accordance to the type of digestive tract they were to develop. (5) No known method of modification would change cow's milk to human milk, and food must be sought which was suitable to develop the digestive tract. (6) A certain minimum amount of proteids, carbohydrates, fats, and mineral substances were essential for nourishment; breast milk should serve as a guide as to the amount required. (7) Milk was the proper infant food, not only because of its nutritive value, but also because it contained the only proteid that could develop the digestive tract. (8) The proteid of cow's milk was intended to develop a calf's stomach to digest grass. It must be modified to meet the requirements of an infant. (9) This might be done mechanically or chemically, by altering the character of the curds by diluting curds with alkalies or gruels. (10) When, for any reason, a sufficient quantity of cow's milk could not be taken, it should be supplemented by other forms of nucleoalbumins until the normal quantity could be digested. It was an error to feed too low proteids to overcome indigestion.

In discussing this paper, Dr. Rotch said that it was interesting and important to study the different forms of proteids, but certain practical principles should not be forgotten. In whey it was possible to obtain a high proteid, and in the caseinogen a low proteid. A child had a stomach when born, and under normal conditions would thrive with these proteids in its food. Colustrum was not milk, but an accidental secretion.

Dr. Chapin said that in whey soluble albumins were dealt with, and not nucleo-albumins, which were the tissue builders and which developed the digestive tract. It was not then physiological or a clinical advantage to use whey continually. Investigations of the future should be along the line of the proteids. It should never be considered that any modified milk was as suitable a food as mother's milk. The physician must try to keep the babies at the breast.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held May 7, 1903.

Charles L. Dana, M.D., Vice-President, in the Chair.

Leprosy.—Dr. M. B. Carleton presented a paper on this subject, which he illustrated with lantern slides. He said that in India, where he had spent some years, there were 400,000 lepers. The two great types of the disease, the tubercular and the anæsthetic, were described.

Etiology.—It was known, of course, that the specific cause of leprosy was the bacillus lepræ, but how or when

this bacillus gained entrance into the body was not known. Climatic conditions, sexual intercourse, eating of fish, were all thought to be factors in the spread of these bacilli. It could not be denied that in India, where leprosy abounded, the hygienic conditions were very poor, yet lepers were occasionally found among those who had the best of hygienic surroundings. In the parts of India in which leprosy was the most prevalent syphilis was also very common, but the speaker did not consider that there was any direct causal relation between these two diseases, believing, rather, that it was because of the lowered vitality induced by syphilis that the bacillus of leprosy gained an easier foothold in the system. Out of 2,000 cases of leprosy, 80 per cent. acknowledged having had syphilis. Touching upon the fish theory of the origin of leprosy, he expressed his opinion that the eating of fish had very little to do with the disease, because up in the Himalaya mountains, where it was impossible to get fish, leprosy was more prevalent than in the regions in which fish was eaten. Leprosy was especially prevalent between the ages of fifteen and thirty, the average being twenty-nine years, but he had seen two lepers under five years of age. The period mentioned corresponded to that of greatest liability to inoculation. However, many persons did not develop the disease until they were fifty or sixty years of age. About two-thirds of the cases occurred in men, though in some parts of India three-fourths of the lepers were men. He was unable to explain the greater susceptibility of the male sex. An attempt had been made by private individuals to remove children from their diseased parents as early as possible, and out of 600 children so removed not more than 20 per cent. showed signs of the disease. Dr. Carleton was inclined to believe that in some instances inoculation for smallpox had been the means of communicating leprosy, the custom being to make use of arm-to-arm vaccination. He had never found a case of leprosy that had been communicated from husband to wife or *vice versa*. It was not a very contagious disease; there must be direct inoculation. He had worked among them for twenty years, operating upon them, removing necrosed bone, and having his hands soiled with pus and blood from lepers, yet he had not become infected. The period of incubation was not known.

Clinical History.—Leprosy was a constitutional disease, the result of a septic poison developed through the activity of the lepra bacillus. The disease manifested itself as a general dyscrasia, characterized by certain disturbances of sensation and nutrition. For example, on the surface of the body there were areas in which the patient experienced a sensation of excessive heat, or less frequently, of icy coldness, formication or itching. In the deeper tissues there were burnings, tinglings, and other sensations, which were aggravated by motion or pressure. Ulceration and sloughing cartilage and adjacent areola tissue, ligaments, tendons, fascia, etc., occurred, leading finally to complete destruction of the part. This was most apt to occur in hands and feet. In the tubercular form the tubercles were more or less over the whole body. Death sometimes resulted from ulceration of the larynx, the form of the disease most dreaded by the natives. Lesions were sometimes found in the heart. The great majority of lepers died from some intercurrent disease, such as pneumonia or diarrhœa. Among the subjective symptoms the most marked were mental hebetude and drowsiness or languor. They hated society and suffered from diminished perception. Occasionally melancholia developed. The tradition that lepers were sterile was without foundation, and the common assertion that they were idiots was equally untrue. The disease was prone to show periods of remission and exacerbation. It was a common thing to see a leper with the finger nails at the metacarpophalangeal articulation, due to the gradual dropping off of the fingers and the contraction of the tendons. The sense of smell was affected only when the nasal cartilages were diseased. Sometimes both eyes were affected, in which case they became pitiable objects. All lepers complained of the sensation of needles and pins, sometimes spoken of as "ant bites." Lepers could not walk very far or go barefooted like the other natives. The pain was the most annoying symptom, and was often likened to the gnawing of animals. Tenderness over the spine, more especially between the scapulæ, was almost pathognomonic of early leprosy. The pulse was usually slow and compressible, but became rapid upon the slightest provocation. Among the hill tribes, who were naturally very active, this became very noticeable, because when attacked with leprosy they were unable to leave their homes. Cardiac dilatation was a common condition. The tongue was usually moist, soft and flabby, and was frequently covered with a thick white fur. It was apt to be fissured, and present tubercles, and the gums bled easily, as in scurvy. The mucous membrane of the mouth and pharynx was also the seat of tubercles, and the uvula was elongated. The body temperature was a little above the normal. The urine showed no abnormality. General malnutrition was evident, but the most marked changes were in the skin and surrounding tissues. The important complications of leprosy were anæmia, scorbutus, and syphilis. In the treatment of this disease the speaker said he had obtained fair results from ichthyol in the ulceration of the skin. Arsenic seemed to be of some benefit in the tubercular form. The different oils appeared to be of service while they were used, but as soon as they were discontinued the lesions grew worse.

A Report of the Operations of Cholelithiasis in the Service of Dr. Gerster at the Mount Sinai Hospital During the Past Five Years.—Dr. A. A. Berg read this paper, considering in it only those cases which were uncomplicated. There were ninety-eight cases and sixty-one operations, with a mortality of 18 to 29 per cent. In four cases there was an extensive gangrene of the gall-bladder. Most of the patients were emancipated, probably because of the previous prolonged attacks. To obtain good results the operation should be undertaken early. Calculi often gave no symptoms whatever, but when secondary infection of the gall-bladder occurred it would give rise to local and general symptoms. Then an operation was indicated. He did not think that inflammation of the gall-bladder should be compared to that of the appendix, for the gall-bladder, because of its elastic walls, could accommodate the inflammatory products. Immediate surgical interference was necessary in empyema of the gall-bladder, but in other cases it was better to carry the patient over to the period of quiescence. Obstruction of the common duct did not interfere with closure of the wound, but obstruction of the cystic duct did so. He preferred to make a straight abdominal incision through the right rectus muscle and fascia, then a second transverse incision just below the costal cartilage. Only one case of post-operative hernia had been encountered. The operation was never done in two stages, and a drainage tube was left in until the bile became sweet and clean. It was unsurgical to plug a fistula discharging mucus. The most unfortunate condition with which the surgeon had to contend was capillary hemorrhage occurring in connection with cholæmia. Calcium chloride had been administered before operation to these patients, but with negative effect, some of them dying from the persistent hemorrhage. Chronic jaundice seemed to cause an atrophy of the muscle in the arterioles, and the blood-pressure forced out the coagulum that formed. Dr. Berg described a new method of operating in these cases, which consisted in approaching the common bile duct from behind the duodenum, a method first suggested by Professor Kocher.

Another method, the transduodenal, had been first performed by Dr. McBurney. The danger of this operation was in the suturing of the intestine. The speaker said that he had operated upon the cadaver, opening the abdomen as usual and having the liver held up and the stomach pushed aside. At a point two inches on the right margin of the descending portion of the duodenum (rotating the latter slightly on its axis) he exposed the duct, which was incised as well as the greater hepatic omentum.

Dr. A. G. GERSTER differed with the reader of the paper as to the cause of death in cases of cholelithiasis, for, while Dr. Berg was of the opinion that septicæmia was already present, his own view was that death resulted from septic emboli being set free in the general circulation.

Dr. H. LILIENTHAL would divide these cases into two classes, those with and those without infection. He believed in taking out the gall-bladder in septic cases. During the last two years and a half he had removed about thirty-eight gall-bladders without a death, and no secondary operation had been necessary. The operation was evidently not a dangerous one.

Dr. BERG, in closing the discussion, admitted that Dr. Gerster's explanation of the cause of death was very plausible.

Proposed Legislation against Tuberculosis Hospitals.—Dr. S. A. KNOPF introduced the following resolution which was unanimously adopted:

"*Whereas*, There has been recently passed by the Legislature of the State of New York an act to amend the public health law in relation to the establishment of public sanatoria, hospitals, or camps for the treatment of tuberculosis, which act reads as follows: 'A hospital, camp, or other establishment for the treatment of patients suffering from diseases known as pulmonary tuberculosis shall not be established in any town, by any person, association, corporation, or municipality unless the board of supervisors of the county and the board of the town shall each adopt a resolution authorizing the establishment of the same;' and

"*Whereas*, If it becomes a law, it will be impossible for any city in the State or any fraternal order to establish a hospital, camp, or other establishment for the treatment of tuberculosis outside of the city limits;

"*Be it Resolved*, That the New York Academy of Medicine deeply deplores the passage of the above bill, and urgently requests His Excellency the Governor to withhold his signature to the act, which, in case it became a law, would involve the loss of thousands of lives and increase the spread of tuberculosis within the crowded districts of our cities and towns, and which would have to be considered an act of the greatest injustice to humanity."

The Operative Treatment of Rupture of the Uterus.—Kolomenkin says that the two dangers to be combated are the hemorrhage and infection, which latter is always to be regarded as already present in every case. Conservative treatment by drainage and packing is inadequate and cannot meet the necessities of the case. Complete and incomplete ruptures have the same dangers, and should be treated similarly. The methods that have been suggested are laparotomy and suture of the tear, abdominal and vaginal hysterectomy, and the Porro operation. While it is true that each of these under special circumstances may be advisable, still the most rational course of procedure, both theoretically and from the published results, is abdominal, complete hysterectomy with vaginal drainage. Improvement in the results is to be attained through greater promptness in operating and a more careful choice of operation in each case. What the limits of improvement are only time can show.—*Monatsschrift für Geburtshülfe und Gynäkologie.*

New Instruments.

A GUIDE-OBTURATOR FOR POSTERIOR URETHROSCOPY.*

BY FERD C. VALENTINE, M.D.,
NEW YORK.

THE most frequent impediment to visual examination of the posterior urethra and to local treatment of this region, is the difficulty which spasm of the compressor offers to ingression by a straight urethroscopic tube.

Paul Nogués, to overcome this difficulty, had the tips of obturators drilled with a female screw, into which he attached a short filiform guide, just as a long filiform guide is fastened to a Guyon or other sound, to convert it into a Le Fort sound. Nogués' ingenious idea is the basic one for the modification I have the honor to present.

Valentine's Guide-Obturator for facilitating posterior Urethroscopy.

The origin of my improvement is clearly due to Nogués' device, and to the practical objections it awakens.

First, no matter how well made the screw which holds the filiform and the obturator together, it always gives the operator the uncomfortable apprehension that a slight defect in manufacture may cause the instruments to separate and the filiform to escape into the bladder.

Secondly, the short, soft filiform guide being propelled by a large, long, rigid instrument, does not convey to the fingers conducting it, those delicate modifications of sensation upon which successful urethral work is predicated.

To insert a fine, soft instrument into the bladder, it alone can be relied upon to serve as a sufficient guide to prevent injury to the urethra.

The channel being traversed by a filiform bougie, impeding spasm is practically conquered, as is so often demonstrated by the use of Gouley's tunnelled catheter, Phillips', and other similar woven catheters.

To accomplish the same ends, I have designed an obturator for urethroscopic tubes, which grossly differs in nowise from the others, except in the following particulars:

The head, shaft and, handle are perforated by a straight canal, through which a 6 F. bougie will readily slide, without friction.

If then a case presents in which posterior urethroscopy is impeded by spasm, the spasm will be found to yield to a fine, soft bougie. When urethral abnormalities, pockets, or false passages prevent the ready introduction of the fine, soft bougie, the usual device of using six, eight, or even twelve, bougies at once may be employed. When by deft manipulation one has passed through the compressor, the others are withdrawn.

The filiform now traversing the entire urethra with its tip in the bladder, serves as a guide for the urethroscopic tube containing its perforated obturator. The projecting end of the filiform guide

*Presented before the American Urological Association.

is passed through the channel in the obturator, without withdrawing the guide from the bladder. When the proximal end of the filiform protrudes through the handle it may be clamped, to preclude even the very remote possibility of its being pushed into the bladder. A convenient manner of clamping the guide is with a small cravat-holder, which does not appreciably add weight to or otherwise encumber the instrument.

While the penis is supported with one hand, the tube with its obturator is inserted in the manner usual for anterior urethroscopy, until the compressor is reached. Then the tube is depressed and, guided by the filiform it contains, passed through the compressor. The obturator is then withdrawn together with the guide, leaving the tube's open tip in the posterior urethra.

The instrument requires no change in any parts of the usual urethroscopes. Indeed, the obturators now employed can be converted to the modification by having their handles and tips perforated, and hollow shafts inserted in place of the present solid ones.

These new obturators are made from my design by C. G. Heynemann of Leipzig. Their use during the past three months warrants recommending them to the profession.

Medical Items.

Contagious Diseases—Weekly Statement—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending June 20, 1903:

	Cases.	Deaths.
Measles	331	13
Diphtheria and croup	433	57
Scarlet fever	228	19
Smallpox	..	..
Varicella	90	..
Tuberculosis	283	112
Typhoid fever	50	7
Cerebrospinal meningitis	..	..

Fracture of the Base of the Skull.—E. Fossataro finds that the diagnosis of these fractures is difficult, owing to the frequent absence of symptoms and pathognomonic signs. Protrusion of brain substance occurs only in the gravest cases. To state that there is a fracture of the base, requires a careful study of the whole group of symptoms present. Traumatism of the temporal or parietal region, followed by abundant and prolonged hemorrhage from the ear of the same side, with preservation of hearing and sometimes accompanied by facial paralysis, will justify a supposition of a longitudinal fracture of the petrous portion of the temporal bone. A blow on the occipital region, followed by otorrhagia consisting of an abundant serous discharge and exceptionally of brain substance through the auditory canal, accompanied by deafness and paralysis of the facial nerve, should lead to the diagnosis of a perpendicular or oblique fracture of the petrous portion of the temporal.—*Annali di Medicina Navale.*

Dementia Præcox.—E. Bleuler says that dementia præcox is characterized by a definite kind of mental enfeeblement that is not found in any other psychic disease. The emotions, as well as the association of ideas, are attacked. There exists no line of demarcation between the various forms of the disease. This is true of any individual case as well as of the disease in general. The disease is easily differentiated, however, from other psychoses, although some ill-defined paranoidal forms may make exception to the rule.—*Journal of Mental Pathology.*

A Funeral Party in the Luchus.—On Sunday, March 1 1903, a "firing party" landed in the rain and wind for funeral services over the graves of the seven Americans buried here. Commodore Perry visited this port several times, and it was from his ships that the officers and men were buried—one officer, First Engineer Eli Crosby, from the U. S. S. *Susquehanna*, and six men from the other ships of his fleet. There are also several French naval officers interred at the same spot, one a Catholic priest and chaplain in the French navy. Our funeral party decorated the graves of all the dead Europeans with flowers and evergreens, and upon the graves of First Engineer Crosby and the sailors of our navy head-pieces and American flags were placed to mark the spot where the only Americans so far lie buried in the Luchu Islands.

Health Report.—The following cases of smallpox yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ending June 20, 1903:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
California, Los Angeles	May 30–June 6	1	..
San Francisco	May 31–June 7	1	..
Colorado, Denver	May 2–23	70	..
Florida, Baker County	June 6–13	1	..
Duval County	June 6–13	3	..
Escambia County	June 6–13	1	..
Levy County	June 6–13	10	..
Illinois, Belleville	June 6–13	5	1
Indiana, Evansville	June 6–13	2	..
Louisiana, New Orleans	June 6–13	1	..
Massachusetts, Holyoke	May 31–June 6	2	..
Michigan, Detroit	June 6–13	11	..
Flint	June 6–13	1	..
Grand Rapids	June 6–13	3	..
Port Huron	June 6–13	1	..
Minnesota, Winona	May 30–June 13	2	1
New Hampshire, Nashua	June 6–13	7	..
Ohio, Cincinnati	June 5–12	3	..
Dayton	June 6–13	6	..
Hamilton	June 6–13	1	..
Pennsylvania, McKeesport	June 6–13	2	..
Rhode Island, Warwick	June 8–15	4	..
South Carolina, Charleston	June 6–13	2	..
Tennessee, Nashville	May 23–30	1	..
Utah, Salt Lake City	May 31–June 6	25	..
Wisconsin, Milwaukee	June 6–13	16	..

SMALLPOX—FOREIGN.

Brazil, Rio de Janeiro	May 3–10	..	5
Canada, Amherst, N. S.	June 12	3	..
Fredericton, N. B.	June 12	5	..
Canary Islands, Las Palmas	May 9–16	18	..
Colombia, Barranquilla	May 24–31	1	..
Bocas del Toro	June 7	Epidemic.	
France, Paris	May 8–16	..	1
Paris	May 23–30	..	1
Great Britain, Birmingham	May 23–30	7	..
Bradford	Mar 30–May 23	100	5
Bristol	May 23–30	1	..
Dublin	May 23–30	11	..
Dundee	May 23–30	5	..
Leeds	May 23–30	21	3
Liverpool	May 23–30	33	4
London	May 23–30	10	..
Newcastle-on-Tyne	May 23–30	1	1
Nottingham	May 16–23	2	..
Sheffield	May 23–30	1	..
South Shields	May 23–30	1	..
Sunderland	May 23–30	1	..
India, Bombay	May 5–10	..	111
Calcutta	May 2–16	..	3
Japan, Kobe	Apr. 25–May 2	6	..
Mexico, City of Mexico	May 17–31	31	13
Russia, Moscow	May 16–23	4	..
Odessa	May 16–30	4	1
St. Petersburg	May 16–30	71	14
Warsaw	May 2–16	..	5
Straits Settlements, Singapore	April 18–May 2	..	1

YELLOW FEVER.

Brazil, Rio de Janeiro	May 3–10	8	..
Costa Rica, Limon	May 28–June 4	4	1
Mexico, Tampico	June 1–8	10	9
Vera Cruz	May 31–June 6	26	8

PLAGUE—UNITED STATES.

California, San Francisco	June 5	..	1

PLAGUE—FOREIGN.

Africa, East London	Apr. 12–25	2	..
King Williams Town	Apr. 12–25	5	..
Post Elizabeth	Apr. 12–25	15	..
China, Hongkong	May 1–8	95	83
India, Bombay	May 5–10	..	740
Calcutta	May 2–16	..	171
Karachi	May 3–17	332	202
Japan Yokohama	May 8–16	..	2
Peru, Callao	May 3–10	..	2

CHOLERA.

China, Canton	May 8	..	50
Hongkong	May 1–8	2	..
India, Bombay	May 5–10	..	1
Calcutta	May 2–16	..	125
Turkey, Damascus	To May 15	94	84

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